SPECIFICATIONS
Project No. 24012

Asphalt Playground and Play Structure Replacement
Hayes Elementary School

Oak Grove School District
Santa Clara County, California

2155 S. Bascom Ave. Suite 250
Campbell, California 95008
(408) 398-1450

SPECIFICATIONS
Project No. 24012

DSA File No. 43-41
DSA Application No. 01-122194

FINNEY ARCHITECTS
2155 S. Bascom Ave. Suite 250
Campbell, CA 95008
(408) 398-1450

Asphalt Playground and Play Structure Replacement
Hayes Elementary School

Oak Grove School District
Santa Clara County, California

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-122194 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 7/10/2025

Division of the State Architect
Department of General Services

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN 9-30-25
STATE OF CALIFORNIA

Mark Finney, Architect
Finney Architects

REGISTERED PROFESSIONAL ENGINEER
DANIEL G. LEWIN
NO. C38400
STATE OF CALIFORNIA

Daniel Lewin, Civil Engineer
Hohbach-Lewin, Inc.

LICENSED LANDSCAPE ARCHITECT
Erik A. Plato No. 5677
Signature
03.31.2025
Renewal Date
05.08.2025
Date
STATE OF CALIFORNIA

Erik Planto, Landscape Architect
ANLA Associates, Inc

[BID]/[PROJECT] MANUAL

PROJECT/CONTRACT NUMBER: _____

[Description of Project]

OAK GROVE SCHOOL DISTRICT

_____, 20__

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SCHEDULES

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NOTICE TO BIDDERS

1. Notice is hereby given that the governing board ("Board") of the Oak Grove School District ("District") will receive sealed bids for the following project, Bid No. _____, Bid Package _____ ("Project" or "Contract"):

   _____

2. The Project consists of:

   _____

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

   A, B, and/or C-__

   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 _____, 20__, for review at the District Facilities Office, and may be downloaded from the District's website, www.XXXXX.XXX, using the [**"*Facilities Projects and Information*"]** link. In addition, Contract Documents are available for bidders' review at the following builders' exchanges:

   A. Builder's Exchange of _____ County (___) _____ - _____
   B. _____

6. Contract Documents are also available for purchase for _____ dollars ($_____) at the District Facilities Office. This fee is refundable if the Contract Documents are returned in clean condition back to the District Facilities Office no later than ten (10) calendar days after the date of the bid opening.
7. Sealed bids will be received until _____a.m./p.m., _____, 20___, at the District Facilities Office, 6578 Santa Teresa Boulevard, San Jose, California 95119 at or after which time the bids will be opened and publicly read aloud. Any bid that is submitted after this time shall be nonresponsive 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.
8. Pursuant to Public Contract Code section 20111.5, only prequalified bidders will be eligible to submit a bid for this Project. Any bid submitted by a bidder who is not prequalified shall be non-responsive and returned unopened to the bidder.

   [OR]

Pursuant to Public Contract Code section 20111.6, only prequalified bidders will be eligible to submit a bid for contracts $1 million or more using or planning to use state bond funds. Any bid submitted by a bidder who is not prequalified shall be non-responsive and returned unopened to the bidder. Moreover, any bid listing subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 or C-46 licenses for the performance of electrical, mechanical or plumbing components who have not been prequalified shall be deemed nonresponsive.

9. 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.
10. A bid bond by an admitted surety insurer on the form provided by the District a cashier's check or a certified check, drawn to the order of the Oak Grove School 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.
11. A mandatory/voluntary pre-bid conference and site visit will be held on _____ _____, 20___, at __.m. at _____, California. All participants are required to sign in front of the _____ Building, _____ _____, California. The site visit is expected to take approximately _____. Failure to attend or tardiness will render bid ineligible.
12. 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.
13. Pursuant to Education Code section 17550, the District is requiring the Bidder to purchase and to remove from the school grounds all old materials required by the specifications to be removed from any existing school building on the same school grounds and not required for school purposes and to state in his or her bid the amount which he or she will deduct from the price bid for the work as the purchase price of the old materials. The board shall let the contract to any responsible bidder whose net bid is the lowest, or shall reject all bids.
14. The District has elected to provide an owner-controlled or wrap-up insurance program ("OCIP"). The successful Bidder and its subcontractors shall be required to participate in and comply with the OCIP.
15. The successful Bidder and its subcontractors shall comply with sections 2449, 2449.1, 2449.2 of Title 13 of the California Code of Regulations, including by providing Certificate(s) of Reported Compliance for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, with its bid.
16. DThe 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.
17. 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.

18. 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>.
19. 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.
20. The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the Project Labor Agreement is available for review at the District Facilities Office and may be downloaded from the District's website, www.XXXXX.XXX, using the [**"*Facilities Projects and Information*"]** link. The successful bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement.
21. The District's Board has found and determined that the following item(s) shall be used on this Project based on the purpose(s) indicated. (Public Contract Code section 3400(c).) A particular material, product, thing, or service is designated by specific brand or trade name for the following purpose(s):

    (1) In order that a field test or experiment may be made to determine the product's suitability for future use: _____.
    (2) In order to match other products in use on a particular public improvement either completed or in the course of completion: _____.
    (3) In order to obtain a necessary item that is only available from one source: _____.
    (4) In order to respond to an emergency declared by a local agency: _____.

22. This Project is funded in whole or in part with federal funds, and therefore the Contractor shall comply with the Davis-Bacon Act, applicable reporting requirements, and any other applicable requirements for federal funding.
23. 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.

    [OR]

B. The base bid amount plus the following alternates:

[AS EXAMPLES ONLY: "all alternates;" or "additive alternate no. 1 only."**]**

[OR]

C. Up to a total Project fund amount [of $_____] **[OR]** [to be stated before bids are opened], **[THIS AMOUNT NEED NOT BE STATED HERE BUT MUST BE STATED PRIOR TO OPENING ANY BIDS]** including the additive alternates or deductive alternates needed, in the stated order, to be equal to or less than that amount:

[AS EXAMPLES ONLY: "additive alternate no. 1; and deductive alternate no. 3."**]**

[OR]

D. Based on a process that conceals the identity of bidders from the District until the bids have been ranked.

24. 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.
Oak Grove School 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"):

   _____

2. A 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. The District has prequalified bidders pursuant to Public Contract Code section 20111.5. Only prequalified bidders will be eligible to submit a bid for this Project. Any bid submitted by a bidder who is not prequalified shall be deemed nonresponsive and will not be considered.

   [OR]
   The District has prequalified bidders pursuant to Public Contract Code section 20111.6 for contracts $1 million or more using or planning to use state bond funds. Only prequalified bidders will be eligible to submit a bid for this Project. Any bid submitted by a bidder who is not prequalified shall be deemed nonresponsive and will not be considered. Moreover, any bid listing subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 or C-46 licenses for the performance of electrical, mechanical or plumbing components who have not been prequalified shall be deemed nonresponsive.

4. 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 the District Office by date and time shown in the Notice to Bidders.
   c. Bids must contain all documents as required herein.

5. 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.

6. Bids will be opened at or after the time indicated for receipt of bids.
7. 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.
8. 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.
9. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
10. 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 nonresponsive 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.
    b. Designated Subcontractors List.
    c. Site Visit Certification, if a site visit was required.
    d. Non-Collusion Declaration.
    e. Iran Contracting Act Certification, if contract value is $1,000,000 or more.
    f. Off-Road Diesel-Fueled Fleet Certification.
    g. Federal Debarment Certification.
    h. Federal Byrd Anti-Lobbying Certification, if contract value is $100,000 or more.
    i. OCIP Insurance forms, if District has elected to provide OCIP.

11. 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 nonresponsive and will not be considered.
12. 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.

13. 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.
14. 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.

15. 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.
16. Bidders shall submit the Non-Collusion Declaration with their bids. Bids submitted without the Non-Collusion Declaration shall be deemed nonresponsive and will not be considered.
17. Bidders shall submit the Off-Road Diesel-Fueled Fleet Certification with their bids. Bids submitted without the Off-Road Diesel-Fueled Fleet Certification shall be deemed nonresponsive and will not be considered.

18. 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.

    Since the Project is funded in whole or in part with federal funds, the Contractor and all Subcontractors under the Contractor shall comply with the Davis-Bacon Act, applicable reporting requirements, and any other applicable requirements for federal funding. If a conflict exists with a state requirement, the more stringent provision shall control.

19. The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the Project Labor Agreement is available for review at the District Facilities Office and may be downloaded from the District's website, www.XXXXX.XXX, using the [**"*Facilities Projects and Information*"]** link. The successful bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement.
20. Pursuant to Education Code section 17550, the District is requiring the Bidder to purchase and to remove from the school grounds all old materials required by the specifications to be removed from any existing school building on the same school grounds and not required for school purposes and to state in his or her bid the amount which he or she will deduct from the price bid for the work as the purchase price of the old materials. The board shall let the contract to any responsible bidder whose net bid is the lowest, or shall reject all bids.
21. The District has elected to provide an owner-controlled or wrap-up insurance program ("OCIP"). The policy limits, known exclusions, and the length of time the policy is intended to remain in effect provided by the OCIP are described in the OCIP Manual. The District will require all bidders at a minimum to have no serious and willful violations of Labor Code section 6300 et seq., have a workers' compensation experience modification factor of 1.00 or less, and have an injury prevention program instituted pursuant to Labor Code sections 3201.5 or 6401.7 .
22. Section 17076.11 of the Education Code requires school districts using funds allocated pursuant to the State of California School Facility Program for the construction and/or modernization of school building(s) to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended on projects that receive state funding or demonstrate its good faith effort to solicit DVBE participation in this Contract. 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. For any project that is at least partially state-funded, 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.

23. 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.

24. 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.

25. 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.
26. All questions about the meaning or intent of the Contract Documents are to be directed via email to the District to _____. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed, faxed, mailed, or delivered to all parties recorded by the District as having received the Contract Documents or posted on the District's website at _____. 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.
27. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
28. 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.

29. 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.
30. 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.
31. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.
32. 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.
33. 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.

34. 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 four (4) copies, each bearing an 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. Drug and Alcohol-Free Schools Certification.

l. Hazardous Materials Certification.
m. Lead-Based Materials Certification.
n. Imported Materials Certification.
o. Criminal Background Investigation/Fingerprinting Certification.
p. Roofing Project Certification: from Contractor, Material Manufacturer and/or Vendor.
q. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.

35. 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.

36. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, nonresponsive, 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.

37. 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, religious creed, color, national origin, ancestry, physical disability, mental disability, reproductive health decisionmaking, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or veteran or military status. 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.

38. 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.

END OF DOCUMENT

DOCUMENT 00 21 13.1

BIDDER INFORMATION AND FORMS

[INTENTIONALLY LEFT BLANK UNLESS PROVIDED IN SPECIAL CONDITIONS – SEPARATE PREQUALIFICATION PROCESS RECOMMENDED]

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 the Oak Grove School 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) Original Construction Drawings.
(2) Survey of Site.
(3) Geotechnical Report(s).
(4) Hazardous Material Report(s).
(5) Videotaped Survey(s).

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 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

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 Oak Grove School 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:

_____

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

DOCUMENT 00 41 13

BID FORM AND PROPOSAL

To: Governing Board of the Oak Grove School 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. _____, for the following project known as:

_____

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

_____ dollars $ _____

BASE BID
Bidder acknowledges and agrees that the Base Bid accounts for any and all Allowance(s), Total Cost for Unit Prices, and OCIP excluded costs.

Additive/Deductive Alternates:
Alternate #1

_____ dollars $ _____
Additive/Deductive

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

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

Additional Detail Regarding Calculation of Base Bid

1. **Unit Prices**. The Bidder's Base Bid includes the following unit prices, which the Bidder must provide and the District may, at its discretion, utilize in valuing additive and/or deductive change orders (Unit Prices shall include all labor, materials, services, profit, overhead, insurance, bonds, taxes, and all other incidental costs of Contractor, subcontractors, and suppliers):
SCHEDULE OF UNIT PRICES

Item No.	Description	Unit of Measure	Estimated Quantity	Unit Price	Total Cost = Unit Price x Estimated Quantity (Included in Base Bid)
				$_____	$_____
				$_____	$_____

Where scope of Work is decreased, all Work pertaining to the item, whether specifically stated or not, shall be omitted, and where scope of Work is increased, all work pertaining to that item required to render same ready for use on the Project in accordance with intentions of the Drawings and Specifications shall be included in the above agreed-upon price amount.

2. **Allowance**. The Bidder's Base Bid shall include the following Allowances for the Tasks/Work as noted here:

Task/Work	**Allowance Value**
Total Allowance Value	

The Allowance Value for an Allowance Item includes the direct cost of labor, materials, equipment, transportation, taxes and insurance associated with the applicable Allowance Item. All other costs, including Contractor's overall project management and general conditions costs, overhead and fee, are deemed to be included in the Base Bid, and are not subject to adjustment regardless of the actual amount of the Allowance Item.
The District shall have sole discretion to authorize all expenditures from the Allowances. The District shall process expenditures from the Allowances in the form of an Allowance Expenditure Directive ("AED"). Any unused Allowance or unused

portion thereof shall be deducted from the Contract Price to the benefit of the District.

3. **Purchase Price of Old Material.** Bidder specifically acknowledges and understands that if it is awarded the Contract, that pursuant to Education Code section 17550, that it will purchase and remove from the school grounds all old materials required by the specifications to be removed from any existing school building on the same school grounds and not required for school purposes and to state in his or her bid the amount which he or she will deduct from the price bid for the work as the purchase price of the old materials. The deducted amount must be shown separately below:

Deducted Purchase Price of Old Material

_____ dollars $ _____
Deductive

4. **OCIP.** Bidder specifically acknowledges and understands that if it is awarded the Contract, that it and its subcontractors shall participate in and comply with the owner-controlled or wrap-up insurance program (OCIP). Bidder and all of its subcontractors are required to exclude the cost of insurance provided by the OCIP from its bid price for the proposed scope of work, including subcontracted work whether or not the subcontractor is identified at the time of the bid. The excluded amount must be shown separately below:

Excluded Cost of Insurance

_____ dollars $ _____
Deductive

5. 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.
6. 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.
7. 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.

8. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
9. 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.
10. 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
- Off-Road Diesel-Fueled Fleet Certification
- OCIP Insurance forms

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

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

12. Bidder acknowledges that the license required for performance of the Work is a _____ _____ license.
13. 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.
14. 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.
15. 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.
16. Bidder agrees to comply with all requirements of the Project Labor Agreement.
17. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with the Davis Bacon Act, applicable reporting requirements, and any and all other applicable requirements for federal funding. If a conflict exists, the more stringent requirement shall control.
18. 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.

19. 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.

20. 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.

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

[SIGNATURE ON FOLLOWING PAGE]

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 California and authorized to do business as a surety in the State of California, are held and firmly bound unto the Oak Grove School District ("District") of Santa Clara 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: _____ ("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 Obligee becoming effective, or if the Principal shall fully reimburse and save harmless the Obligee from any damage sustained by the Obligee 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 Obligee 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.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee 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 duty 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 Contact Code Sections 4100-4114)

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: _____

Check option that applies:

_____ I certify that I visited the Site of the proposed Work, received the attached _____ pages of information, 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, received the attached _____ pages of information, 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 Oak Grove School District, its Architect, its Engineers, its Construction 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: _____

ATTACHMENTS:

1.
2.
3.

END OF DOCUMENT

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

DOCUMENT 00 45 19.01

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

PROJECT/CONTRACT NO.: _____ between the Oak Grove School 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.

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

END OF DOCUMENT

DOCUMENT 00 45 19.02

OFF-ROAD DIESEL-FUELED FLEET CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Title 13 CCR sections 2449, 2449.1, and 2449.2, in compliance with Government Code sections 11346.2, subdivision (a)(3), and 11346.8, subdivision (c), applies to construction contractors who own or operate within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road.

Section 2449(i), in relevant part, provides:

(1) For a project involving the use of vehicles subject to this regulation, the prime contractor must obtain copies of the valid Certificate of Reported Compliance with the Regulation for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

(2) No prime contractor or public works awarding body, as applicable, shall enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

(3) The Certificates of Reported Compliance received by the prime contractor for a project must be retained for three (3) years after that project's completion. Upon request by California Air Resources Board ("CARB"), these records must be provided to CARB within five (5) business days of the request.

(4) Situations in which prime contractors or public works awarding bodies, as applicable, are contracting for projects that are considered emergency operations, as defined in section 2449(c)(18), are exempt from the requirements in section 2449(i)(1)-(3), but must still retain records verifying vehicles subject to the regulation that are operating on the emergency operations project are actually being operated on the project for emergency operations only. These records must include a description of the emergency, the address or a description of the specific location of the emergency, the dates on which the emergency operations were performed, and an attestation by the fleet that the vehicles are operated on the project for emergency operations only.

Section 2449(j), in relevant part, also states:

(1) Between March 1 and June 1 of each year, a prime contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in section 2449(n), from all fleets that have an ongoing

contract with the prime contractor as of March 1 of that year. Prime contractors must not write contracts to evade this requirement.

(2) Prime contractors shall only allow fleets with valid Certificates of Reported Compliance on the prime contractor's job sites.

(3) If the prime contractor discovers that any fleet intending to operate vehicles subject to this regulation for the prime contractor does not have a valid Certificate of Reported Compliance, as defined in section 2449(n), or if the prime contractor observes any noncompliant vehicles subject to the regulation on the prime contractor's job site, then the prime contractor must report specified information regarding the fleet to CARB within five (5) business days of such discovery.

(4) Upon request by CARB, the prime contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to this regulation operating at the job site or for the prime contractor.

(5) The prime contractor shall prominently display signage for any project where vehicles subject to this regulation will operate for eight (8) calendar days or more. The signage must be posted by the eighth calendar day from which the first vehicle operates. The signage will be in lettering larger than size 14-point type and displayed in a conspicuous place where notices to employees are customarily posted at the job site or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. The signage must include specified information regarding idling regulations for In-Use Off-Road Diesel-Fueled Fleets with directions on how to report observed noncompliance of the provided regulations to CARB.

I am aware of the provisions of Title 13 CCR sections 2449, 2449.1, and 2449.2, which apply to every contractor who owns or operates off-road diesel fleet vehicles in California, and I will comply with such provisions, including providing Certificate(s) of Reported Compliance for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, with its bid.

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

Bidder must attach valid Certificate(s) Reported Compliance with the Regulation for In-Use Off-Road Diesel-Fueled Fleets provided by CARB for the fleet selected for the contract and their listed subcontractors, if applicable, to this form.

END OF DOCUMENT

DOCUMENT 00 45 26

WORKERS' COMPENSATION CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School 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

DOCUMENT 00 45 46.01

PREVAILING WAGE AND RELATED LABOR REQUIREMENTS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School 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.

I hereby certify that I will also conform to the Federal Labor Standards Provisions regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon and Related Act requirements, Contract Work Hours and Safety Standards Act requirements, and any and all other applicable requirements for federal funding for all Work on the above Project.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.02

DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION CERTIFICATION

PROJECT/CONTRACT NO.: _____between the Oak Grove School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

GENERAL INSTRUCTIONS

Section 17076.11 of the Education Code requires school districts using, or planning to use, funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings to have 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 the school 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. ☐ 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. ☐ 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. ☐ **NOT** disabled veteran owned	Use DVBE subcontractors /suppliers for at least 3% of this Contract	
D. ☐ 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 your 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.: _____ between the Oak Grove School 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 public school 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 school grounds, and specifically on school grounds while children are present.

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.: _____ between the Oak Grove School 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

DOCUMENT 00 45 46.05

HAZARDOUS MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between Oak Grove School 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.

7. 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

DOCUMENT 00 45 46.06

LEAD-BASED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School 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 disburses 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 California Law

Education Code section 32240 et seq. is known as the Lead-Safe Schools Protection Act. Under this act, the Department of Health Services is to conduct a sample survey of schools in the State of California for the purpose of developing risk factors to predict lead contamination in public schools. (Ed. Code, § 32241.)

Any school that undertakes any action to abate existing risk factors for lead is required to utilize trained and state-certified contractors, inspectors, and workers. (Ed. Code, § 32243, subd. (b).) Moreover, lead-based paint, lead plumbing, and solders, or other potential sources of lead contamination, shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility. (Ed. Code, § 32244.)

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 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

DOCUMENT 00 45 46.07

IMPORTED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School 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 Department of Education 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

DOCUMENT 00 45 46.08

CRIMINAL BACKGROUND INVESTIGATION/ FINGERPRINTING CERTIFICATION

PROJECT/CONTRACT NO.: _____between the Oak Grove School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

The undersigned does hereby certify to the District that I am a representative of the Contractor currently under contract with the District; that I am familiar with the facts herein certified; and that I am authorized and qualified to execute this certificate on behalf of Contractor.

Contractor certifies that it has taken at least one of the following actions (check all that apply):

☐ Pursuant to Education Code section 45125.2(a), Contractor has installed or will install, prior to commencement of Work, a physical barrier at the Work Site, that will limit contact between Contractor's employees, Subcontractors or suppliers and District pupils at all times; and/or

☐ Pursuant to Education Code section 45125.2(a), Contractor certifies that all employees will be under the continual supervision of, and monitored by, an employee of the Contractor who the California Department of Justice ("DOJ") has ascertained, or as described below, will ascertain, has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's and its subcontractors' or suppliers' employees is:

Name: _____

Title: _____

NOTE: If Contractor is a sole proprietor, and elects the above option, Contractor must have the above-named employee's fingerprints prepared and submitted by District for submission to the DOJ, in accordance with Education Code section 45125.1(h). No work shall commence until such determination by DOJ has been made.

☐ Pursuant to Education Code section 45125.2(a), the District will take appropriate steps to protect the safety of any pupils that may come in contact with Contractor's employees, subcontractors or suppliers so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.2 shall not apply to Contractor under the Contract.

☐ The Work on the Contract is either (i) at an unoccupied school site and no employee of Contractor and/or subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) if Contractor's employees or any subcontractor or supplier of any tier of the Contract interacts with pupils, such interaction shall only take place under the immediate supervision and control of the pupil's parent or guardian or a school employee, so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.1 shall not apply to Contractor under the Contract.

☐ The Contractor, who is not a sole proprietor, has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees and all of its Subcontractors' employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the DOJ has determined (A) that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). When the Contractor performs the criminal background check, it shall immediately provide any subsequent arrest and conviction information it receives to the District pursuant to the subsequent arrest service. No work shall commence until the Department of Justice ascertains that Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in Education Code Section 45122.1.

A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto as ATTACHMENT "A;" and/or

☐ The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education Code section 45125.1(h) with respect to all Contractor's employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and hereby agrees to the District's preparation and submission of fingerprints such that the DOJ may determine (A) that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). No work shall commence until the Department of Justice ascertains that Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in Education Code Section 45122.1.

Contractor's responsibility for background clearance extends to all of its employees, Subcontractors or suppliers, and employees of Subcontractors or suppliers coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

[CONTINUED ON NEXT PAGE]

ATTACHMENT "A"
List of Employees/Subcontractors

Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
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Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____
Name/Company: _____

If further space is required for the list of employees/subcontractors, attach additional copies of this page.

END OF DOCUMENT

DOCUMENT 00 45 46.09

DRUG AND ALCOHOL-FREE SCHOOLS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Pursuant to, without limitation, District Board policies, all District sites, including the Project site, are drug and alcohol-free schools. Possession, use, or dale of drugs and alcohol is prohibited at any time in district-owned or leased buildings, on district property, and in district vehicles unless otherwise permitted by law.

I acknowledge that I am aware of the District's policy regarding drug and alcohol-free schools, 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 possess, use or sell:

1. Any substance which may not lawfully be possessed, used, or sold in California.
2. Cannabis or cannabis products (Health and Safety Code, § 11362.3; 21 USC §§ 812, 844).
3. Alcohol beverages, unless approved by the Superintendent or designee for limited purposes specified in Business and Professions Code section 25608.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.10

ROOFING PROJECT CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Oak Grove School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Pursuant to Public Contract Code section 3000, et seq. this form shall be executed by all contractors, materials manufacturers, or vendors involved in a bid or proposal for the repair or replacement of a roof of a public school building where the project is either for repair of more than 25% of the roof or that has a total cost more than $21,000 ("roofing project") and submitted to the District when the award is made.

Certification of: □ Contractor □ Materials Manufacturer
□ Vendor □ Other _____

I, _____, _____, certify that I have not
[Name] [Name of Firm]
offered, given, or agreed to give, received, accepted, or agreed to accept, any gift, contribution, or any financial incentive whatsoever to or from any person in connection with the roofing project contract. As used in this certification, "person" means any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Furthermore, I, _____, _____, certify that
[Name] [Name of Firm]
I do not have, and throughout the duration of the contract, I will not have, any financial relationship in connection with the performance of this contract with any architect, engineer, roofing consultant, materials manufacturer, distributor, or vendor that is not disclosed below.

I, _____, _____, have the following
[Name] [Name of Firm]
financial relationships with an architect, engineer, roofing consultant, materials manufacturer, distributor, or vendor, or other person in connection with the following roofing project contract (provide Name and Address of Building, and Contract Date and Number):

_____

_____

_____

_____

_____

_____

_____

By my signature below, I hereby certify that, to the best of my knowledge, the contents of this disclosure are true, or are believed to be true. I further certify on behalf of the Firm that I am aware of section 3000 et seq. of the California Public Contract Code, and the sections referenced therein regarding the penalties for providing false information or failing to disclose a financial relationship in this disclosure. 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

DOCUMENT 00 45 46.11

FEDERAL DEBARMENT CERTIFICATION

PROJECT/CONTRACT NO.: _____between the Oak Grove School 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

DOCUMENT 00 45 46.12

BYRD ANTI-LOBBYING CERTIFICATION

Applicable to Grants, Subgrants, Cooperative Agreements, and Contracts Exceeding $100,000 in Federal Funds

Submission of this certification is a prerequisite for making or entering into this transaction and is imposed by section 1352, Title 31, U.S. Code. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The undersigned certifies, to the best of their knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents of all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub- recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, United States Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

_____

Contractor

_____

Address

_____

Certified by: (type or print)

_____

Title

_____

Signature

_____

Date

Disclosure of Lobbying Activities Approved by OMB 0348-004

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See following page for public burden disclosure)

1. Type of Federal Action: ☐ contract ☐ grant ☐ cooperative agreement loan ☐ loan guarantee ☐ loan insurance	**2. Status of Federal Action:** ☐ proposal/offer/application ☐ initial award ☐ post-award	**3. Report Type:** ☐ initial filing ☐ material change For material change only: **Year_____quarter _____** **Date of last report_____**

4. Name and Address of Reporting Entity: **_____Prime _____Subawardee** **Tier_____, if Known:** **Congressional District**, *if known*:	**5. If Reporting Entity in No. 4 is Subawardee,** Enter Name and Address of Prime: **Congressional District**, if known:
6. Federal Department/Agency:	**7. Federal Program Name/Description:** CFDA Number, *if applicable*: _____
8. Federal Action Number, *if known:*	**9. Award Amount,** *if known:* $
10a. Name and Address of Lobbying Registrant *(if individual, last name, first name, MI):*	**10b. Individuals Performing** Services *(including address if different from No. 10a)* *(last name, first name, MI):*
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	**Signature: _____** **Print Name: _____** **Title: _____** **Telephone No.: _____ Date: ____**
Federal Use Only	**Authorized for Local Reproduction** **Standard Form - LLL (Rev. 7-97)**

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to Title 31, U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

END OF DOCUMENT

DOCUMENT 00 45 49

REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

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 #: _____

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: _____

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.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

POST BID INTERVIEW

CONSTRUCTION MANAGER
[Name]
[Address 1]
[Address 2]
[Phone] [Fax]

BIDDER: _____

DATE: _____ TIME: _____ PHONE: _____

I. INTRODUCTIONS:

A. Present

_____ CONTRACTOR	_____ CONTRACTOR
_____	_____
_____ [CM]	_____ [CM]

II. PROPOSED CONTRACT:

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 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 bonds: _____% Yes No

2. Is the cost of your bonds in your base bid? Yes No

3. Is your surety licensed to issue bonds in California? Yes No

D. Do you understand the fingerprinting 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. Is the cost for allowance included in your bid? Yes No

F. Have you reviewed bid alternative(s) #1-___? (if applicable) Yes No

G. Are the costs for bid alternatives included in your bid? Yes No

H. Are the plans and specifications clear and understandable to your satisfaction? Yes No

I. 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. Yes No
If not, what do you believe must change and why? _____

_____

_____

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

Signature _____ Title: _____
Date: _____

Title of Document: POST BID INTERVIEW
Number of Pages: _____
Date of Document: _____

END OF DOCUMENT

DOCUMENT 00 51 00

NOTICE OF AWARD

Dated: _____ 20__
To: _____ (Contractor)
_____
(Address)
From: Governing Board ("Board") of the Oak Grove School District ("District")
Re: _____, Project No. _____ ("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 _____.
Three (3) copies of each of the Contract Documents (except Drawings) accompany this Notice of Award. Three (3) sets of the Drawings will be delivered separately or otherwise made available. Additional copies are available at cost of reproduction.
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.
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 & 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. Criminal Background Investigation/Fingerprinting Certification.
o. Roofing Project Certification: from Contractor, Material Manufacturer and/or Vendor.

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.

OAK GROVE SCHOOL 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 Oak Grove School 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:

_____
("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 within _____ (____)

consecutive calendar days ("Contract Time") from the date specified in the District's Notice to Proceed.

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 _____ dollars ($_____) 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. The Contractor and all Subcontractors shall comply with the Davis Bacon Act, applicable reporting requirements, and any other applicable requirements for federal funding. If a conflict exists, the more stringent provision shall control over this Agreement.
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
($_____),

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). Contract Price includes Allowance(s), if any.

18. **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.
19. **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.
20. **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.
21. **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 NAME]	**OAK GROVE SCHOOL 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:_____
PROJECT/CONTRACT NO.: _____ between the Oak Grove School 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 _____, 20___.
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, Department of Industrial Relations registration number, and portion of work.

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

OAK GROVE SCHOOL DISTRICT
BY: _____
NAME: _____
TITLE: _____

END OF DOCUMENT

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 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 Contact 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 Oak Grove School District ("District"), whose address is 6578 Santa Teresa Boulevard, San Jose, California 95119, 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 the name of Oak Grove 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 retentions 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

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 Oak Grove School 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:

_____

("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 warrantees 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 Oak Grove School 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:

_____

("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 their 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 his or 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.

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

Oak Grove School District
6578 Santa Teresa Boulevard
San Jose, CA 95119

ALLOWANCE EXPENDITURE DIRECTIVE NO.:

ALLOWANCE EXPENDITURE DIRECTIVE

Project: _____ **Date: _____**
DSA File No.:_____
Bid 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 Allowance item relating to Work] [Requester] [Performer] [Reason]	$
Request for AED # Requested by: Performed by: Reason:	[Description of Allowance item relating to Work] [Requester] [Performer] [Reason]	$
Request for AED # Requested by: Performed by: Reason:	[Description of Allowance 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:	$

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 represents 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: OAK GROVE SCHOOL DISTRICT 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

DOCUMENT 00 63 47

DAILY FORCE ACCOUNT REPORT

From: Contractor
[Name/Address]

To: Owner
[Name/Address]

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. <u>Equipment:</u> *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.

	WORK PERFORMED OTHER THAN BY CONTRACTOR	**ADD**
(a)	**Material**	
(b)	**Add Labor**	
(c)	**Add Equipment**	
(d)	**Subtotal**	
(e)	**Add overhead and profit for any and all tiers of Subcontractor**, the total not to exceed ten percent (10%) of Item (d)	
(f)	**Subtotal**	
(g)	**Add Overhead and Profit for Contractor**, not to exceed five percent (5%) of Item (f)	
(h)	**Subtotal**	
(i)	**Add Bond and Insurance**, not to exceed two percent (2%) of Item (h)	
(j)	**TOTAL**	

	WORK PERFORMED BY CONTRACTOR	**ADD**
(a)	**Material**	
(b)	**Add Labor**	
(c)	**Add Equipment**	
(d)	**Subtotal**	
(e)	**Add Overhead and Profit for Contractor**, not to exceed fifteen percent (15%) of Item (d)	
(f)	**Subtotal**	
(g)	**Add Bond and Insurance**, not to exceed two percent (2%) of Item (f)	
(h)	**TOTAL**	

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:		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

DOCUMENT 00 63 57

PROPOSED CHANGE ORDER FORM

Oak Grove School District
6578 Santa Teresa Boulevard
San Jose, CA 95119

PCO NO.:

Project: _____
Bid No.: _____
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.

	WORK PERFORMED OTHER THAN BY CONTRACTOR	**ADD**	**DEDUCT**
(a)	**Material** (attach suppliers' invoice or 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)	**Subtotal**		
(e)	**Add overhead and profit for any and all tiers of Subcontractor**, the total not to exceed ten percent (10%) of Item (d)		
(f)	**Subtotal**		
(g)	**Add General Conditions** (if Time is Compensable) (attach supporting documentation)		
(h)	**Subtotal**		
(i)	**Add Overhead and Profit for Contractor**, not to exceed five percent (5%) of Item (h)		
(j)	**Subtotal**		
(k)	**Add Bond and Insurance**, not to exceed two percent (2%) of Item (j)		
(l)	**TOTAL**		
(m)	**Time** (zero unless indicated; "TBD" not permitted)	**_____ Calendar Days**	

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

	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** (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**	

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

Oak Grove School District
6578 Santa Teresa Boulevard
San Jose, CA 95119

CHANGE ORDER NO.:

CHANGE ORDER

Project: _____
Bid No.: _____

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

The following parties agree to the terms of this Change Order:

Owner: _____
[Name / Address]
_____
_____

Contractor: _____
[Name / Address]
_____
_____

Architect: _____
[Name / Address]
_____
_____

Project Inspector: _____
[Name / Address]
_____
_____

Reference	**Description**	**Cost**	**Days Ext.**
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	$	

Contract time will be adjusted as follows: Previous Completion Date: [Date] [#] Calendar Days Extension (zero unless otherwise indicated) Current Completion Date: [Date]	Original Contract Amount:	$
	Amount of Previously Approved Change Order(s):	$
	Amount of this Change Order:	$
	Contract Amount:	$

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 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.

Signatures:

District:		Contractor:	
_____	_____	_____	_____
[Name]	Date	[Name]	Date
Architect:		Project Inspector:	
_____	_____	_____	_____
[Name]	Date	[Name]	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 OAK GROVE SCHOOL DISTRICT ("District") and _____ _____ ("Contractor"), whose place of business is _____ _____.

RECITALS

WHEREAS, District and Contractor entered into PROJECT/CONTRACT NO.: _____ _____ ("Contract" or "Project") in the County of Santa Clara, 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 4 and continuing obligations described in Paragraph 6. 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:

Claim No.	Description of Claim	Amount of Claim	Date Claim Submitted
_____	_____	$_____	_____
_____	_____	$_____	_____
_____	_____	$_____	_____
_____	_____	$_____	_____
_____	_____	$_____	_____
_____	_____	$_____	_____

[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 2 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 * * *

OAK GROVE SCHOOL DISTRICT
Signature: _____
Print Name: _____
Title: _____

CONTRACTOR: _____
Signature: _____
Print Name: _____
Title: _____

END OF DOCUMENT

DOCUMENT 00 65 36

GUARANTEE FORM

_____ ("Contractor") hereby agrees that the _____ _____ ("Work" of Contractor) which Contractor has installed for the Oak Grove School District ("District") for the following project:

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 _____ 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

DOCUMENT 00 72 13

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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(s): The Allowance Item(s) identified in the Bid Form and Proposal and included in the Contract Price. Any unused portion of the Allowance will revert to the District documented by a deductive Change Order. 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.

1.1.3 Allowance Expenditure Directive: Written authorization for expenditure of an Allowance, if any. Contractor shall not bill for or be due any portion of an 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 executed an Allowance Expenditure Directive incorporating that work.

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

1.1.5 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.

1.1.6 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**.

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

1.1.8 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.

1.1.9 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.

1.1.10 Claim: A Contractor Claim within the meaning of Public Contract Code sections 9204 and/or 20104 et seq.

1.1.11 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.

1.1.12 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.

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

1.1.14 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:

1.1.14.1 Notice to Bidders
1.1.14.2 Instructions to Bidders
1.1.14.3 Bid Form and Proposal
1.1.14.4 Bid Bond
1.1.14.5 Designated Subcontractors List
1.1.14.6 Site Visit Certification (if a site visit was required)
1.1.14.7 Non-Collusion Declaration
1.1.14.8 Off-Road Diesel-Fueled Fleet Certification (if applicable)
1.1.14.9 Notice of Award
1.1.14.10 Notice to Proceed
1.1.14.11 Agreement
1.1.14.12 Escrow of Bid Documentation
1.1.14.13 Escrow Agreement for Security Deposits in Lieu of Retention (if applicable)
1.1.14.14 Performance Bond
1.1.14.15 Payment Bond (Contractor's Labor & Material Bond)
1.1.14.16 General Conditions
1.1.14.17 Special Conditions (if applicable)
1.1.14.18 Project Labor Agreement (if applicable)
1.1.14.19 Hazardous Materials Procedures and Requirements
1.1.14.20 Workers' Compensation Certification
1.1.14.21 Prevailing Wage Certification

1.1.14.22 Disabled Veteran Business Enterprise Participation Certification (if applicable)
1.1.14.23 Drug-Free Workplace Certification (if applicable)
1.1.14.24 Tobacco-Free Environment Certification (if applicable)
1.1.14.25 Drug and Alcohol-Free Schools Certification (if applicable)
1.1.14.26 Hazardous Materials Certification (if applicable)
1.1.14.27 Lead-Based Materials Certification (if applicable)
1.1.14.28 Imported Materials Certification (if applicable)
1.1.14.29 Criminal Background Investigation/Fingerprinting Certification
1.1.14.30 Roofing Project Certification (if applicable)
1.1.14.31 Registered Subcontractors List
1.1.14.32 Iran Contracting Act Certification (if applicable)
1.1.14.33 Federal Debarment Certification (if applicable)
1.1.14.34 Federal Byrd Anti-Lobbying Certification (if applicable)
1.1.14.35 Post Bid Interview (if used)
1.1.14.36 All Plans, Technical Specifications, and Drawings
1.1.14.37 Any and all addenda to any of the above documents
1.1.14.38 Any and all change orders or written modifications to the above documents if approved in writing by the District

1.1.15 Contract Price: The total monies payable to the Contractor under the terms and conditions of the Contract Documents.
1.1.16 Contract Time: The time period stated in the Agreement for the completion of the Work.
1.1.17 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.
1.1.18 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.
1.1.19 Day(s): Unless otherwise designated, day(s) means calendar day(s).
1.1.20 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.
1.1.21 Design Professional in General Responsible Charge: See definition of **Architect** above.
1.1.22 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.
1.1.23 District: The public agency or the school 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,

1.1.23.1 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

1.1.23.2 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.

1.1.24 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.

1.1.25 DSA: Division of the State Architect.

1.1.26 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.

1.1.27 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.

1.1.28 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.

1.1.29 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.

1.1.30 Plans: See **Drawings**.

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

1.1.32 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.

1.1.33 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.

1.1.34 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.

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

1.1.36 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.

1.1.37 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.

1.1.38 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.

1.1.39 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.

1.1.40 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.

1.1.41 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**.

1.1.42 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.

1.1.43 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.

1.1.44 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").

1.1.45 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.

1.1.46 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.

1.1.47 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.

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

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; Venue

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.

To the fullest extent permitted by California law, the county in which the District administration office is located shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Contract.

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 insure 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 cost 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 represents and warrants that Contractor is an independent contractor or business entity that is: (i) free from the control and direction of the District in connection with the performance of the Services, (ii) performing Services that are outside the usual course of the District's business, and (iii) customarily engaged in an independently established trade, occupation, or business of the same nature as that involved in the Services performed, District being interested only in the results obtained. Contractor understands and agrees that it and all of its employees and its Subcontractors shall not be considered officers, employees, agents, partner, or joint venture of the District, and are not entitled to benefits of any kind or nature normally provided employees of the District and/or to which District's employees are normally entitled, including, but not limited to, State Unemployment Compensation or Worker's Compensation. Contractor shall assume full responsibility for payment of all federal, state, and local taxes or contributions, including unemployment insurance, social security, and income taxes with respect to Consultant's employees. Contractor is and shall at all times be wholly responsible for the manner in which it, its agents, 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. 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=displayPWCRegistrationForm 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 Work required under this Contract and that no person having any such interest shall be employed by Contractor.

6.1.7 [RESERVED]

6.1.8 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.

6.4.4 **Fingerprinting.** Contractor shall comply with the provisions of Education Code section 45125.2 regarding the submission of employee fingerprints to the California Department of Justice and the completion of criminal background investigations of its employees, its subcontractor(s), and its subcontractors' employees. Contractor shall not permit any employee to have any contact with District pupils until such time as Contractor has verified in writing to the governing board of the District, (A) that such employee has not been convicted of a violent or serious felony, as defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). Contractor shall fully complete and perform all tasks required pursuant to the Criminal Background Investigation/ Fingerprinting Certification.

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.

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 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 school 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 perform on-site inspections and implement and monitor any and all SWPPP requirements applicable to the Project, including required visual observations, sampling, analysis, reporting and

record keeping, including of Total Maximum Daily Loads ("TMDL") of pollutants and construction dewatering and discharge, and 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.

6.13.5 [RESERVED]

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 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 his 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 his 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 If the Contract is valued at $1 million or more and uses, or plans to use, state bond funds, then Contractor is responsible for ensuring that first tier Subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43, and/or C-46 licenses are prequalified by the District to work on the Project pursuant to Public Contract Code section 20111.6.

7.7.2 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.

9.8 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 2.5%.
10.1.1.2.3.4 Closeout documentation shall have a value in the preliminary schedule of not less than 3%.

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 Update 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

10.4.1 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-Built Drawings 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, 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 discovered 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 for 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 in a form at least as broad as Insurance Services (ISO) Form CG 00 01 that shall protect Contractor, its agents, representative, employees, or subcontractors, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for products and completed operations, property damage, bodily injury and personal injury, death, advertising injury, and medical payments arising from, or in connection with, the performance of the Work of the Project within the Contract Documents at the required limits, or Contractor shall procure and maintain these coverages separately. Contractor shall procure and maintain Automobile Liability Insurance in a form at least as broad as ISO Form CA 0001 covering Code 1 (any auto) 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 five thousand dollars ($5,000) for deductible or twenty-five thousand dollars ($25,000) for self-insured retention, respectively, 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 including, but not limited to, primary and non-contributory, additional insured, Self-Insured Retentions (SIRs), indemnity, and defense requirements. The Excess Liability Insurance Policy shall be provided on a true "following form" or broader coverage basis, with coverage at least as broad as provided on the underlying Commercial General Liability insurance. No insurance policies maintained by the Additional Insureds, whether primary or excess, and which also apply to a loss covered hereunder, shall be called upon to contribute to a loss until Contractor's primary and excess liability policies are exhausted.

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 the 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 minimum limits at least equal to the amount required of Contractor except where smaller minimum limits are permitted as set forth below. For Commercial General Liability coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

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.

13.1.4.3 The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of District for all work performed by Contractor, its employees, agents and subcontractors.

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) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the Project and no coinsurance penalty provisions. The cost value basis 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 in a form at least as broad as ISO Form CG 2415 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, or Contractor shall procure and maintain these coverages separately. 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.

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 the services involve lead-based paint or asbestos identification/ remediation, Contractor's Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/ remediation, Contractor's Pollution Liability policy shall not contain a mold

exclusion, and the definition of Pollution shall include microbial matter, including mold.

13.1.6.4 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 <u>Proof of Insurance and Other Requirements: Endorsements and Certificates</u>

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. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **<u>and</u>** CG 20 37 forms if later revisions used).

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 coverage at least as broad as ISO CG 20 01 04 13 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). This requirement shall also apply to any Excess liability policies.

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. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy from with a retroactive date prior to the effective date of this Agreement, or the start of Work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work. A copy of the claims reporting requirements must be submitted to the District for review.

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

13.1.7.6 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**.

13.1.7.7 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.

13.1.7.8 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 per accident for bodily injury or disease
Builder's Risk (Course of Construction)		Full replacement value for scope of Work
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 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 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 any 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 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 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 a conflict-of-interest bars joint representation of Contractor and Indemnitees, District shall have the right to select its own counsel, subject to Contractor's reasonable right of rejection. 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. Even if the Contractor assumes the defense of the District with acceptable counsel, the District, at its sole option, may participate in the defense, at its own expense, with counsel of its own choice without relieving the Contractor of any of its obligations hereunder. 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 State 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. 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 adverse weather delays, strikes, 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, including a Force Majeure event, notify District in writing of causes of delay including documentation and facts explaining the delay and the direct correlation between the cause and effect ("Notice of Delay"). 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's Notice of Delay and request for a time extension pursuant to subparagraph 16.2 is a condition precedent to Contractor's submittal of and/or entitlement to a claim pursuant to Article 25 of these Construction Provisions. Contractor shall notify the District pursuant to the Claims Process 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.

16.2.3.2 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 and main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path. (This information must be provided for any portion of any delay of seven (7) days or more.) The Contractor

shall be responsible for all costs associated with the preparation of Time Impact Analyses.

16.2.4 A recovery schedule must be submitted within twenty (20) calendar days of written notification to the District of causes of delay 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. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

16.2.5 Contractor must comply with requirements in subsection 16.2 for a Notice of Delay and supporting justification notwithstanding if Contractor contends the specific delay period is unknown and continuing. When submitting a Notice of Delay and supporting justification, Contractor must provide an estimated delay duration to critical path activities at the time the Notice of Delay and supporting justification is required to be submitted. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of a Notice of Delay. If Contractor contends the delaying event(s) are continuing, Contractor must update monthly the estimated delay period with supporting justification.

16.2.6 Contractor's failure to timely submit a written Notice of Delay and/or provide the justification required in subparagraph 16.2 shall constitute Contractor's waiver of any right to later submit a Proposed Change Order or pursue a Claim on the circumstances giving rise to the request, or to later pursue any additional money or time extensions in any manner related to that issue, regardless of the merits because the Contractor will not have satisfied a condition precedent or exhausted administrative remedies required to show entitlement to a Contract Time adjustment. Contractor acknowledges that these written notices and justification requirements are critically important to District's Work, Project management, and evaluating potential options and alternatives to implement mitigation efforts to reduce or eliminate additional Project costs and delays.

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 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.
16.3.4 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:

16.3.4.1 Actually incurred performing the Work;
16.3.4.2 Not compensated by the Markup allowed; and
16.3.4.3 Directly result from the extended Contract Time.

16.3.5 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). No time will be granted under this Contract for cumulative effect of changes.

16.4 Force Majeure

"Force Majeure" means any event or circumstance unknown at the time of contracting that is beyond the parties' control and makes performance of the contract impractical or impossible. The Party seeking to have its performance obligation(s) excused must demonstrate that there was such an insuperable interference occurring without the party's intervention as could not have been prevented by the exercise of prudence, diligence, and care, by providing prompt notice to the other Party, including full particulars of such event, of its inability to perform its obligations due to such event, following commencement of the claiming Party's inability to so perform its obligations. To the extent satisfying these conditions, Force Majeure events include the following: acts of God, war, civil unrest, epidemic, fire, smoke, volcanic eruption, earthquake, strike, unusually severe weather, flood, or shortage of transportation facilities, lock out, or commandeering of materials, product, plant, or facilities by the government. Force Majeure shall not be based on a Party's financial inability to perform under this Agreement unless there exists extreme and unreasonable difficulty, expense, injury, or loss involved. A Force Majeure event does not include an act of negligence or intentional wrongdoing by a Party. Any Party claiming a Force Majeure event shall use reasonable diligence to remove the condition that prevents performance and shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration th

an is required by the Force Majeure event. Each Party shall use its best efforts to mitigate the effects of such Force Majeure event, remedy its inability to perform, and resume full performance of its obligations hereunder. No obligation that arose before the Force Majeure event that could and should have been fully performed before such Force Majeure event is excused as a result of such Force Majeure event.

16.5 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 Payments and Claims Process 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 Price Request

17.3.1 Definition of Price Request

A Price Request 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.

17.3.2 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.

17.4 Change Orders

17.4.1 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:

17.4.1.1 A description of a change in the Work;
17.4.1.2 The amount of the adjustment in the Contract Price, if any; and
17.4.1.3 The extent of the adjustment in the Contract Time, if any.

17.5 Proposed Change Order

17.5.1 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.

17.5.2 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.

17.5.3 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.

17.5.4 Allowances

If there is an Allowance, then Contractor shall not bill for or be due any portion of an 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 executed an Allowance Expenditure Directive incorporating that work. 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 the Allowance. No overhead and profit shall be added to the Allowance Expenditure Directive.
Any unused portion of the Allowance will revert to the District documented by a deductive Change Order. Contractor 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.

17.5.5 Unknown and/or Unforeseen Conditions

Separate from what is provided in the Allowance, if Contractor requests 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.

17.5.6 Time to Submit Proposed Change Order

Contractor shall submit its PCO, using Document 00 63 57 (Proposed Change Order Form), 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.

17.5.7 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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17.6 Format for Proposed Change Order

17.6.1 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.

	WORK PERFORMED OTHER THAN BY CONTRACTOR	**ADD**	**DEDUCT**
(a)	**Material** (attach suppliers' invoice or 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)	**Subtotal**		
(e)	**Add Overhead and Profit for any and all Tiers of Subcontractor**, the total not to exceed ten percent (10%) of Item (d)		
(f)	**Subtotal**		
(g)	**Add General Conditions Cost** (if Time is Compensable) (attach supporting documentation)		
(h)	**Subtotal**		
(i)	**Add Overhead and Profit for Contractor**, not to exceed five percent (5%) of Item (h)		
(j)	**Subtotal**		
(k)	**Add Bond and Insurance**, not to exceed two and one-half percent (2.5%) of Item (j)		
(l)	**TOTAL**		
(m)	**Time** (zero unless indicated; "TBD" not permitted)	**_____ Calendar Days**	

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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 and one-half percent (2.5%) of Item (g)		
(i)	**TOTAL**		
(j)	**Time** (zero unless indicated; "TBD" not permitted)	**_____ Calendar Days**	

17.6.2 Mandatory Use of Forms. Contractor shall only submit PCOs by completing Document 00 63 57 (Proposed Change Order Form). Contractor acknowledges and agrees that use of this specific and consistent format is essential to District's evaluation of PCOs. Accordingly, Contractor waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Contract Price and/or Time for any purported PCO that does not comply with Document 00 63 57 (Proposed Change Order Form).

17.6.3 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 established by the bid advertisement date or when the Contract was awarded, whichever is applicable, 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.

17.6.4 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.

17.6.5 Equipment. As a precondition to 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.

17.6.6 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.

17.6.7 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.

17.7 Change Order Certification

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

17.7.1.1 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.

17.7.1.2 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.

17.7.2 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.

17.7.3 Mandatory Use of Forms. Contractor shall only submit Change Orders by completing Document 00 63 63 (Change Order Form). Contractor acknowledges and agrees that use of this specific and consistent format is essential to District's processing of Change Orders. Accordingly, Contractor waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Contract Price and/or Time for any change that does not comply with Document 00 63 63 (Change Order Form).

17.8 Determination of Change Order Cost

17.8.1 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:

17.8.1.1 District acceptance of a PCO;
17.8.1.2 By unit prices contained in Contractor's original bid;
17.8.1.3 By agreement between District and Contractor.

17.9 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.

17.10 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.

17.11 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.

17.12 Construction Change Directives

17.12.1 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 Payments and Claims Process provisions herein.

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

17.13 Force Account Directives

17.13.1 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.

17.13.2 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.

17.13.3 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.

17.13.4 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.

17.13.5 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.

17.13.6 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.

17.13.7 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.

17.14 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, without limitation, Article 25 Claims Process provisions. 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-Built Drawings 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;
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 to withhold payment from Contractor by payment and/or performance bond surety(ies).
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-Built Drawings.
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.

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 to the District corrected sepias and data storage device acceptable to District with AutoCAD file.

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 Spare Parts and Maintenance Manuals:

20.2.2.4.1 Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.

20.2.2.4.2 Contractor shall prepare all operation and maintenance manuals and date as indicated in the Specifications.

20.2.2.5 Instruction of District Personnel:

20.2.2.5.1 Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.

20.2.2.5.2 For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months or by the change of season.

20.2.2.5.3 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.

20.2.2.5.4 Contractor shall prepare and insert additional data in Operation and Maintenance Manual when the need for such data becomes apparent during instruction.

20.2.2.5.5 Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

20.2.2.6 Source Programming: Contractor shall provide all source programming for all items in the Project.

20.2.2.7 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 Replace filters of operating equipment.

20.3.3.1.6 Painting and special finishes complete.

20.3.3.1.7 Doors complete with hardware, cleaned of protective film, relieved of sticking or binding, and in working order.

20.3.3.1.8 Tops and bottoms of doors sealed.

20.3.3.1.9 Floors waxed and polished as specified.

20.3.3.1.10 Carpeted and soft surfaces vacuumed.

20.3.3.1.11 Broken glass replaced and interior and exterior glass and all surfaces exposed to view cleaned.

20.3.3.1.12 Equipment and fixtures cleaned to a sanitary condition.
20.3.3.1.13 Grounds cleared of Contractor's equipment, raked clean of debris, and remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.
20.3.3.1.14 Site cleaned, paved areas swept, and clean landscaped surfaces raked.
20.3.3.1.15 Roofs, gutters, down spouts, and drainage systems cleaned of debris.
20.3.3.1.16 Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material replaced.

20.3.3.1.17 Temporary labels, tape, stains, and foreign substances removed, transparent and glossy surfaces polished,

20.3.3.1.18 Finished and decorative work shall have marks, dirt, and superfluous labels removed.
20.3.3.1.19 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 Process 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.

24.2.2.5 In the alternative, 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 and/or the Contractor's right to perform the work 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.

24.2.3 In the event of a termination for cause, 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.

24.2.4 In the event a termination for cause is later determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience, effective as of the same date as the purported termination for cause, and the Contractor shall have no greater rights than it would have had following a termination for convenience. Any Contractor claim arising out of a termination for cause shall be made in accord with Article 12 herein. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by the Contractor.

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 If Contractor objects to the termination for convenience, including disagreement on the actual cost due Contractor, the District retains the right to all the options available to the District under 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 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.

24.4.4 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 Disputes

25.1.1 Should Contractor otherwise seek extra time or compensation for any reason whatsoever, 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 a Dispute 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 Claim 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 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 Claim(s) for compensation or an extension of time shall be deemed waived, released, and discharged as to any entitlement for adjustment to 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 forty-five (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 forty-five (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 sixty (60) days after the District issues its written statement. Amounts not paid in a timely manner as required by this section 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 thirty (30) days for settlement of the dispute. Within ten (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 sixty (60) days after the District issues its written statement. Amounts not paid in a timely manner as required by this section 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 ten (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 forty-five (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 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 Article 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

25.11.1 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 or available online at http://www.dir.ca.gov/. 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 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 thirty (30) days while Work is being performed and within thirty (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 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/they is employed, and shall be employed only at the work of the craft or trade to which he/she/they 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/they 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 (commending 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.

END OF DOCUMENT

DOCUMENT 00 73 13

SPECIAL CONDITIONS

THIS DOCUMENT MUST BE ADAPTED FOR EACH PROJECT – Delete any provision that is not applicable or if no change from the provision in the General Conditions.

*** THIS LIST OF SPECIAL CONDITION PROVISIONS IS FOR REFERENCE ONLY. REMOVE THIS PAGE BEFORE USING THIS DOCUMENT. ***

1. Preparation of Solicitation for Subsequent Contracts
2. Mitigation Measures
3. Modernization Projects
4. Badge Policy for Contractors
5. Substitution for Specified Items
6. Weather Days
7. Owner-Controlled or Wrap-Up Insurance Program
8. Insurance Policy Limits
9. Permits, Certificates, Licenses, Fees, Approval
10. Project Labor Agreement/Payroll Records
11. As-Builts and Record Drawings
12. Disabled Veteran Business Enterprises
13. Construction Manager
14. Program Manager
15. Federal Funds - Wages
16. Federal Funds – Debarment
17. Federal Funds – Byrd Anti-Lobbying
18. Federal Funds – Procurement of recovered materials
19. Federal Funds - Domestic preferences for procurements
20. Preliminary Schedule of Values

DOCUMENT 00 73 13

SPECIAL CONDITIONS

1. Preparation of Solicitation of Subsequent Contracts

Insert Section 6.1.9 in the General Conditions:

6.1.9 Contractor's duties and services under this Contract shall not include preparing or assisting the District with any portion of the District's preparation of a request for proposals, request for qualifications, or any other solicitation regarding a subsequent or additional contract with the District. The District shall at all times retain responsibility for public contracting, including with respect to any subsequent phase of this Project. Contractor's participation in the planning, discussions, or drawing of project plans or specifications shall be limited to conceptual, preliminary, or initial plans or specifications. Contractor shall cooperate with the District to ensure that all bidders for a subsequent contract on any subsequent phase of this Project have access to the same information, including all conceptual, preliminary, or initial plans or specifications prepared by Contractor pursuant to this Contract.

2. 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*.)

3. Modernization Projects

3.1 **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.

3.2 **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 the key or access to the school.

3.3 **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.

3.4 **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.

3.5 **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.

3.6 **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.

3.7 **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.

4. 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.

4.1 Badges must be filled out in full and contain the following information:

4.1.1 Name of Contractor
4.1.2 Name of Employee
4.1.3 Contractor's address and phone number

4.2 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.

4.3 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.

5. 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.

1.7.2.2 Requests for Substitutions after award of the Contract shall be submitted within thirty-five (35) days of the date of the Notice of Award.

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.

6. 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		July	
February		August	
March		September	
April		October	
May		November	
June		December	

7. Owner-Controlled or Wrap-Up Insurance Program

Contractor and all Subcontractors under the Contractor shall participate in and comply with the owner-controlled or wrap-up insurance program ("OCIP") as required by the District, OCIP Administrator, insurers, or designees, prior to the commencement of construction activities at the Project. In addition, Contractor shall procure and maintain, at its own expense, until completion and final acceptance of the Work at least the following insurance from insurance companies with an A.M. Best rating of no less than _____, except for those coverages provided by the OCIP as described in the OCIP Manual:

[Commercial General Liability]	Personal Injury Liability, Broad Form Property Damage including completed operations, and Explosion, Collapse and Underground Hazards	**[E.G. $5,000,000]**
[Automobile Liability – Any Auto]	Bodily Injury and Property Damage	**[E.G. $5,000,000]**
[Workers Compensation]		Statutory limits pursuant to State law
[Employers' Liability]		**[E.G. $1,000,000]**

[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]

8. Insurance Policy Limits

All of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than _____. The limits of insurance shall not be less than:

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	**[E.G. CHOOSE ONE OF THREE OPTIONS:** Option 1 - Low Risk Option: $1,000,000 per occurrence; $2,000,000 aggregate
		Option 2 - Intermediate Risk Option: $2,000,000 per occurrence; $4,000,000 aggregate
		Option 3 - High Risk Option: $5,000,000 per occurrence; $10,000,000 aggregate**]**
Automobile Liability – Any Auto	Combined Single Limit	**[E.G. CHOOSE ONE OF TWO OPTIONS:** Option 1 - Personal vehicles: $500,000 Commercial vehicles: $1,000,000
		Option 2 - Personal vehicles: $100,000 per person/ $300,000 per accident**]**
Workers' Compensation		Statutory limits pursuant to State law
Employer's Liability		**[E.G. $0]**
Builder's Risk (Course of Construction)		**[E.G. $0]**
Pollution Liability		**[E.G. $0]**

9. Permits, Certificates, Licenses, Fees, Approvals

9.1 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:

_____

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.

9.2 General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities

General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities does not apply to this Project.

10. Project Labor Agreement/Payroll Records

The District has entered into a Project Labor Agreement ("PLA"), which covers this Project. *Accordingly, the following provision is added as Section 26.4.6:*

26.4.6 As Contractor and its subcontractors have agreed to be bound by the terms of the PLA entered into by the District [on or about / dated] _____, Contractor and its subcontractors may be excused from uploading CPRs 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 at http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html , or by using a more current application and URL. However, within ten (10) days of any request by the District or Labor Commissioner, Contractor and its subcontractors shall provide CPRs 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.

11. As-Builts and Record Drawings

11.1 When called for by Division 1, Contractor shall submit As-Built Drawings pursuant to the Contract Documents consisting of one set of computer-aided design and drafting ("CADD") files in the following format _____, plus one set of As-Built Drawings on vellum or mylar.

11.2 Contractor shall submit Record Drawings pursuant to the Contract Documents consisting of one set of computer-aided design and drafting ("CADD") files in the following format _____, plus one set of Record Drawings on vellum or mylar].

12. Disabled Veteran Business Enterprises

This Project uses or may plan to use funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings. Therefore, Section 17076.11 of the Education Code requires the District to have 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 the District on projects that receive state funding. The Contractor 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.

13. Construction Manager

The District will use a Construction Manager on the Project that is the subject of this Contract. _____ is the Construction Manager for this Project.

14. Program Manager

_____ is the Program Manager designated for the Project that is the subject of this Contract.

15. Federal Funds - Wages

As this Project is funded in whole or in part by federal funds, Contractor and all Subcontractors are subject to civil or criminal prosecution for any violation of the federal False Claims Act set forth under section 1001 of title 18 and section 231 of title 31 of the United States Code.
The following provisions are added as Section 27 of the General Conditions:

27. FEDERAL LABOR, WAGE & HOUR, APPRENTICE, AND RELATED PROVISIONS

27.1 Minimum Wages

The Davis-Bacon Act and 29 CFR parts 1 through 7 shall apply if the Project is financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution.

27.1.1 All laborers and mechanics employed or working upon the Site of the Work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the Project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3) , the full amount of wages and bona fide fringe benefits, or cash equivalents thereof, due at time of payment computed at rates not less than those contained in the applicable wage determination of the Secretary of Labor regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of this section, including but not limited to paragraph 27.1.7; also, regular contributions made or costs incurred for more than a weekly period, but not less often than quarterly, under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such

laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of Work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing Work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which Work is performed. The wage determination including any additional classification and wage rates conformed under this section, including but not limited to paragraph 27.1.6 and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its Subcontractors at the Site of the Work in a prominent and accessible place where it can be easily seen by the workers.

27.1.2 Any class of laborers or mechanics, including helpers, and which is to be employed under the Contract which is not listed in the wage determination shall be classified in conformance with the wage determination. An additional classification and wage rate and fringe benefits will not be approved unless when the following criteria have been met:

27.1.2.1 The Work to be performed by the classification requested is not performed by a classification in the wage determination; and

27.1.2.2 The classification is utilized in the area by the construction industry; and

27.1.2.3 The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

27.1.3 If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the District agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the Contractor to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210.

27.1.4 In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the District do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contractor shall provide the questions, including the views of all interested parties and the recommendation of the District, to the District for the District's review and referral to the Administrator for determination.

27.1.5 The wage rate (including fringe benefits where appropriate) determined pursuant to this section, shall be paid to all workers performing Work in the classification under this Contract from the first day on which Work is performed in the classification.

27.1.6 Whenever the minimum wage rate prescribed in any applicable wage determination for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

27.1.7 If the Contractor does not make payments to a trustee or other third person, the Contractor may consider, as part of the wages of any laborer or mechanic, the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. If the Secretary of Labor so requires, the Contractor shall set aside in a separate account sufficient assets to meet obligations under the plan or program.

27.2 Withholding. District may, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the Contract. In the event of Contractor's or any Subcontractors' failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the Site of the Work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the Contract, the District may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as it deems necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

27.3 Payrolls and basic records.

27.3.1 Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the Work and preserved for a period of three years thereafter for all laborers and mechanics working at the Site of the Work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

27.3.2 The Contractor shall submit weekly for each week in which any Contract Work is performed a copy of all payrolls to the District. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers

and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information shall be submitted on a form acceptable to the District. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at https://www.dol.gov/whd/programs/dbra/wh347.htm or its successor site. Contractor is responsible for the submission of copies of payrolls by all Subcontractors. Contractor and Subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the District, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. Contractor may require a Subcontractor to provide addresses and social security numbers to the Contractor for its own records, without weekly submission to the District or other government agency

27.3.3 Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

27.3.3.1 That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5,

27.3.3.2 That the appropriate information is being maintained under 29 CFR 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and

27.3.3.3 That such information is correct and complete;

27.3.3.4 That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and

27.3.3.5 That no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

27.3.3.6 That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of Work performed, as specified in the applicable wage determination incorporated into or applicable to the Contract.

27.3.3.7 The weekly submission of a properly executed certification in the form set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 27.3.3 of this section.

27.3.3.8 The falsification of any of the above certifications may subject the Contractor or one or more Subcontractors to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

27.3.3.9 The Contractor or Subcontractor shall make the records required under this section available for inspection, copying, or transcription by authorized

representatives of the District or the federal Department of Labor, and shall permit representatives to interview employees during working hours on the job. If the Contractor or Subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

27.4 Apprentices and trainees

27.4.1 Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the Work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first ninety (90) days of probationary employment as an apprentice in an eligible apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job Site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of Work actually performed. In addition, any apprentice performing Work on the job Site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the Work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or Subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the Work performed until an acceptable program is approved.

27.4.2 Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to Work at less than the predetermined rate for the Work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees

to journeymen on the job Site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of Work actually performed. In addition, any trainee performing Work on the job Site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the Work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the Work performed until an acceptable program is approved.

27.4.3 Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

27.5 Compliance with Copeland Act requirements. Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Contract.

27.6 Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal agency may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for the compliance by any Subcontractor or lower tier Subcontractor with all the Contract clauses in 29 CFR 5.5.

27.7 Contract termination: debarment. A breach of the Contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract, and for debarment as a Contractor and a Subcontractor as provided in 29 CFR 5.12.

27.8 Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this Contract.

27.9 Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its Subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

27.10 Certification of eligibility.

27.10.1 By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

27.10.2 No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

27.10.3 Contractor shall be subject to the penalty for making false statements prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

27.11 Clauses Mandated by Contract Work Hours and Safety Standards Act.

As used in the following paragraphs, the terms laborers and mechanics include watchmen and guards.

27.11.1 Overtime requirements. No Contractor or Subcontractor contracting for any part of the Contract Work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such Work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

27.11.2 Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in the foregoing paragraph the Contractor and any Subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the foregoing paragraph, in the sum of $10 for each calendar day on which such individual was required or permitted to Work in excess of the standard workweek of forty hours without payment of the overtime wages required by the foregoing paragraph.

27.11.3 Withholding for unpaid wages and liquidated damages. The District may upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of Work performed by the Contractor or Subcontractor under the Contract or any other Federal contract with the same Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the forgoing paragraph.

27.11.4 Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the foregoing paragraphs concerning "Overtime requirements" and "Violation; liability for unpaid wages; liquidated damages" and also a clause requiring each Subcontractor to include these clauses in any lower tier subcontracts.

Contractor shall be responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in paragraphs 27.11.1 through 27.11.4 of this section.

16. Federal Funds – Debarment

As this Project is funded in whole or in part by federal funds, the following provision is added as Section 6.1.5 of the General Conditions:

This Project uses or may plan to use federal funds. Consequently, Contractor is required to provide a signed "Federal Debarment" certification with its bid. This certification is required by the regulation implementing Executive Order 12549, Debarment and Suspension, 29 CFR Part 89, Section 98.510, Participants; responsibilities. The regulations were published as Part of VII of the May 26, 1988 Federal Register (pages 19160-19211).

17. Federal Funds – Byrd Anti-Lobbying

As this Project is funded in whole or in part by federal funds, the following provision is added as Section 6.1.7 of the General Conditions:

If the contract exceeds $100,000, Contractor is required to provide a signed "Byrd Anti-Lobbying" certification with its bid ((31 U.S.C. 1352) (Appendix II to 2 CFR, Part 200)).

18. Federal Funds – Procurement of recovered materials

As this Project is funded in whole or in part by federal funds, the following provision is added as Section 6.13.5 of the General Conditions:

Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

19. Federal Funds - Domestic preferences for procurements

As this Project is funded in whole or in part by a federal grant made after November 12, 2020, the following provision is added as Section 1.8.10 of the General Conditions:

1.8.10 As appropriate and to the extent consistent with law, Contractor should, to the greatest extent practicable for the Project, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subcontracts and purchase orders for work or products for the Project.

1.8.10.1 "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
1.8.10.2 "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

20. 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 **[2.75]**%.
10.1.1.2.3.4 Closeout documentation shall have a value in the preliminary schedule of not less than **[5]**%.

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 all the 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. § 960l *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:

Selective demolition and construction necessary for the Modernization to existing school buildings, including associated civil, architectural, structural, plumbing, mechanical and/or electrical work as indicated in the Drawings and Specifications. Generally, these categories of work involve new finishes, adaptive re-use and modification of certain selected areas, new cabinetry, handicap accessibility retrofits, re-roofing, and adding HVAC to instructional areas, library and administrative areas and pertain to changing and expanding selected infrastructure utilities, and extensive modifications. The Project will involve the "phasing" and barricading of work areas as indicated on the Plans and enumerated in these Specifications.

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:

[FILL IN OR MODIFY AS APPROPRIATE]

(1) Asbestos removal/abatement.
(2) Lead paint removal/abatement.

B. Work on the Project that will be performed by others concurrent with the Work of this Contract:

(1) _____
(2) _____

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 three (3) 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.

END OF DOCUMENT

DOCUMENT 01 21 00

ALLOWANCE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-specified work.

1.2 RELATED SECTIONS

A. Document 01 10 00 (Summary of Work)

B. Document 01 29 00 (Payments and Completion)

C. Document 01 32 19 (Submittal Procedures)

1.3 ALLOWANCES

A. Included in the Contract, a stipulated sum/price of **[INSERT AMOUNT]** as an allowance for Unforeseen Conditions within the limits set forth in the Contract Documents. This Allowance shall not be utilized without written approval by the District.

B. 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.

C. Funds will be drawn from Allowance only with District approval evidenced by an Allowance Expenditure Directive.

D. At Contract closeout, funds remaining in Allowance will be credited to District by Change Order.

E. Whenever costs are more than the Allowance, the amount covered by the Allowance will be approved at cost. The Contract Price shall be adjusted by Change Order for amounts in excess of the Allowance.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF DOCUMENT

DOCUMENT 01 22 00

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 item 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. _____
B. _____

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 - UNIT PRICING

2.01 GENERAL

Contractor shall completely state all required figures based on Unit Prices listed below. Where scope of Work is decreased, all Work pertaining to the item, whether specifically stated or not, shall be omitted and where scope of Work is increased, all work pertaining to that item 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.

2.02 UNIT PRICES

Furnish unit prices for each of the named items on a square foot, lineal foot, or per each basis, as applies. Unit prices shall include all labor, materials, services, profit, overhead, insurance, bonds, taxes, and all other incidental costs of Contractor, subcontractors, and supplier(s).

A. _____

B. _____

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

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): $_____

(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 and/or the Architect'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	[DATE]
FINAL PROJECT COMPLETION	[DATE]

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 (¾) 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: Use **[i.e., District Project Planner for Windows, latest version]**. 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 percent (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to ten (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) working 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 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. Contract 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
(b) 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 Sections 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	The 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 of America
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.	ASME	American Society of Mechanical Engineers
19.	ASTM	American Society of Testing and Materials International
20.	AWPA	American Wood Protection Association
21.	AWPI	American Wood Preservers Institute
22.	AWS	American Welding Society
23.	AWSC	American Welding Society Code
24.	AWI	Architectural Woodwork Institute
25.	AWWA	American Water Works Association
26.	BIA	The Brick Industry Association

27.	CCR	California Code of Regulations
28.	CLFMI	Chain Link Fence Manufacturers Institute
29.	CRA	California Redwood Association
30.	CRSI	Concrete Reinforcing Steel Institute
31.	CS	Commercial Standards
32.	CSI	Construction Specifications Institute
33.	CTI	Cooling Technology Institute
34.	FGIA	Fenestration and Glazing Industry Alliance
35.	FGMA	Flat Glass Manufacturers' Association
36.	FIA	Factory Insurance Association
37.	FM	Factory Mutual Global
38.	FS/FED SPEC	Federal Specification
39.	FTI	Facing Title Institute
40.	GA	Gypsum Association
41.	IAPMO	International Association of Plumbing and Mechanical Officials
42.	ICC	International Code Council
43.	IEEE	Institute of Electrical and Electronics Engineers
44.	IES	Illuminating Engineering Society
45.	MCAC	Mason Contractors Association of California
46.	MIMA	Mineral Wool Insulation Manufacturers Association
47.	MLMA	Metal Lath Manufacturers Association
48.	MS/MIL SPEC	Military Specifications
49.	NAAMM	National Association of Architectural Metal Manufacturers
50.	NBHA	National Builders Hardware Association
51.	NCMA	National Concrete Masonry Association
52.	NCSEA	National Council of Structural Engineers Associations
53.	NEC	National Electrical Code
54.	NEMA	National Electrical Manufacturers Association
55.	NIST	National Institute of Standards and Technology
56.	NSI	Natural Stone Institute
57.	NTMA	National Terrazzo and Mosaic Association, Inc.
58.	ORS	Office of Regulatory Services (California)
59.	OSHA	Occupational Safety and Health Act
60.	PCI	Precast/Prestressed Concrete Institute
61.	PCA	Portland Cement Association
62.	PCA	Painting Contractors Association
63.	PDI	Plumbing Drainage Institute
64.	PEI	Porcelain Enamel Institute, Inc.
65.	PG&E	Pacific Gas & Electric Company
66.	PS	Product Standards
67.	SDI	Steel Door Institute; Steel Deck Institute
68.	SJI	Steel Joist Institute
69.	SSPC	Society for Protective Coatings
70.	TCNA	Tile Council of North America, Inc.
71.	TPI	Truss Plate Institute
72.	UBC	Uniform Building Code
73.	UL	Underwriters Laboratories Code

74.	UMC	Uniform Mechanical Code
75.	USDA	United States Department of Agriculture
76.	VI	Vermiculite Institute
77.	WCLIB	West Coast Lumber Inspection Bureau
78.	WDMA	Window and Door Manufacturers Association
79.	WEUSER	Western Electric Utilities Service Engineering Requirements
80.	WIC	Woodwork Institute of California

PART 2 - PRODUCTS Not Used.
PART 3 - EXECUTION Not Used.

END OF DOCUMENT

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

DOCUMENT 01 42 19

REFERENCES

PART 1 - GENERAL

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	The Aluminum Association 1400 Crystal Drive, Suite 430 Arlington, VA 22202 www.aluminum.org	703/358-2960
AABC	Associated Air Balance Council 2401 Pennsylvania Avenue NW, Suite 330 Washington, DC 20037 www.aabc.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 12215Research 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.concrete.org	248/848-3800
ACPA	American Concrete Pipe Association 5605 N. MacArthur Blvd., Suite 340 Irving, TX 75038 www.concrete-pipe.org	972/506-7216

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 1101 K Street, NW, Suite 700 Washington, DC 20005 www.afandpa.org	202/463-2700
AGA	American Gas Association 400 North Capitol Street, NW, Suite 450 Washington, DC 20001 www.aga.org	202/824-7000
AGC	Associate General Contractors of America 2300 Wilson Blvd., Suite 300 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 130 East Randolph Street, Suite 2000 Chicago, IL 60601 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 1010 South 336th Street, #210 Federal Way, WA 98003-7394 https://www.plib.org/aitc/	253/835-3344

ALI	Associated Laboratories, Inc. P.O. Box 152837 Dallas, TX 75315 www.assoc-labs.com	214/565-0593
ALSC	American Lumber Standards Committee, Inc. 7470 New Technology Way, Suite F Frederick, MD 21703 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

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 (now Air-Conditioning, Heating, & Refrigeration Institute) 2311 Wilson Blvd, Suite 400 Arlington, VA 22201 www.ahrinet.org	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 Suite 300 1305 Walt Whitman Road Melville, NY 11747-4300 https://acousticalsociety.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 180 Technology Parkway Peachtree Corners, GA 30092 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 Two Park Avenue New York, NY 10016-5990 www.asme.org	800/834-2763

ASPE	American Society of Plumbing Engineers 6400 Shafer Court, Suite 350 Rosemont, 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 18927 Hickory Creek Dr., Suite 220 Mokena, IL 60448 www.asse-plumbing.org	708/995-3019
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
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
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 12007 Sunrise Valley Drive, Suite 430 Reston, VA 20191 www.gobrick.com	703/620-0010
CGA	Compressed Gas Association 8484 Westpark Drive, Suite 220 McLean, VA 22102 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 2401 Fieldcrest Dr. Mundelein, IL 60060 www.cispi.org	224/864-2910
CLFMI	Chain Link Fence Manufacturers Institute 10015 Old Columbia Road, Suite B-215 Columbia, MD 21046 chainlinkinfo.org	301/596-2583
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	800/638-2772
CRA	California Redwood Association 818 Grayson Road, Suite 201 Pleasant Hill, CA 94523 www.calredwood.org	925/935-1499

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
DHA	Decorative Hardwoods Association (formerly Hardwood Plywood & Veneer Association) 42777 Trade West Dr. Sterling, VA 20166 https://www.decorativehardwoods.org/	703/435-2900
DHI	Door and Hardware Institute (formerly National Builders Hardware Association) 2001 K Street NW, 3rd Floor North Washington, DC 20006 www.dhi.org	202/367-1134
DIPRA	Ductile Iron Pipe Research Association P.O. Box 190306 Birmingham, AL 35219 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

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 800 Roosevelt Rd., Bldg. C, Suite 312 Glen Ellyn, IL 60137 www.fcica.com	630/672-3702
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 962 Wayne Ave., Suite 620 Silver Spring, MD 20910 www.gypsum.org	301/277-8686
HMA	Hardwood Manufacturers Association One Williamsburg Place, Suite 108 Warrendale, PA 15086 http://hmamembers.org	412/244-0440

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
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
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 1201 Pennsylvania Ave. NW Washington, D.C., 20004 www.necanet.org	202/991-6300
NEMA	National Electrical Manufacturers Association 1300 North 17th Street N, Suite 900 Rosslyn, VA 22209 www.nema.org	703/841-3200
NEII	National Elevator Industry, Inc. 5537 SW Urish Road Topeka, KS 66610 https://nationalelevatorindustry.org/	703/589-9985
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, MA02169-7471 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 516 Herndon Pkwy., Ste. D Herndon, VA 20170 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 789 N. Dixboro Road Ann Arbor, MI 48113-0140 www.nsf.org	800/673-6275 734/769-8010
NSI	Natural Stone Institute (formerly Marble Institute of America) 380 E. Lorain St. Oberlin, OH 44074 https://www.naturalstoneinstitute.org/	440/250-9222
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)

PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 or 200 Massachusetts Ave NW, Suite 200 Washington, DC 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 8770 W. Bryn Mawr Ave., Suite 1150 Chicago, IL 60631 www.pci.org	312/786-0300
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
SDI	Steel Deck Institute P.O. Box 426 Glenshaw, PA 15116 www.sdi.org	412/487-3325

SDI	Steel Door Institute 30200 Detroit Road Westlake, OH 44145 www.steeldoor.org	440/899-0010
SJI	Steel Joist Institute 140 West Evans Street, Suite 203 Florence, SC 29501 http://steeljoist.org	843/407-4091
SMA	Stucco Manufacturers Association 5753 E Santa Ana Cyn Rd, #G-156 Anaheim, CA 92807 www.stuccomfgassoc.com	714/473-9579
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) 670 N Commercial Street, Suite 201 Manchester, NH 03101 www.tcia.org	603/314-5380 800/733-2622

TVI	The Vermiculite Institute c/o The Schundler Company 10 Central Street Nahant, MA 01908 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 201 E. John Carpenter Freeway, Suite 750 Irving, TX 75062 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 35 E Wacker Dr., Suite 850 Chicago, IL 60601 www.wallcoverings.org	312/224-2574
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
WI	Woodwork Institute 1455 Response Road, Suite 110 Sacramento, CA 95815 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 Design Professional 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)
B. Slump Test
ASTM C 143
C. Concrete Tests

Testing agency shall test concrete used in the work per the following paragraphs:

(1) Compressive Strength:

(a) Minimum number of tests required: One (1) set of three (3) cylinders for each 100 cubic yards (Sec. 2604(h) 01) of concrete or major fraction thereof, placed in one (1) day. See Title 24, Section 2605(g).

(b) Two cylinders of each set shall be tested at twenty-eight (28) days. One (1) cylinder shall be held in reserve and tested only when directed by the Architect or District.

(c) Concrete shall test the minimum ultimate compressive strength in twenty-eight 28 days, as specified on the structural drawings.

(d) In the event that the twenty-eight (28) day test falls below the minimum specified strength, the effective concrete in place shall be tested by taking cores in accordance with UBC Standard No. 26-13 and tested as required for cylinders.

(e) In the event that the test on core specimens falls below the minimum specified strength, the concrete will be deemed defective and shall be removed and replaced upon such direction of the Architect, and in a manner acceptable to the Division of the State Architect.

D. Reinforcing, Steel

E. Structural Steel Per Title 24 and as noted:

(1) Material: Steel per Table in Title 24, Section 2712.
(2) Qualification of Welders (UBC Std. 27-6).
(3) Shop fabrication (Section 2712(d). Structural steel only).
(4) Shop and field welding (Section 2712(e)).

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

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**.** Under no circumstance shall Contractor use District trash service.

H. Field Office:

(1) If Contractor chooses to provide a field office, it shall be an acceptable construction trailer that is well-lit and ventilated. The construction trailer shall be equipped with shelves, desks, filing cabinet, chairs, and such other items of equipment needed. Trailer and equipment are the property of the Contractor and must be removed from the Site upon completion of the Work. Contractor may use the corridor adjacent to the construction area for an office area, if approved in writing by District.
(2) Contractor shall provide any additional electric lighting and power required for the trailer. Contractor shall make adequate provisions for heating and cooling as required.

I. Temporary Facilities:

(1)

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:

(1) 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. General:

(1) Contractor shall provide and maintain a Project identification sign with the design, text, and colors designated by the District and/or the Design Professional; locate sign as approved by the District.

(2) Signs other than the specified Project sign and or signs required by law, for safety, or for egress, shall not be permitted, unless otherwise approved in advance by the District.

B. Materials:

(1) Structure and Framing: Structurally sound, new or used wood or metal; wood shall be nominal 3/4-inch exterior grade plywood.
(2) Sign Surface: Minimum 3/4-inch exterior grade plywood.
(3) Rough Hardware: Galvanized.
(4) Paint: Exterior quality, of type and colors selected by the District and/or the Design Professional.

C. Fabrication:

(1) Contractor shall fabricate to provide smooth, even surface for painting.
(2) Size: 4'-0" x 8'-0", unless otherwise indicated.
(3) Contractor shall paint exposed surfaces of supports, framing, and surface material with exterior grade paint: one coat of primer and one coat of finish paint.
(4) Text and Graphics: As indicated.

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.

END OF DOCUMENT

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. CHPS Submittal: CHPS letter template for Credit ME2.0 and ME2.1, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.
I. Qualification Data: For Waste Management Coordinator.
J. 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.
K. 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 52 13

FIELD OFFICES

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. Requirements for Field Offices and Field Office Trailers.

1.03 SUMMARY:

A. General: Contractor shall provide District's Field Office Trailer and contents, for District's use exclusively, during the term of the Contract.
B. Property: Trailer, furniture, furnishings, equipment, and the like, supplied by the Contractor with the Office Trailer shall remain the property of the Contractor; District property items installed, delivered, and the like by District within the Office Trailer will remain District's property.
C. Modifications: District reserves the right to modify the trailer or contents, or both, as may be deemed proper by District.
D. Condition: Trailer and contents shall be clean, neat, substantially finished, in good, proper, and safe condition for use, operation, and the like; the trailer and contents shall not be required to be new.
E. Installation Timing: Provide safe, fully furnished, functional, proper, complete, and finished trailer properly ready for entire use, within fourteen (14) calendar days of District's notification of the issuance of Notice to Proceed.

1.04 SUBMITTALS:

A. General: Submit submittals to District in quantity, format, type, and the like, as specified herein.
B. Office Trailer Data: One (1) copy of manufacturer's descriptive data, technical descriptions, regulatory compliance, industry standards, installation, removal, and maintenance instructions.

C. Equipment Data: Two (2) copies of manufacturer data for each type of equipment, if directed by District.
D. Furniture and Furnishings Data: Two (2) copies of manufacturer data for each type of equipment, if directed by District.
E. Plans: One (1) reproducible copy of appropriately scaled plans of trailer layout. Plans shall include, but not be limited to: lighting; furniture; equipment; telephone and electrical outlets; and the like.
F. Product Samples: One (1) complete and entire unit of each type, if directed by District.

1.05 QUALITY ASSURANCE

A. Standards: In the event that provisions of codes, regulations, safety orders, Contract Documents, referenced manufacturer's specifications, manufacturer's instructions, industry standards, and the like, are in conflict, the more restrictive and higher quality shall govern.
B. Installer: Installer or Installers engaged by Contractor must have a minimum of five (5) years of documented and properly authenticated successful experience of specialization in the installation of the items or systems, or both, specified herein.
C. Manufacturer: Contractor shall obtain products from nationally and industry recognized Manufacturer with five (5) years minimum, of immediately recent, continuous, documented and properly authenticated successful experience of specialization in the manufacture of the product specified herein.
D. State Personnel Training: Provide proper training for maintenance and operations, including emergency procedures, and the like, as directed by District.
E. Units: Shall be sound and free of defects, and shall not include any damage or defect that will impair the safety, installation, performance, or the durability of the entire Office Trailer and appurtenant systems.

1.06 REGULATORY REQUIREMENTS

A. General: Work shall be executed in accordance with applicable Codes, Regulations, Statutes, Enactments, Rulings, Laws, each authority having jurisdiction, and including, but not limited to, Regulatory Requirements specified herein.
B. California Building Standards Code ("CBSC").
C. California Code of Regulations, Title 25, Chapter 3, Sub Chapter 2, Article 3 ("CCR").
D. Coach Insignia: Trailer shall display California Commercial Coach Insignia; such insignia shall be deemed to show that the trailer is in accordance with the Construction and Fire Safety requirements of CCR.

PART 2 – PRODUCTS

2.01 FIELD OFFICE TRAILER

A. General: Provide entire Field Office Trailer of type, function, operation, capacity, size, complete with controls, safety devices, accessories, and the like, for proper and durable installation. Partitions, walls, ceiling, and other interior and exterior surfaces shall be appropriately finished, including, but not limited to, trim, painting, wall base, floor covering, suspended or similar ceiling, and the like; provide systems, components, units, nuts, bolts, screws, anchoring devices, fastening devices, washers, accessories, adhesives, sealants, and other items of type, grade, and class required for the particular use, not identified but required for a complete, weather-tight, appropriately operating, and finished installation.

B. Manufacturers: General Electric Capital Modular Space; The Space Place, Inc.; or equal.

C. Program: Provide a wheel-mounted trailer with stairs, landings, platforms, ramps, and the like, in good, proper, safe, clean, and properly finished condition; with proper heavy duty locks, and other proper and effective security at all doors, windows, and the like. Trailer shall be maintained in good, proper, safe, clean, and properly finished condition during the Contract.

(1) Nominal Trailer Size: Four hundred eighty (480) square feet, minimum.
(2) Stairs, Platform: Properly finished stairs, platforms, and ramps.
(3) Doors: Two (2), three (3) foot wide exterior doors with locksets; finished ramp, steps, and entry platform at each exterior door.
(4) Keys: Submit five (5) keys for each door, window, furniture unit, and the like. There shall be no other key copies or originals available; each key shall be identified for District; and shall be labeled, or tagged or both, as directed by District.
(5) HVAC:
(6) Lighting: Sixty-five (65) foot-candles illumination minimum at any point, at thirty (30) inches above finished floor throughout from fluorescent light source, exclusively, or as directed by District.
(7) Electrical Outlets: One (1) duplex outlet evenly spaced every twelve (12) linear horizontal feet of wall face, and electrical service ready for use.
(8) Telephones and Telephone Outlets: Two (2) telephone lines wired, connected to telephone utility service, and ready for use, and two (2) telephone instruments, each with two (2)-line capability, speed dial and hands-free feature. Locate each outlet as directed by District.

(9) Voicemail Messaging System or Answering Machine: One (1) unit, two (2)-line; digital.

2.02 FIELD OFFICE TRAILER ITEMS

A. General: Provide the Field Office Trailer with the following arranged into two (2) workstations:

(1) Desks: Two (2) desks: thirty-six (36) inches by sixty (60) inches; steel, laminated plastic top; locking, one (1) or two (2) file drawers single pedestal; steel; provide five (5) keys to District.
(2) Tables: Two (2) tables; thirty-six (36) inches by sixty (60) inches; twenty-nine (29) inches high; steel, laminated plastic top tables; one (1) at each desk.
(3) Chairs: Two (2) chairs: swivel; steel; with seat cushion and arms; one (1) at each desk.
(4) Waste Baskets: Two (2) waste baskets, one at each desk.

B. Furniture and Equipment: Provide in the space located to effect efficient and logical use.

(1) File cabinet: One (1); four (4) drawer; lateral; steel locking.
(2) Plan Table: One (1) plan table: thirty-six (36) inches deep by seventy-two (72) inches wide by forty-two (42) inches high; adjustable; wood or steel; with lockable plan and pencil drawers.
(3) Drafting Stool: One (1) drafting stool; swiveling; steel; padded; adjustable; with footrest and casters.
(4) Bookshelf: One (1) bookshelf: thirty-six (36) inches deep by seventy-two (72) inches wide by forty-two (42) inches high; adjustable; wood or steel; with lockable plan and pencil drawer.
(5) Plan Rack: One (1) wheel mounted plan rack.
(6) Waste Baskets: One (1) large waste basket.
(7) Coat/Hat Hanger: Wall mounted with minimum capacity for four (4) garments and ten (10) hats.
(8) Document Management System: Shall include an integrated high-volume printer, copier, and facsimile machine, including stand, base, and storage cabinet; and shall include the following features:

(a) Type: Laser, dry electrostatic transfer, plain paper, digital, multi-function imaging system.
(b) Network: Ethernet or Token Ring network ready, Plug-and-Play.

(c) Print, send/receive facsimile from any connected workstation.
(d) Resolution: Six hundred (600) dots per inch by six hundred (600) dots per inch, minimum.
(e) Print Speed: Twenty (20) pages per minute, minimum.
(f) Copies: Twenty (20) copies per minute, minimum.
(g) Document Handler: Forty (40) sheet, minimum
(h) Collator: Forty (40) bin, minimum, with stapling.
(i) Duplexing: Capable.
(j) Paper Size: Capable of handling paper sizes to eleven (11) inches by seventeen (17) inches.
(k) Paper Cassettes: One (1) each for eight and one half (8.5) inches by eleven (11) inches, eight and one half (8.5) inches by fourteen (14) inches, and eleven (11) inches by seventeen (17) inches paper sizes; minimum two hundred fifty (250) sheets per cassette.
(l) Reduction/Enlargement: Capable of reduction to twenty-five percent (25%) and enlargement to two hundred percent (200%).
(m) Facsimile Electronic Storage: Capable of storing minimum of fifty (50) speed dial numbers, group faxing and broadcast faxing.
(n) Facsimile Scanning: Capable of scanning into memory a minimum of one hundred (100) pages with maximum scan time of three (3) seconds per page.
(o) Halftone: Sixty-four (64) levels.
(p) Redial: Automatic and Manual.

(9) Maintenance: Contractor shall purchase service agreements for each unit of equipment for the duration of the project plus two (2) months, and shall maintain all equipment in proper working condition. Service agreements shall include provision for replacement of toner cartridges and other items required to effect proper unit use. Service agreements shall also provide for:

(a) Unlimited Service Calls.
(b) Same Day Response.
(c) All parts, labor, preventative maintenance and mileage.

(d) All chemicals, such as toner, fixing agent, and the like.
(e) System training and setup.

(10) Portable Toilets: Two (2); each shall include a urinal; each unit shall be a properly enclosed chemical unit conforming to ANSI Z4.3.

(a) Location: As directed by District.
(b) Maintenance: Maintain each unit and surrounding areas in a clean, hygienic and orderly manner, at all time. Empty, clean, and sanitize each unit each day at a location and time as directed by District.
(c) Removal: Relocate, or remove from the site, each Portable Toilet. Upon such directive by District, the Contractor shall forthwith relocate or remove each Portable Toilet and submit the affected areas to a condition which existed prior to the installation of each Portable Toilet, within three (3) calendar days, or as directed by District in writing, at no cost to District.

2.03 UTILITY AND SERVICES

A. Telephone Service: Contractor shall provide and interface the entire telephone service, and shall properly and timely pay for telephone service for District's non-long-distance use.
B. Electrical Service: Provide all proper connections and continuously pay for service for the duration of the Work.

2.04 FINISHES

A. General: Manufacturer standard finish system over surfaces properly cleaned, pretreated, and prepared to obtain proper bond; all visible surfaces shall be coated.
B. Finish: Color as selected by District from manufacturer standard palette.

PART 3 – EXECUTION

3.01 INSTALLATION

A. General: Properly prepare area and affected items to receive the Work. Set Work accurately in location, alignment, and elevation; rigidly, securely, and firmly anchor to appropriate structure; install plumb, straight, square, level, true, without racking, rigidly anchored to proper solid blocking, substrate, and the like; provide appropriate type and quantity of reinforcements, fasteners, adhesives, self-adhesive and other tapes; lubricants, coatings, accessories, and the like, as required for a complete, structurally rigid, stable, sound, and appropriately finished installation, in accordance with manufacturer's published instructions, and as indicated. The more restrictive and higher quality requirement shall govern. Moving parts shall be properly secured, without binding, looseness, noise, and the like.

B. Installation: Install in accordance with 25 CCR 3.2.3 and as directed by District; jack up trailer and level both ways; mount on proper concrete piers with all load off wheels; provide required tie down and accessories per Section 4368 of referenced CCR, and as directed by District.

C. Rejected Work: Work, materials, unit, items, systems, and the like, not accepted by District shall be deemed rejected, and shall forthwith be removed and replaced with proper and new Work, materials, unit, items, systems, and the like at no cost to District.

D. Standard: Comply with manufacturer's published instructions, or with instructions as shown or indicated; the more restrictive and higher quality requirement shall govern.

E. Location: As directed by District.

F. Fire Resistance: Construct and install in accordance with UL requirements.

G. Maintenance: Contractor shall maintain trailer and adjacent areas in a safe, clean and hygienic condition throughout the duration of the Work, and as directed by District. Properly repair or replace furniture or other items, as directed by District. Properly remove unsafe, damaged, or broken furniture, or similar items, and replace with safe and proper items. Contractor shall pay cost of all services, repair, and maintenance, or replacement of each item.

H. Janitorial Service: Provide professional janitorial services, including, but not limited to, trash, waste paper baskets, fill paper dispensers; clean and dust all furniture, files, and the like; sweep and mop resilient and similar flooring; and vacuum carpeting and similar flooring.

(1) Frequency: Two (2) times per week, minimum.

I. Removal: Properly remove the Office Trailer and contents from the Site upon completion of the Contract, or as directed by District in writing. Forthwith properly patch and repair affected areas; replace damaged items with new items. Carefully and properly inventory, clean, pack, store, and protect District property; submit District property to District at a date, time and location as directed by District.

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.
(2) 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 ("OFCI"): 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 Installer 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) Effects 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

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

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

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: 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 the Contract Documents, the District will provide Contractor with one set of reproducible, full size original Contract Drawings (mylars).
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 reproducible vellums of the 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 reproducible vellums at the conclusion of the Project following review of the blueline prints.
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 01 91 00

COMMISSIONING

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.
C. Submittal Procedures: Procedures for submittal of product data and quality assurance submittals.
D. Closeout Procedures: General closeout requirements.
E. Sustainable Design Closeout Documentation: Closeout requirements relating to sustainable design certification.
F. Appropriate Sections of Divisions 15 and 16 specify closeout and/or commissioning related requirements for specific pieces of equipment or building operating systems.

1.02 SECTION INCLUDES

A. Equipment and system commissioning, including the following:

(1) Completion of commissioning procedures on specific equipment and systems as indicated under "Related Documents and Provisions" above.
(2) Verification of operational and functional performance of specific equipment and systems for compliance with the "Design Intent" as described in the "Related Documents and Provisions" indicated above.

1.03 REFERENCES

A. [ASTM International (ASTM)]:

(1) [ASTM X000-00, Title of Standard].
(2) [ASTM X000-00, Title of Standard].

B. [Name of Organization (Organization Acronym)]:

(1) [Acronym, Standard or Document Number and Date of Issue, Title of Standard or Document].

1.04 DEFINITIONS

A. Commissioning: The process of verifying that the installation and performance of selected building systems meet or exceed the specified design criteria and therefore satisfy the design intent.
B. Deficiencies and Resolutions List: List of noted deficiencies discovered as result of commissioning process.
C. Final Commissioning Report: Overall final commissioning document, prepared by the Systems Commissioning Authority, which details the actual commissioning procedures performed, inspection and testing results, and the final version of the deficiencies and resolutions list indicating that all issues discovered through the commissioning process have been verified as resolved.
D. Functional Performance Testing Process: Documented testing of system parameters, under actual or simulated operating conditions.
E. Pre-Commissioning Checklists: Installation and start-up items to be completed by the appropriate party prior to operational verification through functional testing.
F. Physical Inspection Process: On-site inspection and review of related system components for conformance to the specifications.
G. Systems Commissioning Authority (SCA): Independent entity under contract directly with the District or District's Representative responsible for performing the specified commissioning procedures.

1.05 DESCRIPTION OF CONSTRUCTION PHASE COMMISSIONING PROCESS

A. As soon as practicable after the [bid award] [start of construction] the Systems Commissioning Authority (SCA) will conduct a pre-installation commissioning "kick-off" meeting with the contractors. Parties directly affected by the commissioning work will be required to attend. The SCA will explain the commissioning process in detail, and identify specific commissioning related responsibilities of the various parties.
B. Commissioning status meetings will be scheduled to occur during construction to monitor progress and to help facilitate the commissioning process. Contractor representatives will be required to attend these meetings.
C. Once contractors have provided the SCA with written verification indicating completion of installation and startup procedures, the SCA will conduct an on-site physical inspection of the specific systems and equipment.
D. Upon confirmation of system readiness, the SCA will schedule with the contractors to perform functional compliance with the project specifications and drawings. The SCA will oversee the process and will provide the format and documentation for these tests.

E. Deficiencies noted during these tests will be documented on the Deficiencies and Resolutions list. When corrected, issues will be resolved at the time of discovery. The responsible Contractor will resolve all other issues at a later date. All deficiencies will be noted by the SCA as either resolved or pending resolution.

F. The construction commissioning process will be complete when all noted deficiencies have been corrected, proved to be compliance with the project specifications or otherwise resolved to the satisfaction of the District.

1.06 SYSTEMS COMMISSIONING AUTHORITY'S DUTIES AND RESPONSIBILITIES

A. Meet and communicate with the District's representatives, Construction Manager, if any, Contractors, equipment manufacturers' representatives, Architect, Engineer and others as needed, to facilitate the commissioning process.

B. Review commissioning related specifications, submittals and construction documents. Communicate noted deficiencies and concerns to the District, Architect and Engineer.

C. Develop detailed and specific functional testing procedures for equipment and systems to be commissioned.

D. Develop testing, adjusting and balancing (TAB) specifications. Oversee the TAB process.

E. Perform site inspections and verify contractor readiness for the functional testing process. Document deficiencies for future resolution.

F. Witness contractor performed functional testing process as appropriate to verify contractor compliance with the functional testing procedures. Document deficiencies for future resolution.

G. Provide the District, Construction Manager, Contractor, Architect, and Engineer with a Final Commissioning Report to document the commissioning process and to verify that the commissioning process is complete.

1.07 DUTIES AND RESPONSIBILITIES OF OTHERS FOR COMMISSIONING

A. The commissioning process will require the active participation of persons qualified to represent the District, Mechanical Engineer, Electrical Engineer, General Contractor, Equipment Manufacturers' Representatives, Mechanical Contractor, HVAC Contractor, Controls Contractor, TAB Contractor, Electrical Contractor, and other specific subcontractors, as deemed appropriate. The SCA will witness the final functional performance commissioning process. Participants shall include in their contracts all costs necessary to participate in and complete the commissioning process.

B. Contractor will assure the participation and co-operation of Subcontractors, as required to complete the commissioning process.

C. The District will assure the participation of their chosen representatives as required to complete the commissioning process.

D. The Architect will assure the participation of necessary representatives from the Design Team as required to complete the commissioning process. Design team members will provide prompt replies to requests for information issued during the commissioning process.

E. It is the Contractor's specific responsibility to complete their respective start-up and checkout procedures, and to insure the complete readiness of equipment and systems, prior to the start of the functional performance testing phase. The SCA shall request written confirmation of system readiness for performance testing, from the appropriate subcontractor or Contractor. Once the SCA is provided with confirmation of all related systems completion, the actual date and times for the functional performance testing process will be confirmed. Contractors shall provide sufficient time, and qualified representatives, to complete this process.

F. After a second failure of a system to successfully meet the criteria as set forth in the functional performance testing process, the Contractor shall reimburse the District for all costs associated with any additional re-testing efforts made necessary due to remaining Contractor related system deficiencies previously reported by the Contractor as corrected. These costs shall include salary, travel costs and per diem lodging costs (where applicable) for the SCA. Rates to be used:

Mileage:	$0.35/Mile
Per Diem Lodging:	$115.00/Day
Salary:	$100.00/Hour

G. Training on related systems and equipment operation and maintenance shall only be scheduled to commence after final performance commissioning is satisfactorily completed, and systems are verified to be 100 percent complete and functional.

1.08 SUBMITTALS

A. Submit under provisions of Document 01 33 00 Submittals.

B. Pre-Commissioning Checklist Forms: Submit two (2) signed copies of the checklist forms to the SCA upon completion of all listed items.

C. Equipment Manufacturer's Startup Forms: Submit two (2) completed copies of the installation and startup checklists provided by the equipment manufacturers to the SCA.

D. Test Reports: Submit two (2) copies of test reports for equipment and systems to the SCA.

E. Control Schematics: Submit two (2) copies of the control schematics for equipment, systems, and subsystems to the SCA.

F. Inspection Records: Submit two (2) copies of the records of inspections for code compliance, and approved permits and licenses to operate the equipment and systems to the SCA.

G. Operating Data: Submit two (2) copies of equipment and system operating data including all necessary instructions to facilitate operation to specified performance standards to the District.

H. Maintenance Data: Submit two (2) copies of equipment and system maintenance data including all necessary information required to maintain the equipment and systems in continuous operation, such as the testing, balancing and adjusting report and the as-built drawings.

PART 2 – PRODUCTS Not Used.
PART 3 – EXECUTION Not Used.

END OF DOCUMENT

SECTION 02 40 00
DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY

A. Removing above-grade site improvements within limits indicated.
B. Disconnecting, capping or sealing, and abandoning site utilities in place.

C. Disconnecting, capping or sealing, and removing site utilities.

D. Disposing of objectionable material.

1.02 RELATED SECTIONS

A. Section 31 23 00 – Excavation and Fill.

B. Section 31 23 33 – Trenching and Backfill.

1.03 RELATED DOCUMENTS

A. California Building Code: Chapter 33 – Site Work, Demolition and Construction.

B. California Building Code: Section 1809A.14 – Pipes and Trenches.

1.04 DEFINITIONS

A. ANSI: American National Standards Institute.

B. CAL-OSHA: California Occupational Safety and Health Administration.

1.05 SUBMITTALS

A. Follow Submittal procedure outlined in Section 01 33 00 – Submittal Procedures.

1.06 PROJECT CONDITIONS

A. Except for materials indicated to be stockpiled or to remain the Owner’s property, cleared materials are the Contractor's property. Remove cleared materials from site and dispose of in lawful manner.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store where indicated on plans or where designated by the Owner. Avoid damaging materials designated for salvage.

C. Unidentified Materials: If unidentified materials are discovered, including hazardous materials that will require additional removal other than is required by the Contract Documents, immediately report the discovery to the Owner. If necessary, the Owner will arrange for any testing or analysis of the discovered materials and will provide instructions regarding the removal and disposal of the unidentified materials.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

A. Backfill excavations resulting from demolition operations with on-site or import materials conforming to structural backfill defined in Section 31 23 00 – Excavation and Fill.

PART 3 - EXECUTION

3.01 PREPARATION

A. Protect and maintain benchmarks and survey control points during construction.

B. Protect existing site improvements to remain during construction.

3.02 RESTORATION

A. Restore damaged improvements to their original condition, as acceptable to the Owner.

3.03 UTILITIES

A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed or abandoned.

B. Arrange to shut off indicated utilities with utility companies or verify that utilities have been shut off.

C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless authorized in writing by the Owner, and then only after arranging to provide temporary utility services according to requirements indicated.

D. Coordinate utility interruptions with utility company affected.

E. Do not proceed with utility interruptions without the permission of the Owner and utility company affected. Notify Owner and utility company affected two working days prior to utility interruptions.

F. Excavate and remove underground utilities that are indicated to be removed.

G. Securely close ends of abandoned piping with tight fitting plug or wall of concrete minimum 6-inches thick.

3.04 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

B. Remove slabs, paving, curbs, and gutters, as indicated. Where concrete slabs, curb, gutter and asphalt pavements are designated to be removed, remove bases and subbase to surface of underlying, undisturbed soil.

C. Unless the existing full-depth joints coincide with line of pavement demolition, neatly saw-cut to full depth the length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.

D. Remove driveways, curbs, gutters and sidewalks by saw cutting to full depth. If saw cut falls within 30-inches of a construction joint, expansions joint, score mark or edge, remove material to joint, mark or edge.

3.05 BACKFILL

A. Place and compact material in excavations and depressions remaining after site clearing in conformance with Section 31 23 33 – Trenching and Backfill.

3.06 DISPOSAL

A. Remove surplus obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off the Owner's property.

END OF SECTION

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SECTION 03 10 00 – CONCRETE FORMWORK

PART I – GENERAL

1.1 Description of Work

A. Work under this section includes the furnishing and installing of all form work for cast-in-place concrete, complete, with all related accessories, items and incidentals required.

1.2 Applicable Standards (latest editions apply)

A. ACI- American Concrete Institute

1. 301, Specifications for Structural Concrete for Buildings.

2. 318, Building Code Requirements for Reinforced Concrete.

3. 347, Recommended Practice for Concrete Formwork.

B. ICC – International Code Council, Inc.

1. CBC - Section 1906A - 2022 California Building Code (California Code of Regulations, Title 24, Part 2)

PART II – PRODUCTS

2.1 Forming Materials

A. Unless otherwise indicated, materials for formwork shall be wood, steel, fiber or reinforced plastic and of suitable quality to achieve required finishes. Contractor shall conform with considerations and recommendations in ACI-347, Chapter 3, Materials for Formwork.

B. Unless otherwise indicated, contact surfaces in fabricated forms shall be smooth and uniform without warps, bends, dents, sags or irregular absorptive conditions and imperfections which might telegraph or product objectionable irregularities in the exposed concrete finish.

C. Form ties and spreaders shall leave a hole not larger than 7/8-inch nor less than ½-inch in diameter in the concrete surface. The portion of the tie remaining in the concrete shall be at least 1-inch back from the concrete surface that will be exposed to view, painted, damp proofed or waterproofed.

D. Chamfer strips: Milled from clear straight-grain lumber, surfaced on all sides. Other material of equal quality may be used only as authorized by Architect.

E. Round Column Forms: Sonotube or equal

2.2 Form Coatings: Form coating and bond breaking materials shall be non-staining and completely compatible with finish materials and other surface treatment materials to be used.

2.3 Other Materials:

A. Sand Cushion & Membrane: Sand shall be clean, sharp and moist. Membrane shall be 15 mil. polyethylene sheet. Lap joints 6".

B. Rock Base: Caltrans Class II, ¾" aggregate max.

PART III – EXECUTION

3.1 Construction of Forms:

A. The forms shall be constructed smooth, mortar-tight, true to the required lines and grade, and with sufficient strength to resist springing out of shape during the placing and vibrating of concrete. All dirt, chips, sawdust and other foreign matter shall be completely removed before concrete is placed. Forms previously used shall be thoroughly cleaned of all dirt, mortar and foreign matter before being used.

B. Before reinforcing steel is placed in forms, all inside surfaces of the forms shall be thoroughly coated with an approved form sealer. The form sealer shall be of high penetrating quality leaving no film on the surface of the forms that can be absorbed by the concrete or be incompatible with concrete paint.

C. All exposed edges shall be chamfered with triangular fillets ½-inch by ½-inch.

D. Joints in formwork for exposed walls and curbs shall be taped, where directed by Architect.

3.2 Earth Forms:

A. Foundation concrete may be placed directly into neat excavations provided the foundation trench walls are stable as determined by the architect (Structural Engineer) subject to the approval of the Division of the State Architect. In such case the minimum formwork shown on the drawings is mandatory to insure clean excavations immediately prior to and during the pour.

B. Remove loose dirt and debris prior to placement of concrete.

3.3 Stripping:

A. Forms shall be removed in such manner as to insure the complete safety of the structure. Conform to minimum requirements established by ACI 347 for specific conditions.

B. Formwork for walls and other parts not supporting the weight of the concrete may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations.

C. Whenever the formwork is removed during the curing period, the exposed concrete shall be protected and cured by one of the methods specified in Section 03 30 00.

END OF SECTION

SECTION 03 20 00 – CONCRETE REINFORCEMENT

PART I – GENERAL

1.1 Description of Work

A. Work under this Section includes the furnishing and installing of all steel reinforcing for cast-in-place concrete, complete, with all related items, accessories and incidentals required, such as ties, spacing devices inserts and all other material required to complete installation.

1.2 Applicable Standards (latest editions apply)

A. ACI- American Concrete Institute:

1. 301, Specifications for Structural Concrete for Buildings.

2. 315, Manual of Standard Practice for Detailing Reinforced Concrete Structures.

3. 318, Building Code Requirements for Reinforced Concrete.

B. ASTM- American Society for Testing and Materials, Referenced Standards

C. AWS- American Welding Society:

1. AD1.4 Structural Welding Code- Reinforcing Steel

2. A5.1 Mild Steel Covered Arc-Welding Electrodes

D. CRSI- Concrete Reinforcing Steel Institute:

1. Manual of Standard Practice

2. Recommended Practice for Placing Reinforcing Bars

E. ICC- International Code Council:

1. CBC – 2022 California Building Code (California Code of Regulations, Title 24, Part 2)

1.3 Submittals

A. Shop Drawings of all reinforcing steel shall be submitted for approval.

B. Mill Reports for each different heat to be used on the job shall be submitted for approval. Comply with CBC, Section 1910A.2.

1.4 Quality Assurance

A. Welders shall be qualified in accordance with AWS D1.4.

PART II – PRODUCTS

2.1 Materials

A. Reinforcing bars: Deformed, new billet-steel bars conforming to ASTM Designation A615, Grade 60 or ASTM A706 unless noted otherwise.

B. Reinforcing mesh: Welded wire fabric conforming to ASTM A185.

C. Tie wires and spirals: ASTM A82.

D. Reinforcement supports

1. At reinforcing placed over sand or earth, use precast concrete cubes.

2. At reinforcing placed over forms, provide supports with legs which are hot dip galvanized, stainless steel or plastic protected.

E. Mechanical Bar Splice: Xtender by Headed Reinforcement Corp. or equal to develop a minimum of 125% of yield strength of bar.

2.2 Fabrication: Except where specified otherwise herein or shown otherwise on the plans, reinforcing steel shall be cleaned, fabricated, placed, tied and supported in accordance with ACI 301 and ACI 315.

PART III – EXECUTION

3.1 Installation

A. Reinforcing bars shall be accurately placed and shall be supported and secured against displacement by the use of adequate and proper supporting and spacing devices, tie wire, etc., so that it will remain in its correct location in the finished work. No supporting devices shall be used that will impede the flow of concrete.

B. Do not bend or straighten reinforcing in any manner that will injure the material.

C. Install splices for reinforcing bars in accordance with drawings and ACI 318. Stagger splices in adjacent bars 5’ – 0".

D. Reinforcing mesh shall be laid flat in place. Lap mesh at sides and ends 12 inches. Wire mesh together at 24 inches on center.

3.2 Clearances

A. Where not shown otherwise on the drawings, the minimum concrete coverage for steel reinforcement shall be as follows:

1. Where concrete is deposited against ground 3”

2. Concrete in forms exposed to earth or weather 2”

B. The clear spacing between parallel bars shall be not less than 1-1/2 times the normal diameter of the maximum size aggregate, and in no case less than 1-1/2 inches, except at splices which may be wired together.

3.3 Welding: Perform all welding in accordance with AWS D1.4.

3.4 Field Quality Control

A. Contractor shall examine placement of all reinforcement and embedded items prior to inspection by Owner's Testing Agency to ensure the proper clearances have been maintained and that all reinforcement and inserts are firmly tied to resist displacement.

B. The Owner's Testing Agency will inspect

1. In-place reinforcing steel

2. Field welding of reinforcing steel

3.5 Notification: Notify the Architect two working days in advance of concrete placement.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART I – GENERAL

1.1 Description of Work

A. Work under this Section includes the furnishings and installing of all concrete work, complete, with all related accessories, items and incidentals required.

B. Coordinate installation of all inserts and embedded items required or indicated.

1.2 Applicable Standards (latest editions apply)

A. ACI- American Concrete Institute:

1. 301, Specifications for Structural Concrete for Buildings.

2. 305, Recommended Practice for Cold Weather Concreting.

3. 306, Recommended Practice for Hot Weather Concreting.

4. 318, Building Code Requirements for Reinforced Concrete.

B. ASTM- American Society of Testing and Materials, Referenced Standards.

C. ICC- International Code Council:

1. CBC - 2022 California Building Code (California Code of Regulations, Title 24, Part 2)

1.3 Submittals

A. Mix Design and Tests:

1. Submit mix designs and compressive strength test reports from previous applications for specified types of concrete.

2. One copy of all test reports shall be forwarded to DSA, the Architect, the Structural Engineer, the Inspector of Record within fourteen days of the test. Test reports shall comply with all requirements of CCR Title 24, Part 1, Section 4-335.

3. The concrete mixes shall be based on designs of a professional testing laboratory, verified by test, also in accordance with CBC Section 1905A.1.17.

PART II – PRODUCTS

2.1 Materials

A. General: Materials for cast-in-place concrete shall be set as forth in ACI 301 except as modified herein and as otherwise indicated in project documents.

B. Portland Cement: ASTM C150 Type II modified, with maximum alkali content of 0.6 percent (from only one source). Comply with Title 24, Section 1903A. Test cement per Title 24, Section 1916A

C. Aggregates: ASTM C33, (from source as approved by the Testing Agency). Comply with Title 24, Section 1903A.5

D. Water: clean, potable, free of injurious materials.

E. Admixtures: Only brand products documented to have had not less than five years of satisfactory performance shall be used. Admixtures containing chlorides shall not be used. Comply with Title 24, Section 1904A and ACI-318, Section 3.6.

1. Air Entraining: ASTM C260

F. Grout: Manufactured pre-mixed. Non-ferrous, non-staining, flowable grout which will not shrink as it cures, 5000 psi @ 7 days.

G. Fly Ash: Shall conform to ACI 318 Section 26.4.2.2 (b)

2.2 Concrete Mix

A. Ready-Mix Concrete: ASTM C94.

2.3 Proportion and Mixture

A. Proportioning mixtures and production of concrete shall be in accordance with ACI 318, Section 19.3.2 and shall be in accordance with mix designs submitted by Laboratory and approved by the Owner's Testing Agency. All concrete shall have at least 5 sacks of cement per cubic yard of mix.

B. Concrete shall have 3% +/- 1%, air entrainment when approved by Testing Agency.

C. Water reducing admixtures may be used in concrete when approved by Testing Agency. Such admixtures shall not interfere with or reduce required air content dosage of air-entrained concrete.

D. Use a minimum of 5 sacks of cement per cubic yard for all concrete.

E. Concrete Mix Requirements: The following table presents a schedule of elements of concrete, compressive strength in psi after 28-days when tested in accordance with ASTM C39, maximum aggregate and maximum slump, which shall be as follows:

Concrete Element	***Strength***	***Max. Size Aggregate (Inch)***	***Max. Slump (Inch)***
All Concrete	per drawings	Per drawings	per drawings

PART III – EXECUTION

3.1 Inspection

A. Areas in which concrete is to be placed shall be inspected by Contractor for defects which would prohibit satisfactory placement of concrete or related miscellaneous items. Such defects shall be corrected prior to commencement of work.

B. Concrete shall not be deposited or placed until all forms, reinforcing steel and construction joints have been inspected by Owner's Testing Agency and accepted in advance within the entire extent of the pour. Architect shall be notified 48 hours prior to first pour.

Field Quality Control

A. The Owner's Testing Agency will:

1. Review concrete mix designs.

2. Perform testing in accordance with ACI 318 and CBC Sections: 1903A and 1905A.

3. Continuously monitor concrete temperature and inspect concrete placement.

4. Test concrete to control slumps according to ATSM C31 and ASTM C172.

5. Test concrete for required compressive strength in accordance with CBC Section 1905A.1.17:

a. Make and cure three specimen cylinders according to ATSM C31 for each 50 cubic yards per CBC 1905A.1.17, or fraction thereof, of each class poured at site each day.

b. Retain one cylinder for 7-day test and two for the 28-day test.

c. Number each cylinder 1A, 1B, 1C, 2A, 2B, 2C, etc; date each set; and keep accurate record of pour each set represents.

d. Transport specimen cylinders from job to laboratory after cylinders have cured for 24-hours on site. Cylinders shall be covered and kept at air temperatures between 60 and 80 degrees Fahrenheit.

e. Test specimen cylinders at age 7-days and age 28-days for specified strength according to ASTM C39.

f. Base strength value on average of two cylinders taken for 28-day test.

B. The Contractor shall:

1. Submit ticket for each batch of concrete delivered to job site. Ticket shall bear the following information:

a. Design mix number.

b. Signature or initials of ready mix representative.

C. Comply with Title 24, CBC Section 1905A

3.3 Workmanship

A. All concrete shall be placed, finished and cured, and all other pertinent construction practices shall be in accordance with the Specifications for Structural Concrete for Buildings (ACI 301) hereby made a part of these specifications.

B. In addition to the requirements of ACI 301, the following shall prevail:

1. Concrete shall be placed so that a uniform appearance of surface will be obtained.

2. The concrete shall be free of all rock pockets, honeycombs and voids.

3. Concrete shall be deposited as nearly as practical in its final position.

4. The sub-grade shall be slightly moist when the concrete is placed for floor slabs to prevent excessive loss of water from the concrete mix.

5. Place concrete within 90 minutes of mixing.

C. Vibrators and Vibrating:

1. Employ as many vibrators and tampers as necessary to secure the desired results. Minimum: one per each 20 cubic yards of concrete placed per hour.

2. Eliminate the following applications:

a. Pushing of concrete with vibrator.

b. External vibration of forms.

c. Allowing vibrator to vibrate against reinforcing steel where steel projects into green concrete.

d. Allowing vibrator to vibrate contact faces of forms.

3. Vibrators shall function at a minimum frequency of 3600 cycles per minute when submerged in concrete.

4. Supplement vibration by forking and spading along the surfaces of the forms and between reinforcing whenever flow is restricted.

D. Curing:

1. General: Freshly deposited concrete shall be protected from premature drying and excessively hot or cold temperatures and shall be maintained with minimal moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete. Also comply with CBC Section 1905A.11.

2. Initial Curing: Initial curing shall immediately follow the finishing operation. Concrete shall be kept continuously moist at least over night. One of the following materials or methods shall be used:

   a. Ponding or continuous sprinkling.

   b. Absorptive mat or fabric kept continuously wet.

3. Final Curing: Immediately following the initial curing and before the concrete has dried, additional curing shall be accomplished by one of the following materials or methods:

   a. Continuing the method used in initial curing.

   b. Slabs to receive finish flooring materials to be continuously wet cured for 7 days.

   c. Waterproof paper conforming to “Specifications for Waterproof Paper for Curing Concrete” (ASTM C171).

   d. Curing compounds conforming to “Specifications for Liquid Membrane-Forming Compounds for Curing Concrete” (ASTM C309). Such compounds shall be applied in accordance with the recommendations of the manufacturer and shall not be used on any surfaces against which additional concrete or other cementitious finishing materials (such as ceramic tile) are to be bonded, nor on surfaces on which such curing is prohibited by the project specifications.

   e. Other moisture-retaining coverings as approved.

4. Duration of Curing: The final curing continue until the cumulative number of days or fractions thereof, not necessarily consecutive, during which temperature of the air in contact with the concrete is above 50 degrees F., has totaled 7 days.

5. Formed Surfaces: Steel forms heated by the sun and all wood forms in contact with the concrete during the final curing period shall be kept wet. If forms are to be removed during the curing period, one of the above curing materials or methods shall be employed immediately. Such curing shall be continued for the remainder of the curing period.

E. Construction Joints

1. Joints not shown on the drawing shall be so made and located as to least impair the strength of the structural element and shall be approved by the Owner and Structural Engineer.

2. The surfaces of all concrete at all joints shall be thoroughly cleaned and all laitance removed by sandblasting.

3. Concrete surfaces at designated joints shall be roughened to ¼" relief with roto hammer or similar method.

4. Moisten all joints immediately prior to placement of concrete.

F. Embedded Items:

1. All sleeves, inserts, anchors and embedded items required for adjoining work or for its support shall be placed prior to concreting. Embedded items shall be positioned accurately and supported against displacement. Voids in sleeves, inserts and anchor bolt slots shall be filled temporarily with a readily removable material to prevent entry of concrete into the voids.

G. Grouting Column Bases:

1. The grout shall be mixed and placed in strict accordance with manufacturer's instructions.

2. Care shall be taken in the grouting to insure that there is full bearing between the base plates and the grout.

3.4 Defective Work: Work considered to be defective may be ordered to be replaced, in which case the Contractor shall remove the defective work at his expense. Work considered to be defective shall include, but not be limited to, the following:

A. Concrete in which defective or inadequate reinforcing steel has been placed.

B. Concrete incorrectly formed, or not conforming to details and dimensions on the drawings or with the intent of these documents, or concrete the surfaces of which are out of plumb or level.

C. Concrete below specified strength.

D. Concrete containing wood, cloth or other foreign matter, rock pockets, voids, honeycombs, cracks or cold joints not scheduled or indicated on the drawings.

3.5 Correction of Defective Work

A. The Contractor shall, at his expense, make all such corrections as directed by the engineer.

B. Concrete work containing rock pockets, voids, honeycombs, cracks or cold joints not scheduled or indicated on the drawings shall be chipped out until all unconsolidated material is removed.

3.6 Slab Finish

A. Covered interior slabs shall receive a smooth, steel troweled finish. Tolerance shall be 1/8” in 10’-0”.

B. Slabs under ceramic tile shall receive a roughened finish.

C. Exposed interior & exterior slabs receive a slip-resistant, broom finish as directed. Edges shall be smooth troweled. See drawings for specifics.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY

PART I – GENERAL

1.1 Description Of Work

A. Work Included:

1. Wood framing and sheathing systems.
2. Wood furring, blocking and nailers.
3. Backing for wall mounted equipment, railings, toilet partitions, toilet accessories, etc.
4. Rough hardware, including tie-downs, post caps, etc.
5. Acoustical sealant, where indicated, at wood plates and plywood.
6. Prefabricated wood products

1.2 Applicable Standards (latest editions apply)

A. AITC- American Institute of Timber Construction Standards

1. 110 – Standard Appearance Grades for Structural Glued Laminated Timber.
2. 111 – Recommended Practice for Protection of Structural Glued Laminated Timber During Transit, Storage and Erection.
3. 113 – Standard for Dimensions of Glued Laminated Structural Members.
4. 115 – Standard for Fabricated Structural Timber
5. 103 – Standard for Structural Glued Laminated Timber

B. ANSI- American National Standards Institute

1. ANSI/AITC A190.1 Structural Glued Laminated Timber
2. ANSI/ASME B18.2.1 Square and Hex Bolts and Screws (Inch Series)
3. ANSI/ASME B18.6.1 Wood Screws (Inch Series)

C. APA- American Plywood Association Product Standard PS 1.

D. ASTM- American Society for Testing and Materials: D05055, Establishing and monitoring Structural Capacities of Prefabricated Wood I Joists.

E. AWPA- American Wood Preservers Association Standards

F. AWPI- American Wood Preservers Institute LP-2

G. ICC- International Code Council, Inc.

1. CBC- California Building Code, Current Edition

H. FS- Federal Specifications

I. TPI- Truss Plate Institute: Design Specification for Metal Plate Connected Wood Trusses.

J. WCLIB- West Coast Lumber Inspection Bureau, Grading Rule No. 17

1.3 Submittals

A. Shop drawings of glued laminated beams plus AITC or equal certificate of conformance with product standard ANSI/AITC 190.1

B. Shop drawings of prefabricated wood I joists including:

1. Plan layout of members and bridging, design loads and installation instructions.

2. Details of member connections, stiffeners, blocking and web openings.

3. Structural calculations stamped and signed by California Registered Civil Engineer.

C. Product information for rough hardware.

1.4 Store lumber and plywood off ground in manner to insure proper ventilation and protection from weather; and to prevent damage by either decay or insects. Store plywood under cover and cover lumber as required to avoid twisting and warping.

1.5 Coordinate work of this Section with work by others. Check lines and levels indicated on such other work as has been completed, before commencing work of this Section. Report discrepancies in writing to the Owner for correction and adjustment, or in the event of failure to do so, correct errors without additional cost to the Owner.

1.6 Install temporary bracing as required. Make proper provision to take care of stresses resulting from construction loads, whenever piles of materials, erection equipment or other loads are carried by frame during its erection.

PART II – PRODUCTS

2.1 Wood: Materials shall conform to grades and grading rules as hereinafter specified. Each piece of lumber and plywood shall be grade-stamped or certified by a competent agency approved by the Owner.

A. Plywood:
Roof Sheathing: Structural 1, 15/32” APA Rated, 24/0, Exposure I; 5 ply, min.
Wall Sheathing: Structural 1, 15/32” APA C-C, Interior with exterior glue; 5 ply, min. or 3/8” APA C-C – to match existing.
Floor Sheathing: Structural 1, 3/4“ APA Rated 48/24 Exposure 1; 5 ply, min.

B. Framing Lumber: Douglas Fir – Larch conforming to “WCLIB Standard Grading and Dressing Rules No. 17” as follows:

1. Structural Light Framing: 2” to 4” thick 2” to 6” wide D.F. No. 1

2. Structural Joists & Planks: 2” to 4” thick, 6” and wider D.F. No. 1

3. Beams & Stringers: 5” and thicker, Rectangular width more than 2” greater than thickness D.F. No. 1, free of heart centers

4. Posts & Timbers: 5” x 5” and larger, width not more than 2” greater than thickness D.F. No. 1 free of heart centers

5. Sills: Pressure treated D.F. No. 1, Stamped in compliance with CBC 2303.1.8.1, Ammoniacal Copper Quat (ACQ), Copper Boron Azole (CBA) or Borate Treated AWPA Standard C2, minimum 4/10” penetration, incised.

C. Laminated Veneer Lumber (LVL): “RedLam: as manufactured by RedBuilt, "Microlam" as manufactured by Weyerhaeuser Co. or approved equal.

D. Parallel Strand Lumber (PSL): 2.0E as manufactured by Trus Joist per ICC ESR-1387.

E. Additional Grading Requirements

1. In order to qualify as “structural lumber”, each piece including plywood, shall be marked with the grade of the lumber by some competent and reliable organization whose regular business is to establish lumber grades and whose trade-mark shall also appear on each piece; except that, a certificate from such an organization may be accepted in lieu of such grade and trade-marks. All plywood must be grade stamped on each piece with the APA trade-mark.

2. There shall be no boxed heart in any framing lumber 4” and larger in the least dimension.

2.2 Preservative Treatment

A. Use waterborne preservatives complying with AWPA Standards.

B. All preservative treated lumber shall be retreated where cut on site.

2.3 Rough Hardware

Nails, bolts, nuts, washers, lag bolts, screws, anchor and other fastenings as shown or as required for complete installation. Galvanized or cadmium-plate for exterior work. Comply with the following specifications:

A. Wire Nails: Common. Plywood nails are acceptable at diaphragms and walls. Provide minimum penetration as required for common nails.

B. Bolts, Nuts, ASTM A307, (upset threads are prohibited)

C. Lag Screws and Lag Bolts: ANSI/ASME B18.2.1.

D. Wood Screws: ANSI/ASME B18.6.1.

E. Framing Clips, Boots, Hangers, hold-downs etc.: by Simpson Strong Tie or approved equal.

2.4 Glue: AFG – 01 approved. PL Premium" polyurethane construction adhesive by Chem Pex, Inc., or equal.

PART III – EXECUTION

3.1 General Framing

A. Joists, rafters and beams shall be cut as required to provide a full even and horizontal seating on the support, unless otherwise shown. Do not overcut.

B. Notches and bored holes in joists and beams shall be limited as shown on the drawings.

3.2 Framing For Pipes

A. Frame members for passage of pipes and ducts to avoid cutting structural members. Do not cut, notch or bore framing members for passage of pipes or conduits without architect's authorization.

B. Pipes 1” diameter or less may pass through a neatly bored hole in the center of the plates. Hole location is subject to the Architect’s acceptance.

3.3 Fire stops: Provide 2” nominal fire stops in conformance with Section 717.2 of the CBC.

3.4 Blocking: Provide solid blocking in all walls for wall mounted items.

3.5 Furring: Provide furring, stripping, blocking, backing and grounds where indicated or where necessary to support, or to furnish suitable spacings for finish materials and accessories.

3.6 Nailing:

A. All nailing shall conform to CBC Table 2304.10.2, except where more stringent requirements are shown on drawings.

B. Penetration of nails or spikes into piece receiving point shall be not less than 1/2 length of nail or spike, except, that 16 penny nails may be used to connect pieces of 2” thickness.

C. Drive nails and spikes no closer together than 2/3 their length nor closer to edge of member than ½ their length, except when detailed otherwise.

D. Place nails without splitting wood. Pre-drill holes whenever nailing tends to split wood or plywood. Replace split members.

E. Use of machine nailing is subject to a satisfactory job site demonstration. Authorization is subject to continued satisfactory performance. If nail heads penetrate the outer ply of plywood more than would be normal for a hand hammer or if the minimum allowable edge distances are not maintained the performance will be deemed unsatisfactory.

3.7 Bolts And Lag Screws:

A. Provide bolts and lag screws, bearing on wood, with malleable iron or steel plate washers of sizes indicated under heads and nuts. All nuts and screws shall be tightened when placed and re-tightened at completion of the job or immediately prior to closing with finish construction. Nuts shall be secured against loosening.

B. Except where otherwise indicated on the details, bore holes for bolts with a bit 1/32” to 1/16” larger than nominal diameter as the bolt.

C. Bore lag screw holes the same diameter and depth as shank, continue hole to depth equal to length of lag screw and with a diameter equal to 75% of the diameter of the shank.

D. Screw all lag screws; do not drive into place. Embed threaded portion of lag screws in each timber a minimum of seven (7) times their shank diameter.

3.8 Preservative Treatment: Treat all framing in direct contact with concrete or masonry construction with wood preservative, as follows:

A. Wood bucks and nailing blocks: Dip in preservative 15 minutes prior to incorporation in concrete.

B. All treated lumber shall be marked or branded.

3.9 Glue Plywood Floor Sheathing to supporting members

3.10 Removal Of Debris: Remove all wood, including form lumber, chips, shavings and sawdust in or on the ground from the area under the floor. No wood shall be buried in any fill.

END OF SECTION

SECTION 06 20 00 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Exterior standing and running trim.
2. Exterior lumber and plywood siding.
3. Exterior plywood soffits.
4. Interior standing and running trim.
5. Interior plywood and board paneling.

B. Related Sections include the following:

1. Division 6 Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view and for framing exposed to view.
2. Division 6 Section "Exterior Architectural Woodwork" for exterior woodwork not specified in this Section.
3. Division 6 Section "Interior Architectural Woodwork" for interior woodwork not specified in this Section.
4. Division 8 Section “Door Hardware” for Builders Hardware.
5. Division 8 Section “ Wood Doors”.
6. Division 9 Section "Painting" for priming and back-priming of finish carpentry.

1.3 DEFINITIONS

A. Inspection agencies, and the abbreviations used to reference them, include the following:

1. ANSI - American National Standards Institute
2. ASTM - American Society for Testing and Materials
3. AWI – American Woodwork Institute
4. NHLA - National Hardwood Lumber Association.
5. RIS - Redwood Inspection Service.
6. WCLIB - West Coast Lumber Inspection Bureau.
7. WI - Woodwork Institute “Manual of Millwork”.
8. WWPA - Western Wood Products Association.

1.4 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Include construction details, material descriptions, dimensions of individual components and profiles, textures, and colors.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

B. Samples for Verification:

1. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq. in. for lumber and 8 by 10 inches for panels.
2. For each finish system and color of lumber and panel products with factory-applied finish, 50 sq. in. for lumber and 8 by 10 inches for panels.

C. Research/Evaluation Reports: Showing that fire-retardant-treated wood complies with building code in effect for Project.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer.

B. Fire-Test-Response Characteristics: Where fire-retardant materials are indicated, provide materials with specified fire-test-response characteristics as determined by Underwriters Laboratory, Inc., or other testing and inspection agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency on surfaces of materials that will be concealed from view after installation.

C. Treated Wood Materials: Submit chemical treatment manufacturer’s instructions for handling, storage, installation and finishing treated materials. For each type specified, include certification by treating plant stating chemical solutions used, submersion period and conformance with specified standards.

D. Factory-mark each piece of lumber and plywood with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.

E. Pre-installation Meeting: Meet at project site prior to delivery of finish carpentry materials and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Include in the meeting the Contractor, Architect and other Owner Representatives (if any), Installers of finish carpentry, wet work

including plastering, other finishes, painting, mechanical work and electrical work, and firms and persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. Proceed with finish carpentry on interior only when everyone concerned agrees that required ambient conditions can be properly maintained.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.

B. Deliver interior finish carpentry only when environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install interior finish carpentry until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit work to be performed according to manufacturer's written instructions and warranty requirements and at least one coat of specified finish to be applied without exposure to rain, snow, or dampness.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Plywood Siding:

    a. Champion International Corp.
    b. Georgia-Pacific Corp.
    c. Louisiana-Pacific Corporation.
    d. Pacific Wood Laminates, Inc.
    e. Simpson Timber Co.

2. Hardwood Veneer Plywood Paneling:

    a. Champion International Corp.
    b. Georgia-Pacific Corp.
    c. Weyerhaeuser Company.

2.2 MATERIALS, GENERAL

A. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by the American Lumber Standards' Committee Board of Review.

1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
2. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.

B. Softwood Plywood: DOC PS 1/ANSI A199.1.

C. Hardwood Plywood: HPVA HP-1.

D. Hardboard: AHA A135.4

E. Medium-Density Fiberboard: ANSI A208.2, Grade MD-Exterior Glue.

F. Particleboard: ANSI A208.1, Grade M-2-Exterior Glue.

2.3 WOOD-PRESERVATIVE-TREATED MATERIALS (Trt-Wd)

A. Water-Repellent Preservative Treatment by Non-pressure Process: AWPA N1.

1. Preservative Chemicals: 3-iodo-2-propynyl butyl carbamate (IPBC), combined with an insecticide containing chloropyrifos.
2. Use chemical formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.
3. Application: Exterior trim and wood siding.

2.4 FIRE-RETARDANT-TREATED MATERIALS (F Trt-Wd)

A. General: Where fire-retardant-treated lumber and plywood are indicated, use materials impregnated with fire-retardant chemicals by a pressure process or other means acceptable to authorities having jurisdiction to produce products with the following fire-test-response characteristics:

1. Flame-spread index of not greater than 25 when tested according to ASTM E 84.

B. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.

C. Exterior-Type Fire-Retardant Treatment: Organic-resin-based formulation that shows no increase in flame spread of treated material after being weathered according to ASTM D 2898, Method A.

D. Interior, Low-Hygroscopic-Type, Fire-Retardant Treatment: Formulation that results in treated material with an apparent moisture content of not more than 28 percent when tested according to ASTM D 3201 at 92 percent relative humidity.

E. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber and plywood from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.

F. Kiln-dry material after treatment to levels required for untreated material. Do not use material that does not comply with requirements for untreated material or is warped or discolored.

2.5 EXTERIOR STANDING AND RUNNING TRIM

A. Lumber Trim for Semitransparent-Stained or Clear-Finished Applications: Kiln-dried lumber with saw-textured face and of the following species and grade:

1. Clear All Heart redwood where indicated; RIS.
2. Grade B & B Btr. - 1 & 2 Western red cedar where indicated; WCLIB, or WWPA.

B. Lumber Trim for Painted Applications: Kiln-dried, finger-jointed or solid lumber with surfaced smooth face and of the following species and grade:

1. Clear redwood; RIS.
2. Grade B & B Btr. - 1 & 2 Western red cedar; WCLIB, or WWPA.

C. Moldings: Made to patterns included in WMMPA WM 7. Wood moldings made from kiln-dried stock and graded under WMMPA WM 4.

1. Moldings for Semitransparent Finish (Stained Finish): N-grade redwood, western red cedar, or sugar pine as indicated.
2. Moldings for Opaque Finish (Painted): P-grade redwood, western red cedar, or sugar pine.
3. Patterns as indicated.

D. MDO Trim: Exterior Grade B-B, MDO plywood.

2.6 SIDING

A. Plywood Siding for Painted Finish: MDO/EXT-APA-Rated siding**.**

1. Thickness: As indicated.
2. Pattern: As indicated.

B. Siding Colors, Textures, and Patterns: Where manufacturer's standard products are indicated, provide siding with the following requirements:

1. As selected by Architect from manufacturer's full range.

2.7 INTERIOR STANDING AND RUNNING TRIM

A. Softwood Lumber Trim for Transparent Finish (Stain or Clear Finish): Kiln-dried finished lumber (S4S) of the following species and grades:

1. Grade - Clear All Heart Redwood where indicated; Para 103 RIS.
2. Clear Heart western red cedar where indicated; WCLIB, or WWPA.
3. Manufactured to sizes and patterns (profiles) shown.

B. Lumber Trim for Opaque Finish (Painted): Finished lumber (S4S), either finger-jointed or solid lumber, of one of the following species and grades:

1. Grade D Select (Quality) Idaho white, lodgepole, ponderosa, or sugar pine; WWPA.
2. Grade D Select white woods; WWPA.
3. Grade A Finish alder, aspen, basswood, cottonwood, gum, magnolia, soft maple, sycamore, tupelo, or yellow poplar; NHLA.

C. Moldings: Made to patterns included in WMMPA WM 7. Wood moldings made from kiln-dried stock and graded under WMMPA WM 4.

1. Moldings for Transparent Finish (Stain or Clear Finish): N-grade Idaho white, lodgepole, ponderosa, or sugar pine, western red cedar, douglas fir, or yellow poplar].

a. Provide material selected for compatible grain and color.

2. Moldings for Opaque Finish (Painted): P-grade Idaho white, lodgepole, ponderosa, or sugar pine, or yellow poplar.
3. Manufactured to sizes and patterns (profiles) shown.

2.8 PANELING

A. Hardwood Veneer Plywood Paneling: Manufacturer's stock hardwood plywood panels complying with applicable requirements in HPVA HP-1.

1. Face Veneer Species: Plain-sliced red oak.
2. Backing Veneer Species: Any hardwood compatible with face species.
3. Construction: Veneer core.
4. Thickness: 7/16 inch.
5. Panel Size: As indicated on the drawings.
6. Glue Bond: Type II (interior).
7. Face Pattern: As selected by Architect form manufacturer's standard patterns.
8. Finish: As selected by Architect from manufacturer's full range.

2.9 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws of the following materials, in sufficient length to penetrate minimum of 1-1/2 inches into substrate, unless otherwise recommended by manufacturer:

1. Hot-dip galvanized steel.
2. Pre-finished aluminum in color to match stain, where face fastening of material to receive stain is unavoidable.

B. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

1. Where finish carpentry materials are exposed in areas of high humidity, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153/A 153M.

C. Paneling Adhesives: Comply with paneling manufacturer's written recommendations for adhesives.

D. Flashing: Comply with requirements in Division 7 Section "Sheet Metal Flashing and Trim" for flashing materials installed in finish carpentry.

1. Horizontal Joint Flashing for Siding: Preformed galvanized steel Z-shaped flashing.

E. Sealants: Comply with requirements in Division 7 Section "Joint Sealants" for materials required for sealing siding work.

2.10 FABRICATION

A. Wood Moisture Content: Comply with requirements of specified inspection agencies and with manufacturer's written recommendations for moisture content of finish carpentry at relative humidity conditions existing during time of fabrication and in installation areas.

B. Back out or kerf backs of the following members, except members with ends exposed in finished work:

1. Exterior standing and running trim wider than 5 inches.
2. Interior standing and running trim, except shoe and crown molds.
3. Wood board paneling.

C. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Pre-installation Meeting: Meet at project site prior to delivery of finish carpentry materials and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Include in meeting the Contractor, Architect and other Owner Representatives (if any), Installers of finish carpentry, wet work including plastering, other finishes, painting, mechanical work and electrical work, and firms and persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. Proceed with finish carpentry on interior only when everyone concerned agrees that required ambient conditions can be properly maintained.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Before installing finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours**,** unless longer conditioning is recommended by manufacturer.

C. Painted Lumber: Prime lumber for exterior applications to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Division 9 Section "Painting."

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.

1. Do not use manufactured units with defective surfaces, sizes, or patterns.

B. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

1. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
2. Countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.
3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
4. Coordinate finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.

1. Match color and grain pattern across joints.
2. Install trim after gypsum board joint finishing operations are completed.
3. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.
4. Fit exterior joints to exclude water. Apply flat grain lumber with bark side exposed to weather.

3.5 SIDING INSTALLATION

A. Plywood Siding: Install panels with edges over framing or blocking. Nail at 6 inches o.c. at panel perimeter and 12 inches o.c. at intermediate supports, unless manufacturer

recommends closer spacing. Leave 1/16-inch gap between adjacent panels and 1/8-inch gap at perimeter and openings, unless otherwise recommended by panel manufacturer.

1. Seal butt joints at inside and outside corners and at trim locations.
2. Install continuous metal flashing at horizontal panel joints with 1/8-inch expansion gap.
3. Apply battens and corner trim as indicated.
4. Conceal fasteners to greatest practical extent by countersinking and filling, by placing in grooves of siding pattern, or by concealing with applied trim or battens as detailed. Do not nail through overlapping pieces.

B. Flashing: Install metal flashing as indicated on Drawings and as recommended by siding manufacturer.

C. Finish: Apply finish within two weeks of installation.

D. Install siding to comply with manufacturer's warranty requirements.

3.6 PANELING INSTALLATION

A. Plywood Paneling: Select and arrange panels on each wall to minimize noticeable variations in grain character and color between adjacent panels. Leave 1/4-inch gap to be covered with trim at top, bottom, and openings. Install with uniform tight joints between panels.

1. Attach panels to supports with manufacturer's recommended panel adhesive and fasteners. Space fasteners as recommended by panel manufacturer.
2. Conceal fasteners to greatest practical extent.
3. Arrange panels with grooves and joints over supports. Fasten to supports with nails of type and at spacing recommended by panel manufacturer. Use fasteners with prefinished heads matching groove color.

3.7 ADJUSTING

A. Replace finish carpentry that is damaged or does not comply with requirements. Finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.8 CLEANING

A. Clean finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.9 PROTECTION

A. Installer of finish carpentry work shall advise Contractor of final protection and maintained conditions necessary to ensure that the work will be without damage or deterioration at time of acceptance.

END OF SECTION 06 20 00 (3/06)

SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Blanket type thermal building insulation.
   2. Blanket type sound attenuation insulation.

B. Related Sections include the following:
   1. Division 6 Section "Rough Carpentry".
   2. Division 9 Sections "Gypsum Board Assemblies" and "Gypsum Board Shaft-Wall Assemblies" for installation in metal-framed assemblies of insulation specified by reference to this Section.
   3. Division 23 Sections "Duct Insulation," "Equipment Insulation," and "Pipe Insulation."

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for insulation products.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of building insulation through one source.

B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

   1. Surface-Burning Characteristics: ASTM E 84.
   2. Fire-Resistance Ratings: ASTM E 119.
   3. Combustion Characteristics: ASTM E 136.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Glass-Fiber Insulation:

a. CertainTeed Corporation.
b. Schuller Corp.
c. Owens Corning.

2.2 INSULATING MATERIALS

A. General: Provide insulating materials that comply with requirements and with referenced standards.

1. Preformed Units: Sizes to fit applications indicated; selected from manufacturer's standard thicknesses, widths, and lengths.

B. Faced Mineral-Fiber Blanket Insulation: ASTM C 665, Type III (blankets with reflective membrane facing), Class A (membrane-faced surface with a flame spread of 25 or less and smoke developed less than 50); Category 1 (membrane is a vapor barrier), faced with foil-scrim-kraft, foil-scrim, or foil-scrim-polyethylene vapor-retarder membrane on one face; consisting of fibers manufactured from glass.

1. R-Value: All exterior walls shall have insulation with an installed R-value of not less than R-19, unless otherwise indicated on drawings. Roof shall have an installed R-value of not less than R-30, unless otherwise indicated on the drawings.
2. Class A: (Blankets with reflective vapor-retarder membrane facings with flame spread of 25 or less); foil-scrim polyethylene or foil-scrim Kraft vapor-retarder membrane on one face shall be required in all other ceiling, wall and floor installations per Section 707.3, C.B.C.

C. Sound Attenuation Blankets (at sound walls): ASTM C665, Type1, light density batt, Inorganic Glass Fiber. Maximum flame spread and smoke developing values of 25 and 50 respectively. Fill full thickness of wall cavity unless otherwise noted.

D. Line Wire: Standard gauge as required to support blanket/batt insulation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for Sections in which substrates and related work are specified and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulations or vapor retarders, including removing projections capable of puncturing vapor retarders or of interfering with insulation attachment.

3.3 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and application indicated. If printed instructions are not available or do not apply to project conditions, consult manufacturer’s technical representative for specific recommendations before proceeding with insulation installation.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice and snow.

C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

1. Stuff loose glass fiber insulation into miscellaneous voids and cavity spaces as indicated. Compact to approximately 40% of normal maximum volume (to density of approximately 2.5 lbs. per cu. ft.)

D. Water-Piping Coordination: If water piping is located on inside of insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.

E. Apply single layer of insulation to produce thickness indicated, unless multiple layers are otherwise shown or required to make up total thickness.

F. Prior to installing gypsum board, install sound attenuation blankets as indicated, unless readily installed after gypsum board has been installed.

3.4 INSTALLATION OF GENERAL BUILDING INSULATION

A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions to envelope the entire area to be conditioned, including small pockets or holes that might allow a heat transfer between the room and conditioned space and the

exterior. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

B. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. Vapor barrier shall be free of gaps, openings, etc., which would allow passage of vapor from unprotected to protected spaces or volumes. Do not obstruct ventilation spaces, except for firestopping. Vapor retarder shall be continuous without gaps, rips or tears and shall be fastened to face of studs or joists.

C. Set reflective foil-faced units with approximately ¾" air space in front of foil face, when installed in substantial contact with unexposed surface of the ceiling, wall or floor finishes.

D. Install mineral-fiber blankets in cavities formed by framing members according to the following requirements:

1. Use blanket widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping stapling flanges to flanges of metal studs.

E. If insulation units are located in an unsupported ceiling area, provide line wire to support insulation units from dropping out from between supports. Space line wire at 16 " on center maximum.

F. If insulation units are to be installed at the upper portion of the joists or rafters to eliminate the void between the roof deck and the conditioned cavity, use 5/8" staples and 18 gauge galvanized sag-wires.

G. Contractors Option: Use Simpson "IS" insulation supports between joists and rafters. Comply with manufacturer's recommendation for installation requirements.

H. For wood-framed construction, install mineral-fiber blankets according to ASTM C 1320 and as follows:

1. With faced blankets having stapling flanges, secure insulation by inset, stapling flanges to sides of framing members.
2. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to produce airtight installation after concealing finish material is in place.

3.5 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07 21 00 (3/06)

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY:

A. Section Includes: Finish Hardware for door openings, except as otherwise specified herein.

1. Door hardware for Gates
2. Keyed cylinders as indicated.

B. References: Comply with applicable requirements of the following standards. Where these standards conflict with other specific requirements, the most restrictive shall govern.

1. Builders Hardware Manufacturing Association (BHMA)
2. 2022 California Building Code
3. NFPA 80 -Fire Doors and Windows
4. ANSI-A156.xx- Various Performance Standards for Finish Hardware
5. UL10C – Positive Pressure Fire Test of Door Assemblies
6. ANSI-A117.1 – Accessible and Usable Buildings and Facilities
7. DHI /ANSI A115.IG – Installation Guide for Doors and Hardware
8. ICC – International Building Code

C. Intent of Hardware Groups

1. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.
2. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to be submitted to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.

1.2 SUBMITTALS:

A. Special Submittal Requirements: Combine submittals of this Section with Sections listed below to ensure the "design intent" of the system/assembly is understood and can be reviewed together.

B. Product Data: Manufacturer's specifications and technical data including the following:

1. Detailed specification of construction and fabrication.
2. Manufacturer's installation instructions.
3. Wiring diagrams for each electric product specified. Coordinate voltage with electrical before submitting.
4. Submit 6 copies of catalog cuts with hardware schedule.
5. Provide 9001-Quality Management and 14001-Environmental Management for products listed in Materials Section 2.2

C. Shop Drawings - Hardware Schedule: Submit 6 complete reproducible copy of detailed hardware schedule in a vertical format.

1. List groups and suffixes in proper sequence.
2. Completely describe door and list architectural door number.
3. Manufacturer, product name, and catalog number.
4. Function, type, and style.
5. Size and finish of each item.
6. Mounting heights.
7. Explanation of abbreviations and symbols used within schedule.
8. Detailed wiring diagrams, specially developed for each opening, indicating all electric hardware, security equipment and access control equipment, and door and frame rough-ins required for specific opening.

D. Templates: Submit templates and "reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.

1. Templates, wiring diagrams and "reviewed Hardware Schedule" of electrical terms to electrical for coordination and verification of voltages and locations.

E. Samples: (If requested by the Architect)

1. 1 sample of Lever and Rose/Escutcheon design, (pair).
2. 3 samples of metal finishes

F. Contract Closeout Submittals:

1. Operating and maintenance manuals: Submit 3 sets containing the following.

a. Complete information in care, maintenance, and adjustment, and data on repair and replacement parts, and information on preservation of finishes.
b. Catalog pages for each product.
c. Name, address, and phone number of local representative for each manufacturer.
d. Parts list for each product.

2. Copy of final hardware schedule, edited to reflect, "As installed".
3. Copy of final keying schedule
4. As installed “Wiring Diagrams” for each piece of hardware connected to power, both low voltage and 110 volts.
5. One set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

1.3 QUALITY ASSURANCE

1. Statement of qualification for distributor and installers.
2. Statement of compliance with regulatory requirements and single source responsibility.
3. Distributor's Qualifications: Firm with 3 years experience in the distribution of commercial hardware.

a. Distributor to employ full time Architectural Hardware Consultants (AHC) for the purpose of scheduling and coordinating hardware and establishing keying schedule.
b. Hardware Schedule shall be prepared and signed by an AHC.

4. Installer's Qualifications: Firm with 3 years experienced in installation of similar hardware to that required for this Project, including specific requirements indicated.
5. Regulatory Label Requirements: Provide testing agency label or stamp on hardware for labeled openings.

a. Provide UL listed hardware for labeled and 20 minute openings in conformance with requirements for class of opening scheduled.
b. Underwriters Laboratories requirements have precedence over this specification where conflict exists.

6. Single Source Responsibility: Except where specified in hardware schedule, furnish products of only one manufacturer for each type of hardware.

B. Review Project for extent of finish hardware required to complete the Work. Where there is a conflict between these Specifications and the existing hardware, notify the Architect in writing and furnish hardware in compliance with the Specification unless otherwise directed in writing by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping

1. Deliver products in original unopened packaging with legible manufacturer's identification.
2. Package hardware to prevent damage during transit and storage.
3. Mark hardware to correspond with "reviewed hardware schedule".
4. Deliver hardware to door and frame manufacturer upon request.

B. Storage and Protection: Comply with manufacturer's recommendations.

1.5 PROJECT CONDITIONS:

A. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for the proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents.

B. Review Shop Drawings for doors and entrances to confirm that adequate provisions will be made for the proper installation of hardware.

1.6 WARRANTY:

A. Refer to Conditions of the Contract

B. Manufacturer’s Warranty:

1. Closers: Ten years
2. Exit Devices: Five Years

3. Locksets & Cylinders: Three years
4. All other Hardware: Two years.

1.7 OWNER'S INSTRUCTION:

A. Instruct Owner's personnel in operation and maintenance of hardware units.

1.8 MAINTENANCE:

A. Extra Service Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels.

1. Special Tools: Provide special wrenches and tools applicable to each different or special hardware component.
2. Maintenance Tools: Provide maintenance tools and accessories supplied by hardware component manufacturer.
3. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra service materials.

B. Maintenance Service: Submit for Owner's consideration maintenance service agreement for electronic products installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

A. The following manufacturers are approved subject to compliance with requirements of the Contract Documents.

Item:	Manufacturer:	Approved:
Hinges	Stanley	Bommer, McKinney
Continuous Hinges	Stanley	Select, ABH
Locksets	Best	No Substitutions
Cylinders	Best	No Substitutions
Exit Devices	Precision	Von Duprin,
Closers	Stanley D-4550	Dorma 8900, Norton 7500
Push/Pull Plates	Trimco	Burns, Rockwood
Push/Pull Bars	Trimco	Burns, Rockwood
Protection Plates	Trimco	Burns, Rockwood
Overhead Stops	ABH	Rixson, Glynn Johnson
Door Stops	Trimco	Burns, Rockwood
Flush Bolts	Trimco	ABH, Burns
Coordinator & Brackets	Trimco	ABH, Burns
Threshold & Gasketing	National Guard	Reese, K.N. Crowder
Chit Vault (6 Tandem)	Key Systems, Inc.	No Substitutions (800-888-3553)

2.2 MATERIALS:

A. Hinges: Shall be Five Knuckle Ball bearing hinges

1. Template screw hole locations

2. Bearings are to be fully hardened.
3. Bearing shell is to be consistent shape with barrel.
4. Minimum of 2 permanently lubricated non-detachable bearings on standard weight hinge and 4 permanently lubricated bearing on heavy weight hinges.
5. Equip with easily seated, non-rising pins.
6. Non Removable Pin screws shall be slotted stainless steel screws.
7. Hinges shall be full polished, front, back and barrel.
8. Hinge pin is to be fully plated.
9. Bearing assembly is to be installed after plating.
10. Sufficient size to allow 180-degree swing of door
11. Furnish five knuckles with flush ball bearings
12. Provide hinge type as listed in schedule.
13. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.
14. Tested and approved by BHMA for all applicable ANSI Standards for type, size, function and finish
15. UL10C listed for Fire rated doors.

B. Geared Continuous Hinges:

1. Tested and approved by BHMA for ANSI A156.26-1996 Grade 1
2. Anti-spinning through fastener
3. UL10C listed for 3 hour Fire rating
4. Non-handed
5. Lifetime warranty
6. Provide Fire Pins for 3-hour fire ratings
7. Sufficient size to permit door to swing 180 degrees

C. Mortise Type Locks and Latches:
School state-funded projects shall include locks that allow doors to classrooms and any room with occupancy of 5 or more persons to be locked from the inside. Excludes existing relocatable buildings on same site. (2022 CBC 1010.1.11)

1. Tested and approved by BHMA for ANSI A156.13, Series 1000, Operational Grade 1, Extra-Heavy Duty, Security Grade 2 and be UL10C.
2. Furnish UL or recognized independent laboratory certified mechanical operational testing to 4 million cycles minimum.
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Fit ANSI A115.1 door preparation
5. Functions and design as indicated in the hardware groups
6. Solid, one-piece, 3/4-inch (19mm) throw, anti-friction latchbolt made of self-lubricating stainless steel
7. Deadbolt functions shall have 1 inch (25mm) throw bolt made of hardened stainless steel
8. Latchbolt and Deadbolt are to extend into the case a minimum of 3/8 inch (9.5mm) when fully extended
9. Auxiliary deadlatch to be made of one piece stainless steel, permanently lubricated
10. Provide sufficient curved strike lip to protect door trim
11. Lever handles must be of forged or cast brass, bronze or stainless steel construction and conform to ANSI A117.1. Levers that contain a hollow cavity are not acceptable
12. Lock shall have self-aligning, thru-bolted trim
13. Levers to operate a roller bearing spindle hub mechanism

14. Mortise cylinders of lock shall have a concealed internal setscrew for securing the cylinder to the lockset. The internal setscrew will be accessible only by removing the core, with the control key, from the cylinder body.
15. Spindle to be designed to prevent forced entry from attacking of lever
16. Provide locksets with 7-pin removable and interchangeable core cylinders
17. Each lever to have independent spring mechanism controlling it
18. Core face must be the same finish as the lockset.

D. Exit Devices with Weatherized True Architectural Finish 626W:

1. Exit devices to meet or exceed BHMA for ANSI 156.3, Grade 1.
2. Exit devices to be tested and certified by UL or by a recognized independent laboratory to meet or exceed the following :
   A. Mechanical operational testing to 10 million cycles minimum with inspection confirming Grade 1 Loaded Forces have been maintained.
   B. BHMA 156.3 – A156.18 Salt Spray Certified 600 Hours 3 X Standard.
   C. MIL-STD-810G 509.6 Salt Fog Certified.
   D. MIL-STD-810G 510.6 Sand & Dust Certified.
   E. MIL-STD-810G 521.4 Icing/Freezing Rain Certified.
3. Exit devices chassis to be investment cast steel, zinc dichromate.
4. Exit devices to have stainless steel deadlocking ¾" through latch bolt.
5. Exit devices to be equipped with sound dampening on touchbar.
6. Non-fire rated exit devices to have cylinder dogging.
7. Non-fire rated exit devices to have ¼" minimum turn hex key dogging.
8. All Exterior components of the exit device including the Active case cover, Touch bar, device channel, slide channel fillers, Vertical rods, latch covers and device end cap, shall be constructed of a brass base metal then plated in a double dip two-step process of satin nickel and chrome.
9. Exit device shall be available with options of WTS Weatherized touch bar switch and WALW Weatherized Exit alarm (hardwired)
10. Additional non-weatherized electrified options are compatible with the 626W. Non-weatherized options are not recommended for harsh environments.
11. Touchpad to be "T" style constructed.
12. Touchbar assembly on wide style exit devices to have a ¼" clearance to allow for vision frames.
13. All exposed exit device components to be of architectural metals and "true" architectural finishes.
14. Provide strikes as required by application.
15. Fire exit hardware to conform UL 10C Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.
16. Exit devices to have field reversible handing.
17. Provide heavy duty vandal resistant lever trim with heavy duty investment cast stainless steel components and extra strength shock absorbing overload springs. Lever shall not require resetting. Lever design to match locksets and latchsets.
18. Provide 9001-Quality Management and 14001-Environmental Management.
19. Vertical Latch Assemblies to have gravity operation, no springs.
20. Approved Manufacturers
    a. The following manufacturers will be approved contingent on meeting or exceeding the above performance criteria:
       1) Precision with 626W finish, Manufactured by Stanley Security Solutions

E. Cylinders:

1. Provide the necessary cylinder housings, collars, rings & springs as recommended by the manufacturer for proper installation.
2. Provide the proper cylinder cams or tail piece as required to operate all locksets and other keyed hardware items listed in the hardware sets.
3. Coordinate and provide as required for related sections.

F. Door Closers shall:

1. Tested and approved by BHMA for ANSI 156.4, Grade 1
2. UL10C certified
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Closer shall have extra-duty arms and knuckles
5. Conform to ANSI 117.1
6. Maximum 2 7/16 inch case projection with non-ferrous cover
7. Separate adjusting valves for closing and latching speed, and backcheck
8. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions
9. Full rack and pinion type closer with 1½“ minimum bore
10. Mount closers on non-public side of door, unless otherwise noted in specification
11. Closers shall be non-handed, non-sized and multi-sized.

G. Door Stops: Provide a dome floor or wall stop for every opening as listed in the hardware sets.

1. Wall stop and floor stop shall be wrought bronze, brass or stainless steel.
2. Provide fastener suitable for wall construction.
3. Coordinate reinforcement of walls where wall stop is specified.
4. Provide dome stops where wall stops are not practical. Provide spacers or carpet riser for floor conditions encountered

H. Over Head Stops: Provide a Surface mounted or concealed overhead when a floor or wall stop cannot be used or when listed in the hardware set.

1. Concealed overhead stops shall be heavy duty bronze or stainless steel.
2. Surface overhead stops shall be heavy duty bronze or stainless steel.

I. Push Plates: Provide with four beveled edges ANSI J301, .050 thickness, size as indicated in hardware set. Furnish oval-head countersunk screws to match finish.

J. Pulls with plates: Provide with four beveled edges ANSI J301, .050 thickness Plate s with ANSI J401 Pull as listed in hardware set. Provide proper fasteners for door construction.

K. Push Pull Bars: Provide ANSI J504, .1” Dia. Pull and push bar model and series as listed in hardware set. Provide proper fasteners for door construction.

L. Kickplates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

M. Mop plates: Provide with four beveled edges ANSI J103, 4 inches high by width less 1 inch on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

N. Seals: All seals shall be finished to match adjacent frame color. Seals shall be furnished as listed in schedule. Material shall be UL listed for labeled openings.

O. Weatherstripping: Provide at head and jambs only those units where resilient or flexible seal strip is easily replaceable. Where bar-type weatherstrip is used with parallel arm mounted closers install weatherstrip first.

1. Weatherstrip shall be resilient seal of (Neoprene, Polyurethane, Vinyl, Pile, Nylon Brush, Silicone)
2. UL10C Positive Pressure rated seal set when required.

P. Door Bottoms/Sweeps: Surface mounted or concealed door bottom where listed in the hardware sets.

1. Door seal shall be resilient seal of (Neoprene, Polyurethane, Nylon Brush, Silicone)
2. UL10C Positive Pressure rated seal set when required.

Q. Thresholds: Thresholds shall be aluminum beveled type with maximum height of ½" for conformance with ADA requirements. Furnish as specified and per details. Provide fasteners and screws suitable for floor conditions.

R. Provide one wall mounted Telkee, Lund or MMF series key cabinet complete with hooks, index and tags to accommodate 50% expansion. Coordinate mounting location with architect.

S. Key Control Software: Provide one, Keystone® 600N key management control software. Shall include general features

1. Password restricted logins.
2. List all keys and items currently due back (or due back by any day designated)
3. Lists all cores and their location, building and doors, and cross-references people to cores, doors, and building they access.
4. Comprehensive list of reports available as an on-screen menu.
5. Built-in easy to use backup program.
6. Program always displays date of last backup.
7. Dynamic searching capabilities for all records.
8. On-screen indicator shows when historical info. Is present for a record.
9. On-screen indicator appears when notes are present on a record.
10. Able to operate in an NTFS network environment with TCPIP protocol
11. Multiple users can access program at the same time.
12. Software shall include a "Best" Automated Pin Segment Calculator and a Manual Pin Segment Calculator for authorized "Best" building lock shop facilities.
13. Software program is to be compatible with Windows NT, 2000 or XP with TCPIP protocol.

T. Silencers: Furnish silencers on all interior frames, 3 for single doors, 2 for pairs. Omit where any type of seals occur.

2.3 FINISH:

A. Designations used in Schedule of Finish Hardware - 3.05, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products

B. Powder coat door closers to match other hardware, unless otherwise noted.

C. Aluminum items shall be finished to match predominant adjacent material. Seals to coordinate with frame color.

2.4 KEYS AND KEYING:

A. Provide keyed brass construction cores and keys during the construction period. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway (or key section) as the Owner's permanent keying system. Permanent cores and keys (prepared according to the accepted keying schedule) will be furnished to the Owner.

B. Cylinders, removable and interchangeable core system: Best CORMAX™ Patented 7-pin.

C. Permanent keys and cores: Stamped with the applicable key mark for identification. These visual key control marks or codes will not include the actual key cuts. Permanent keys will also be stamped "Do Not Duplicate."

D. Transmit Grand Masterkeys, Masterkeys and other Security keys to Owner by Registered Mail, return receipt requested.

E. Furnish keys in the following quantities:

1. 1 each Grand Masterkeys
2. 4 each Masterkeys
3. 2 each Change keys each keyed core
4. 15 each Construction masterkeys
5. 1 each Control keys

F. The Owner, or the Owner's agent, will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.

G. Keying Schedule: Arrange for a keying meeting, and programming meeting with Architect Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying and programming complies with project requirements. Furnish 3 typed copies of keying and programming schedule to Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of conditions: Examine doors, frames, related items and conditions under which Work is to be performed and identify conditions detrimental to proper and or timely completion.

1. Do not proceed until unsatisfactory conditions have been corrected.

3.2 HARDWARE LOCATIONS:

A. Mount hardware units at heights indicated in the following publications except as specifically indicated or required to comply with the governing regulations.

1. Recommended Locations for Builder's Hardware for Standard Steel Doors and Frames, by the Door and Hardware Institute (DHI).

2. Recommended locations for Architectural Hardware for flush wood doors (DHI).

3. WDMA Industry Standard I.S.-1A-04, Industry Standard for Architectural wood flush doors.

3.3 INSTALLATION:

A. Install each hardware item per manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

B. Conform to local governing agency security ordinance.

C. Install Conforming to ICC/ANSI A117.1 Accessible and Usable Building and Facilities.

1. Adjust door closer sweep periods so that from the open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the landing side of the door.

D. Installed hardware using the manufacturers fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.

3.4 FIELD QUALITY CONTROL AND FINAL ADJUSTMENT

A. Contractor/Installers, Field Services: After installation is complete, contractor shall inspect the completed door openings on site to verify installation of hardware is complete and properly adjusted, in accordance with both the Contract Documents and final shop drawings.

1. Check and adjust closers to ensure proper operation.

2. Check latchset, lockset, and exit devices are properly installed and adjusted to ensure proper operation.

a. Verify levers are free from binding.
b. Ensure latchbolts and dead bolts are engaged into strike and hardware is functioning.

3. Report findings, in writing, to architect indicating that all hardware is installed and functioning properly. Include recommendations outlining corrective actions for improperly functioning hardware if required.

3.5 SCHEDULE OF FINISH HARDWARE:

Manufacturer List

Code	Name
AB	ABH Manufacturing Inc.
BE	Best Access Systems
CHIT	Key Systems, Inc. 800-888-3553
LOCI	Locinox
NA	National Guard
PR	Precision
SD	Stanley Door Closers
SENT	Sentrol
ST	Stanley
TR	Trimco

Finish List

Code	Description
AL	Aluminum
BR	Bronze
625	Bright Chromium Plated
626	Satin Chromium Plated
630	Satin Stainless Steel
689	Aluminum Painted
GREY	Grey
US26D	Chromium Plated, Dull
US32D	Stainless Steel, Dull
ZILV	Silver Powder Coat

Option List

Code	Description
CD	CYLINDER DOGGING
RC	ROUNDED CORNERS - Push/Pull Plates
SN	Sex Nuts (Pkg. of 4)
B4E	BEVELED 4 EDGES - KICK PLATES
Ctsk	COUNTER SINKING OF KICK and MOP PLATES
VIN	Visual Indicator
E-MTG	"E" THRU-BOLT MOUNTING
1/4-20 MS/EA	1/4-20 MACHINE SCREW/EXPANSION ANCHOR
1/4-20-2" COMBO	1/4-20 X COMBO MS/ANCHOR (SS)

Hardware Sets

SET #G1 – Single PH Gates

1	Gate Pivot/Closer Set	Mammoth-180	ZILV	LOCI

1	Exit Device	2103 X 4903D CD	626W	PR
1	Mortise Cylinder	1E-74 PATD	626	BE
1	Rim Cylinder	12E-72 PATD	626	BE

SET #G2 – Double PH Gates

2	Gate Pivot/Closer Sets	Mammoth-180	ZILV	LOCI
1	Exit Device	2103 X 4903D CD	626W	PR
1	Exit Device	2101 CD	626W	PR
2	Mortise Cylinders	1E-74 PATD	626	BE
1	Rim Cylinder	12E-72 PATD	626	BE

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Interior gypsum wallboard.
2. Tile backing panels.

B. Related Sections include the following:

1. Division 6 Section "Rough Carpentry" for wood framing and furring, and gypsum sheathing applied over wood framing.
2. Division 7 Section "Building Insulation" for insulation and vapor retarders installed in gypsum board assemblies.

1.3 DEFINITIONS

A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

A. Single Source: Obtain gypsum board products from a single manufacturer, or from manufacturer's recommended by the prime manufacturer of gypsum board.

B. Fire-Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

1. Fire-Resistance-Rated Assemblies: Indicated by design designations from UL's "Fire Resistance Directory." and GA-600, "Fire Resistance Design Manual".

C. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

1. STC-Rated Assemblies: Indicated by design designations from GA-600, "Fire Resistance Design Manual."

D. Gypsum Board Terminology Standard: GA-505.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.

B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

C. Handle gypsum board to prevent damage to edges, ends and surfaces. Protect metal corner beads and trims from being bent or damaged.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

1. Cold Weather Protection: When ambient outdoor temperatures are below 55 degrees F, maintain continuous, uniform, comfortable building working temperatures of not less than 55 degrees F for a minimum of 48 hours prior to, during and following application of gypsum board and joint treatment or bonding of adhesives.

2. Ventilation: Ventilate building spaces as required to remove water in excess of that required for drying of joint treatment material immediately after its application. Avoid drafts during dry, hot weather to prevent too rapid drying.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products of the following:

1. Gypsum Board and Related Products:

a. American Gypsum Co.
b. Domtar Gypsum
c. Flintkote Products, Genstar Building Materials Co.
d. G-P Gypsum Corp.
e. Gold Bond Building Products Div., National Gypsum Company.

f. United States Gypsum Co.
g. Pabco

2. Direct Suspension Systems:

a. Chicago Metallic Corp.
b. Donn Corporation
c. United States Gypsum Co.

2.2 INTERIOR GYPSUM WALLBOARD

A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.

B. Gypsum Wallboard: ASTM C 36.

1. Regular Type:

a. Thickness: 5/8 inch, unless otherwise indicated.
b. Long Edges: Tapered.
c. Location: As indicated.

2. Type X:

a. Thickness: 5/8 inch, unless otherwise indicated.
b. Long Edges: Tapered.
c. Location: Where required for fire-resistance-rated assembly.

C. Flexible Gypsum Wallboard: ASTM C 36, manufactured to bend to fit tight radii and to be more flexible than standard regular-type panels of the same thickness.

1. Thickness: 1/4 inch.
2. Long Edges: Tapered.
3. Location: As indicated. Apply in double layer at curved assemblies.

D. Gypsum Backing Wallboard for Multi-Layer Application: ASTM C 442.

1. Core: 5/8 inch, regular type and 5/8 inch, Type X for rated assemblies.
2. Long Edges: Manufacturer’s standard.
3. Location: As indicated.

E. Proprietary Abuse-Resistant Gypsum Wallboard: ASTM C 36, manufactured to produce greater resistance to surface indentation and through-penetration than standard gypsum panels.

1. Products: Subject to compliance with requirements, provide one of the following:

a. National Gypsum Company; Gold Bond Hi-Abuse Wallboard.
b. United States Gypsum Co.; SHEETROCK Brand Abuse-Resistant Gypsum Panels.

2. Core: 5/8 inch, regular type and 5/8 inch, Type X for fire rated assemblies.

F. Moisture and Mold Resistant Gypsum Backing Board: ASTM C 1396.

1. Core: 5/8 inch, regular type and 5/8 inch, Type X for fire rated assemblies.

2.3 BACKING PANELS

A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.

B. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M.

1. Product: Subject to compliance with requirements, provide "Dens-Shield Tile Backer" manufactured by G-P Gypsum Corp.
2. Core: 5/8 inch, regular type and 5/8 inch, Type X at fire rated assemblies.

C. Cementitious Backer Units: ANSI A118.9.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Custom Building Products; Wonderboard.
b. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
c. United States Gypsum Co.; DUROCK Cement Board.

2. Thickness: 1/2 inch, unless otherwise indicated.

D. Fiberboard Tack Base (for vinyl wall covering specified elsewhere): Fed. Spec. LLL-1-535.

1. Products:

a. United States Gypsum Corp.

2. Thickness: ½ inch thick. Primed and ironed.
3. Flame Spread: 25
4. Smoke Developed: 10
5. ASTM E84: Meets or exceeds (Class A).

E. Prefinished Vinyl Covered Tackboard Wall Paneling: ASTM E-84-87.

1. Products:
a. Lamvin, Inc. 760. 806.6400
b. Chatfield Clark. 909.823.4297

2. Thickness: ½ inch by 48 inches by full height
3. Flame Spread: Class II – 75 or less.
4. Trims: “L” angle, “H” bead, “J” bead and etc., as manufactured by panel manufacturer.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.

2. Shapes:

   a. Cornerbead: Use at outside corners, unless otherwise indicated.
   b. LC-Bead: J-shaped; exposed long flange receives joint compound; use at exposed panel edges.
   c. L-Bead: L-shaped; exposed long leg receives joint compound; use where indicated.
   d. U-Bead: J-shaped; exposed short flange does not receive joint compound; use where indicated.
   e. Expansion (Control) Joint: Use where indicated.
   f. Curved-Edge Cornerbead: With notched or flexible flanges; use at curved openings.

B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a. Fry Reglet Corp.
      b. Gordon, Inc.
      c. MM Systems Corporation.
      d. Pittcon Industries.

   2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, alloy 6063-T5.
   3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified, unless otherwise indicated.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape:

   1. Interior Gypsum Wallboard: Paper.
   2. Exterior Gypsum Soffit Board: Paper.
   3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
   4. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

   1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
   2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
   3. Fill Coat: For second coat, use drying-type, all-purpose compound.
   4. Finish Coat: For third coat, use setting-type, sandable topping compound.
   5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping and setting-type, sandable topping compounds.
2. Glass-Mat Gypsum Sheathing Board: As recommended by manufacturer.

E. Joint Compound for Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: Use setting-type taping and setting-type, sandable topping compounds.
2. Glass-Mat, Water-Resistant Backing Panel: As recommended by manufacturer.
3. Cementitious Backer Units: As recommended by manufacturer.

2.6 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

D. Gypsum Board Nails and Screws: Comply with ASTM C-840.

E. Isolation Strip at Exterior Walls:

1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

F. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

G. Thermal Insulation: As specified in Division 7 Section "Building Insulation."

H. Polyethylene Vapor Retarder: As specified in Division 7 Section "Building Insulation."

I. Gypsum Board Nails and Screws: ASTM C-840

J. Resilient Channels: USG RC-1.

K. Concealed Acoustical Sealant: Non-drying, non-hardening, non-skinning, non-staining, non-bleeding, gunnable sealant for concealed applications per ASTM C 919.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.

1. Furnish concrete inserts and other devises indicated to other trades for installation in advance of time needed for coordination and construction.

B. Coordination with Sprayed Fire-Resistive Materials:

1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed-on fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches o.c.
2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of gypsum board assemblies and without reducing the fire-resistive material thickness below that which is required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

3.3 APPLYING AND FINISHING PANELS, GENERAL

A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216. Comply with 2022 CBC Section 2508.

B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.

C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

G. Attach gypsum panels to framing provided at openings and cutouts.

H. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members using resilient channels, or provide control joints to counteract wood shrinkage.

I. Form control and expansion joints with space between edges of adjoining gypsum panels.

J. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

K. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

L. Floating Construction: Where feasible, including where recommended in writing by manufacturer, install gypsum panels over wood framing, with floating internal corner construction.

M. STC-Rated Assemblies: Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.

N. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.

1. Space screws a maximum of 12 inches o.c. for vertical applications.

O. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.

3.4 PANEL APPLICATION METHODS

A. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.

2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

    a. Stagger abutting end joints not less than one framing member in alternate courses of board.
    b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.

3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

B. Multilayer Application on Ceilings: Apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints 1 framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.

C. Multilayer Application on Partitions/Walls: Apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.

1. Z-Furring Members: Apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.

D. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

E. Multilayer Fastening Methods: Fasten base layers and face layers separately to supports with screws.

F. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

G. Tile Backing Panels:

1. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.
2. Areas Not Subject to Wetting: Install standard gypsum wallboard panels to produce a flat surface except at other locations indicated to receive water-resistant panels.
3. Where tile backing panels abut other types of panels in the same plane, shim surfaces to produce a uniform plane across panel surfaces.

H. Fiberboard Tack Base: Install over gypsum backing board with adhesive with either nails or screws as required, with approximately 1/8 inch space at joints. Where installed over concrete or masonry substrate, nail with concrete nails to hold for adhesive.

3.5 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints at locations indicated on Drawings. If not shown, install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

3.6 FINISHING GYPSUM BOARD ASSEMBLIES

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:

1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated**,** unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
2. Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where indicated.
3. Level 3: Embed tape and apply separate first and fill coats of joint compound to tape, fasteners, and trim flanges where indicated.
4. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.
5. Level 5: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, and apply skim coat of joint compound over entire surface where indicated.

E. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed soffit board.

F. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

G. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 APPLYING TEXTURE FINISHES

A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.

Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture matching Architect approved mockup and free of starved spots or other evidence of thin application or of application patterns.

A. Skip-Trowel Texture shall be applied to all gypsum board surfaces to be painted. Provide mock up for review and approval by Architect on a 2'x2' gypsum board.

- **OR-**

B. Spray Knock-Down Texture shall be applied to all gypsum board surfaces to be painted. Provide (3) different textured samples for review and approval by Architect on a 2'x2' gypsum board.

B. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture finish manufacturer's written recommendations.

3.8 FIELD QUALITY CONTROL

A. Above-Ceiling Observation: Before Contractor installs gypsum board ceilings, Architect will conduct an above-ceiling observation and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.

1. Notify Architect seven days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
2. Before notifying Architect, complete the following in areas to receive gypsum board ceilings:

    a. Installation of 80 percent of lighting fixtures, powered for operation.
    b. Installation, insulation, and leak and pressure testing of water piping systems.
    c. Installation of air-duct systems.
    d. Installation of air devices.
    e. Installation of mechanical system control-air tubing.
    f. Installation of ceiling support framing.

3.9 PROTECTION

A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall work being without damage or deterioration at time of substantial completion.

END OF SECTION 09 21 16 (9-2-08/jm)

SECTION 09 77 50 – SANITARY WALL PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work specified in this section.

1.2 DESCRIPTION OF WORK:

A. Extent of wall panels (FRP panels) required are indicated on drawings and in schedules.

1.3 QUALITY ASSURANCE:

A. Manufacturer: Obtain panels from a single manufacturer to ensure uniformity in quality of appearance and construction, unless otherwise indicated.

1.4 SUBMITTALS:

A. Shop Drawings: Submit product literature for approval and verification of panel sizes and anchorage method and location of panels.

B. Samples: submit full range of color samples for each type of panel system. Colors shall be selected from manufactures standard color selection. Colors to be selected by Architect.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Packaging of panels is the responsibility of the supplier. Secure panels on site in a weather proof location. At time of delivery inspect product for any defects, proper sizes and colors to match submittals. Return damaged or incorrect product and deliver correct and damaged free products in a timely manner.

PART 2 - PRODUCTS

2.2 ACCEPTABLE MANUFACTURERS:

A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:

1. NUDO Products Inc.
2. Crane Composites
3. Citadel

2.3 MATERIALS AND COMPONENTS:

A. Material: Nudo – White Smooth

B. Wall panels shall be .09" thick Class A rated. Textured surface material and color to be selected by Architect. Provide as large as size possible to accommodate the installation as shown or noted on plans.

C. Flame spread index 25, smoke developed index 335, USDA and FDA approved for food processing plants.

D. Vinyl moldings are to be installed at all edges of FRP panels per manufacturer's instructions. Use "L" angle, "H" bead, and "J" bead, etc., as manufactured by panel manufacturer.

E. Provide adhesive and silicone sealant for installation.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. Install wall panels using adhesive and sealant as recommended by manufacturer and accepted by all agencies to be compatible with other existing surfaces. Contractor shall prepare existing and new surfaces as necessary for a proper, complete and acceptable installation approved by the manufacturer.

B. Install moldings and panels true and straight. Inspect substrate material prior to installation and notify Architect if unacceptable to receive FRP panels. Have corrections made to substrate before proceeding. Installation of panels to substrate without notifying of any problems is an acceptance of the material and any problems with the panel installation shall be corrected at no expense to owner.

C. Install panels per manufactures recommendation over existing or new surfaces. Replace damaged panels due to shipping or installation neglect prior to final inspection.

3.2 ADJUST AND CLEAN:

A. Protection and Completed Work: Advise Contractor of proper procedures required for protection of installed wall panels from damage or deterioration until acceptance of work.

3.3 PROJECT CLOSE-OUT:

A. See individual headings in this section for exact requirements.

END OF SECTION 09 77 50

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.

1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.

1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. Prefinished items include the following factory-finished components:

a. Architectural woodwork.
b. Acoustical wall panels.
c. Finished mechanical and electrical equipment.
1) Electrical panels, panel covers, switch gear, etc. shall be painted unless otherwise indicated.
d. Light fixtures.

2. Operating parts include moving parts of operating equipment and the following:

a. Valve and damper operators.
b. Linkages.
c. Sensing devices.
d. Motor and fan shafts.

3. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

D. Related Sections include the following:

1. Division 8 Section "Flush Wood Doors" for factory priming steel doors and frames.
2. Division 9 Section "Gypsum Board Assemblies" for surface preparation of gypsum board.

1.3 DEFINITIONS

A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
3. Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
4. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

1.4 SUBMITTALS

A. Product Data: For each paint system indicated. Include block fillers and primers.

1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.

B. Samples for Initial Selection: For each type of finish-coat material indicated.

1. After color selection, Architect will furnish color chips for surfaces to be coated.

C. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.

1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
3. Submit 4 Samples on the following substrates for Architect's review of color and texture only:

a. On 8-1/2 inch by 11 inch heavy cardboard, unless requested on actual substrate by Architect.
b. Include manufacturer’s product number, sheen, texture and color on reverse side.

D. Qualification Data: For Applicator.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

C. Coordination of Work: Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coating system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

1. Product name or title of material.
2. Manufacturer’s name.
3. Fed. Spec. number, if applicable.
4. Product description (generic classification or binder type).
5. Manufacturer's stock number and date of manufacture.
6. Contents by volume, for pigment and vehicle constituents.
7. Thinning instructions.
8. Application instructions.
9. Color name and number.
10. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.7 PROJECT CONDITIONS

A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F.

C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.8 EXTRA MATERIALS *(Project Close-Out Item)*

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Quantity: Furnish Owner with an additional 3 percent, but not less than 1 gal. or 1 case, as appropriate, of each material and color applied.
2. Obtain written verification of delivery from Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Dunn Edwards (D-E)
2. ICI Dulux Paint Centers (ICI Dulux Paints).
3. Kelly-Moore Paint Co. (Kelly-Moore).
4. Sherwin-Williams Co. (Sherwin-Williams).

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

C. Colors: Match Architect's samples or as selected by Architect from manufacturer's full range.

D. Federal Specifications establish minimum acceptable quality for paint materials. Provide written certification from paint manufacturer that materials provided meet or exceed these minimums.

E. Lead content in pigment, if any, is limited to contain not more than 0.5% lead, as lead metal based on the total non-volatile (dry-film) of paint weight.

1. This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows and doors which are readily accessible to children under seven years of age.

2.3 EXTERIOR PRIMERS

A. Exterior Wood Primer for Acrylic Enamels: Factory-formulated latex wood primer for exterior application.

1. ICI Dulux Paints; 2000-1200 Dulux Professional Exterior 100 Percent Acrylic Latex Primer: Applied at a dry film thickness of not less than 1.6 mils.
2. Kelly-Moore; 255 Acry-Shield Acrylic Primer: Applied at a dry film thickness of 1.5 – 2.0 mils per coat
3. Sherwin-Williams; A-100 Exterior Latex Wood Primer B42W41: Applied at a dry film thickness of not less than 1.4 mils.
4. Dunn-Edwards; E-Z Prime, Exterior Acrylic Wood Primer (W 708): Applied at a dry film thickness of not less than 1.5 mils.

B. Exterior Wood Primer for Alkyd Enamels: Factory-formulated latex wood primer for exterior application.

1. ICI Dulux Paints; 2000-Dulux- Exterior Primecoat: Applied at a dry film thickness of not less than 1.9 mils.
2. Kelly-Moore; 220 Weather Shield Exterior Alkyd Primer for Stain Blocking: Applied at a dry film thickness of 1.5 – 2.0 mils per coat
3. Sherwin-Williams; A-100 Exterior Latex Wood Primer B42W42: Applied at a dry film thickness of not less than 1.4 mils.
4. Dunn-Edwards; E-Z Prime, Exterior Acrylic Wood Primer (W 708): Applied at a dry film thickness of not less than 1.5 mils.

C. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.

1. ICI Dulux Paints; 4020 AF Devguard Multi-Purpose Tank & Structural Primer. Applied at a dry film thickness of not less than 2.0 mils.
2. Kelly-Moore; 1711 Kel-Guard Alkyd White Rust Inhibitive Primer: Applied at a dry film thickness of 1.5 – 2.0 mils per coat.
3. Kelly-Moore; 5725 DTM-Acrylic Metal Primer/Finish: Applied at a dry film thickness of 1.5 – 2.0 mils per coat
4. Sherwin-Williams; DTM Primer B66W1: Applied at a dry film thickness of not less than 2.5 – 4.0 mils.
5. Dunn-Edwards; Galv-Alum, Epoxy Galvanized/Aluminum Metal Primer (43-7): Applied at a dry film thickness of not less than 2.0 mils.

2.4 INTERIOR PRIMERS

A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.

1. ICI Dulux Paints; 1000-1200 Dulux Ultra Basecoat Interior Latex Wall Primer: Applied at a dry film thickness of not less than 1.2 mils.
2. ICI Dulux Paints; 1030-1200 Ultra-Hide PVA Interior Primer Sealer General Purpose Wall Primer: Applied at a dry film thickness of not less than 1.9 mils.
3. Kelly-Moore; 971 Acry-Plex Interior PVA Primer/Sealer Low Odor/Low VOC Formula: Applied at a dry film thickness of 1.5 – 2.0 mils per coat
4. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils.
5. Dunn-Edwards, Vinylastic, Interior Pigmented Sealer (W 101): Applied at a dry film thickness of not less than 1.5 mils.

B. Interior Wood Primer for Acrylic-Enamel and Semigloss Latex Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer.

1. ICI Dulux Paints; 3210-1200 Ultra-Hide Aquacrylic GRIPPER Stain Killer Primer Sealer: Applied at a dry film thickness of not less than 1.8 mils.
2. Kelly-Moore; 975 Acry Plex 100% Acrylic Interior Enamel Undercoat: Applied at a dry film thickness of 1.5 – 2.0 mils per coat
3. Sherwin-Williams; PrepRite Wall and Wood Primer B49W200 Series: Applied at a dry film thickness of not less than 1.6 mils.
4. Dunn-Edwards; Unikote, Interior Acrylic Enamel Undercoater (W 707): Applied at a dry film thickness of not less than 1.5 mils.
5. Sherwin-Williams; PrepRite Classic Interior Primer B28W101 Series: Applied at a dry film thickness of not less than 1.6 mils.

C. Interior Wood Primer for Full-Gloss Latex Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer.

1. ICI Dulux Paints; 3210 interior/exterior-- / Wood Undercoat: Applied at a dry film thickness of not less than 2.0 mils.
2. Kelly-Moore; 985 Flo-Cote Enamel Undercoater: Applied at a dry film thickness of 1.5 – 2.0 mills per coat
3. Sherwin-Williams; PrepRite Wall and Wood Primer B49W200 Series: Applied at a dry film thickness of not less than 1.6 mils.
4. Dunn-Edwards; Unikote, Interior Acrylic Enamel Undercoater (W 707): Applied at a dry film thickness of not less than 1.5 mils.

2.5 EXTERIOR FINISH COATS

A. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.

1. ICI Dulux Paints; 2406-XXXX Dulux Professional Exterior 100 Percent Acrylic Semi-Gloss Finish: Applied at a dry film thickness of not less than 1.3 mils.
2. Kelly-Moore; 1215 Color Sheild Exterior Acrylic Semi-Gloss Enamel: Applied at a dry film thickness of 1.7 o 2.2 mils per coat.
3. Sherwin-Williams; A-100 Latex Gloss A8 Series: Applied at a dry film thickness of not less than 1.3 mils.
4. Dunn-Edwards; Permasgloss, Int./Ext. Acrylic Semi-Gloss Paint (W 960): Applied at a dry film thickness of not less than 1.5 mils.

B. Exterior Full-Gloss Acrylic Enamel for Ferrous and Other Metals: Factory-formulated full-gloss waterborne acrylic-latex enamel for exterior application.

1. ICI Dulux Paints; 4208-XXXX Devoe Interior/Exterior Acrylic Gloss Finish: Applied at a dry film thickness of not less than 1.6 mils.
2. Kelly-Moore; 5880 DTM High Performance Acrylic Gloss Enamel: Applied at a dry film thickness of 1.7 – 2.2 mils per coat.
3. Sherwin-Williams; DTM Acrylic Coating Gloss (Waterborne) B66W100 Series: Applied at a dry film thickness of not less than 2.4 mils.
4. Dunn-Edwards; Permagloss, Int./Ext. Acrylic Gloss Paint (W 960V): Applied at a dry film thickness of not less than 1.5 mils.

2.6 INTERIOR FINISH COATS

A. Interior Semi-gloss Acrylic Enamel: Factory-formulated semigloss acrylic-latex enamel for interior application.

1. ICI Dulux Paints; 1406-XXXX Dulux Professional Acrylic Semi-Gloss Interior Wall & Trim Enamel: Applied at a dry film thickness of not less than 1.5 mils.
2. Kelly-Moore; 1649 Acrylic-Latex Semi-Gloss Enamel: Applied at a dry film thickness of not less than 1.7 mils.
3. Kelly-Moore; 1685 + Dura-Poxy Semi-Gloss Acrylic Enamel: Applied at a dry film thickness of not less than 1.5 mils.
4. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W200 Series: Applied at a dry film thickness of not less than 1.3 mils.
5. Dunn-Edwards; Permasheen, Int./Ext. 100% Acrylic Semi-Gloss Paint (W 901V): Applied at a dry film thickness of not less than 1.5 mils.

B. Interior Full-Gloss Acrylic Enamel: Factory-formulated full-gloss acrylic-latex interior enamel.

1. ICI Dulux Paints; 4208-XXXX Devoe Interior/Exterior Acrylic Gloss Finish: Applied at a dry film thickness of not less than 1.6 mils.
2. Kelly-Moore; 1680 + Dura-Poxy Gloss Acrylic Enamel: Applied at a dry film thickness of 1.7 – 2.2 mils per coat.
3. Sherwin-Williams; ProMar 200 Interior Latex Gloss Enamel B21W201: Applied at a dry film thickness of not less than 1.5 mils.
4. Dunn-Edwards; Permagloss, Int./Ext. Acrylic Gloss Paint (W 960V): Applied at a dry film thickness of not less than 1.5 mils.

C. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss enamel for interior application.

1. ICI Dulux Paints; 4216-XXXX Ultra-Hide Alkyd Semi-Gloss Interior Wall & Trim Enamel: Applied at a dry film thickness of not less than 1.7 mils.
2. Kelly-Moore; 1685 Dura-Poxy + 100% Acrylic Semi-Gloss Enamel: Applied at a dry film thickness of 1.7 – 2.2 mils per coat..
3. Sherwin-Williams; ProMar 200 Interior Alkyd Semi-Gloss Enamel B34W200 Series: Applied at a dry film thickness of not less than 1.7 mils.
4. Dunn-Edwards; PERMASHEEN, Int./Ext. 100% Acrylic Semi-Gloss Paint (W 901V): Applied at a dry film thickness of not less than 1.5 mils.

D. Interior Full-Gloss Acrylic Enamel for Gypsum Board and Plaster: Factory-formulated full-gloss interior enamel.

1. ICI Dulux Paints; 4208-XXXX Devflex Alkyd Industrial Gloss Enamel: Applied at a dry film thickness of not less than 2.0 mils.
2. Kelly-Moore; 1680 Dura-Poxy + 100% Acrylic Gloss Enamel: Applied at a dry film thickness of 1.7 – 2.2 mils per coat.
3. Sherwin-Williams; ProMar 200 Gloss Enamel B35W200 Series: Applied at a dry film thickness of not less than 1.6 mils.
4. Dunn-Edwards; Permagloss, Int./Ext. Acrylic Gloss Paint (W 960V): Applied at a dry film thickness of not less than 1.5 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.

1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.

2. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

    a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
    b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
    c. If transparent finish is required, backprime with spar varnish.
    d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
    e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

3. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.

    a. Blast steel surfaces clean as recommended by paint system manufacturer and according to SSPC-SP 6/NACE No. 3.
    b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
    c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.

4. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners approved by paint manufacturer and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
2. Omit primer over metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:

1. Uninsulated metal piping.
2. Uninsulated plastic piping.
3. Pipe hangers and supports.
4. Tanks that do not have factory-applied final finishes.
5. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
6. Exposed ducts, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
7. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

G. Electrical items to be painted include, but are not limited to, the following.

1. Switchgear.
2. Panelboards.
3. Electrical equipment that is indicated to have a factory-primed finish for field painting.
4. Exposed Conduits.

H. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

I. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:

1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
2. Testing agency will perform appropriate tests for the following characteristics as required by Owner:

a. Abrasion resistance.
b. Apparent reflectivity.
c. Flexibility.
d. Washability.
e. Absorption.
f. Accelerated weathering.
g. Dry opacity.
h. Yellowness.
i. Recoating.

j. Skinning.
k. Color retention.
l. Alkali resistance.
m. Quantitative material analysis.

3. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.

1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

END OF SECTION 09 91 00

SECTION 10 14 00 - SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Panel signs.
2. Signage accessories.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of sign.

B. Shop Drawings: Include plans, elevations, and large-scale sections of typical members and other components. Show mounting methods, grounds, mounting heights, layout, spacing, reinforcement, accessories, and installation details.

1. Provide message list for each sign, including large-scale details of wording, lettering, artwork, and braille layout.
2. Wiring Diagrams: For signs with illuminated characters.

C. Samples for Initial Selection: For each type of sign material indicated that involves color selection.

D. Samples for Verification: For each type of sign, include the following Samples to verify color selected:

1. Panel Signs: Full-size Samples of each type of sign required.
2. Dimensional Characters: Full-size Samples of each type of dimensional character (letter and number) required. Show character style, material, finish, and method of attachment.
3. Casting: Show representative texture, character style, spacing, finish, and method of attachment.
4. Approved samples will not be returned for installation into Project.

E. Qualification Data: For Installer.

F. Maintenance Data: For signage cleaning and maintenance requirements to include in maintenance manuals. *(Project Close-Out Item)*

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by signage manufacturer.

B. Source Limitations: Obtain each sign type through one source from a single manufacturer.

C. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA); CAC, Title 24, 2022 CBC Chapters 10 & 11B and with code provisions as adopted by authorities having jurisdiction.

1. Interior Code Signage: Provide signage as required by accessibility regulations and requirements of authorities having jurisdiction. These include, but are not limited to, the following:

a. Exit Signs.
b. Signs for Accessible Spaces.

1.5 PROJECT CONDITIONS

A. Field Measurements: Where sizes of signs are determined by dimensions of surfaces on which they are installed, verify dimensions by field measurement before fabrication and indicate measurements on Shop Drawings.

1.6 COORDINATION

A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.

1.7 INSPECTION

A. Signs and identification devices shall be field inspected after installation and approved by the enforcing agency prior to the issuance of a final certificate of occupancy per Chapter 1, Division II, Section 111, or final approval where no certificate of occupancy is issued. The inspection shall include, but not be limited to, verification that Braille dots and cells are properly spaced and the size, proportion and type of raised characters are in compliance with these regulations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 PANEL SIGNS

A. General: Provide panel signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

1. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerance of plus or minus 1/32 inch measured diagonally.

B. Manufacturers:

1. Arne Signs (Santa Clara, CA)

2. Garnet Sign Studio (San Francisco, CA)
3. Classic Signs & Awards (Concord, CA)
4. Designer Sign Systems (San Jose, CA)

C. Plastic Laminate: Provide high-pressure laminate engraving stock with face and core plies in contrasting colors as selected by Architect from manufacturer's full range.

D. Aluminum Sheet and Plate: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of 5005-H15.

E. Laminated Panels: Permanently laminate face panels to backing sheets of material; use manufacturer's standard process.

F. Graphic Content and Style: Provide sign copy that complies with requirements indicated on Drawings for size, style, spacing, content, mounting height and location, material, finishes, and colors of signage. Character type and size shall comply with CBC Section 11B-703.

G. Tactile and Braille Copy: Manufacturer's standard process for producing copy complying with ADA Accessibility Guidelines, CBC Section 11B-703 and ICC/ANSI A117.1. Text shall be accompanied by California Contracted Grade 2 braille. Produce precisely formed characters with domed cut edges free from burrs and cut marks.

1. Panel Material: Opaque acrylic sheet.
2. Raised-Copy Thickness: Not less than 1/32 inch.
3. Dots shall be 1/10 inch on centers in each cell with 2/10 inch space between cells, domed or rounded raised, 1/40 inch.

H. Engraved Copy: Machine engrave letters, numbers, symbols, and other graphic devices into panel sign on face indicated to produce precisely formed copy, incised to uniform depth.

1. Engraved Plastic Laminate: Engrave through exposed face ply of plastic-laminate sheet to expose contrasting core ply. Sign inserts shall be routed form Rowmark “Ultramattes” reverse engravable laminate acrylic plastic, colors to be selected from Rowmark’s standard color chart. Letters, numbers and symbols shall be either laser cut or machine profile cut from Rowmark “ADA Alternative Appliqué” material and applied to the surface using 3M 467MP Hi Performance Adhesive Sheeting.

2.3 PANEL SIGN TYPES

A. Room Signs & Identification Signage:

1. Material: Clear plastic laminate.
2. Copy: Tactile and braille.
3. Character Style: Univers 55.
4. Text: As indicated.
5. Message: Fixed.
6. Sizes: See Drawings

7. Colors:
   a. Character: White, non glar finish
   b. Background: Painted to match door color, See plans.

2.4 ACCESSORIES

A. Vinyl Film: Provide opaque nonreflective (interior) and reflective (exterior) vinyl film, 0.0035-inch minimum thickness, with pressure-sensitive adhesive backing suitable for both exterior and interior applications.

B. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.5 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

B. Verify that items, including anchor inserts, and electrical power provided under other sections of Work are sized and located to accommodate signs.

C. Examine supporting members to ensure that surfaces are at elevations indicated or required to comply with authorities having jurisdiction and are free from dirt and other deleterious matter.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Locate signs and accessories where indicated, using mounting methods of types described and in compliance with manufacturer's written instructions unless otherwise indicated.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches of sign without encountering protruding objects or standing within swing of door.

B. Wall-Mounted Panel Signs: Attach panel signs to wall surfaces using methods indicated below:
1. Shim Plates: Provide 1/8-inch- thick shims as required for level mounting , concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other mounting methods are not practicable. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach panel signs to plate using method specified above.

2. Non-Exposed Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes in aluminum frames. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 10 14 00

SECTION 10 21 13 - TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Solid Color Reinforced Composite (SCRC) Substrate: (Bobrick SierraSeries®)
   1. Toilet Partitions:
      a. Configuration: Floor-Anchored, Overhead-Braced.
   2. Urinal Privacy Screens:
      a. Configuration: Post-to-Ceiling

1.2 RELATED REQUIREMENTS

A. Section 10 28 00 - Toilet Accessories, for accessories.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's data sheets for each product specified.

B. Shop Drawings: Submit manufacturer’s shop drawings for each product specified, including the following:
   1. Plans, elevations, details of construction and attachment to adjacent construction.
   2. Show anchorage locations and accessory items.
   3. Verify dimensions with field measurements prior to final production of toilet compartments.

1.4 QUALITY ASSURANCE

A. Manufacturer: Provide products manufactured by a company with a minimum of 10 years successful experience manufacturing similar products.

B. Single Source Requirements: To the greatest extent possible provide products from a single manufacturer.

C. Accessibility Requirements: Comply with requirements applicable in the jurisdiction of the project, including but not limited to ADA and ICC/ANSI A117.1 requirements as applicable.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations. Protect from damage.

1.6 WARRANTY

A. Manufacturer’s Warranty (SierraSeries): Manufacturer’s standard 10 year limited warranty for panels, doors, and stiles against breakage, corrosion, delamination, and defects in factory workmanship. Manufacturer’s standard 1 year guarantee against defects in material and workmanship for stainless steel door hardware and mounting brackets.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design Products: Based on the quality and performance requirements of the project, specifications are based solely on the products of Bobrick Washroom Equipment, Inc.. www.bobrick.com. Location of manufacturing shall be the United States.

B. Substitutions: The Architect will consider products of comparable manufacturers as a substitution, pending the contractor's submission of adequate documentation of the substitution in accordance with procedures in Division 1 of the Project Manual. Documentation shall include a list of five similar projects of equivalent size where products have been installed for a minimum of two years, and manufacturer's certification that products are fabricated in the United States.

2.2 SOLID COLOR REINFORCED COMPOSITE (SCRC) SUBSTRATE (SierraSeries)

A. Solid Color Reinforced Composite (SCRC) Partitions: Bobrick SierraSeries.
   1. Color: **SC04 Forest Green**

B. Toilet Partitions:
   1. Configuration: Overhead-Braced partitions; with satin finish, extruded anodized aluminum headrails, 0.065 inch (1.65 mm) thick with anti-grip profile.
      a. Basis-of-Design: Bobrick 1092G.67 SierraSeries Toilet Partitions, vandal resistant, gap-free.
         1) Design: Gap-free interlocking design.
         2) Hardware: Vandal resistant full-height stainless steel hardware.
   2. Fire Resistance:
      a. Flame Spread Index (ASTM E 84): 45 for panels, doors and stiles.
      b. Smoke Developed Index (ASTM E 84): 120 for panels, 95 for doors and stiles.
      c. National Fire Protection Association/International Building Code Interior Wall and Ceiling Finish: Class B.
      d. Uniform Building Code: Class II.

C. Urinal Privacy Screens:
   1. Basis-of-Design: Bobrick 1093 SierraSeries Post-to-Ceiling Urinal Privacy Screens.
      a. Posts: 18-8, Type 304, 18 gauge (1.2 mm) stainless steel with satin finish; 1.25 inch (32 mm) square, 10 ft (3048 mm) lengths field cut to required height.
   2. Hardware: To match partition hardware.
   3. Fire Resistance:
      a. Flame Spread Index (ASTM E 84): 45 for panels and stiles.
      b. Smoke Developed Index (ASTM E 84): 120 for panels, 95 for stiles.
      c. National Fire Protection Association/International Building Code Interior Wall and Ceiling Finish: Class B.
      d. Uniform Building Code: Class II.

D. Materials: Solid color reinforced composite (SCRC) material for stiles, panels, doors, and screens with Bobrick GraffitiOff® coating, thermoset and integrally fused into homogenous piece; high density polyethylene (HDPE), high density polypropylene not acceptable.
   1. Composition: Dyes, organic fibrous material, and polycarbonate/phenolic resins.
   2. Surface Treatment: Non-ghosting, graffiti resistant surface integrally bonded to core through a series of manufacturing steps requiring thermal and mechanical pressure.
   3. Edges: Same color as the surface.
   4. Acceptable SCRC Products: Or manufacturer approved equal.

a. Ultimate Corian System by Shower Shapes.
b. WilsonArt Gibraltar Material.
c. WilsonArt EarthStone Material.

E. Performance Requirements:
1. Graffiti Resistance (ASTM D 6578): Passed cleanability test; 5 staining agents.
2. Scratch Resistance (ASTM D 2197): Maximum load value exceeds 10 kilograms.
3. Impact Resistance (ASTM D 2794): Maximum impact force exceeds 30 inch-pounds.
4. Smoke Developed Index (ASTM E 84): Less than 450.
5. Flame Spread Index (ASTM E 84): Less than 75.

F. Finished Thickness:
1. Stiles and Doors: 3/4 inch (19 mm)
a. Finished thickness of doors and stiles to ensure flush front.
2. Panels and Screens: 1/2 inch (13 mm).

G. Stiles: Floor-Anchored stiles furnished with expansion shields and threaded rods.
1. Leveling Devices: 7 gauge, 3/16 inches (5 mm) thick, corrosion-resistant, chromate-treated, double zinc-plated steel angle leveling bar bolted to stile; furnished with 3/8 inch (10 mm) diameter threaded rods, hex nuts, lock washers, flat washers, spacer sleeves, expansion anchors, and shoe retainers.
2. Stile Shoes: One-piece, 22 gauge (0.8 mm), 18-8 S, Type 304 stainless steel, 4 inch (102 mm) height; tops with 90 degree return to stile. One-piece shoe capable of adapting to 3/4 inch (19 mm) or 1 inch (25 mm) stile thickness and capable of being fastened (by clip) to stiles starting at wall line.

H. Wall Posts: Pre-drilled for door hardware, 18-8 S, Type 304, 16 gauge (1.6 mm) stainless steel with satin finish; 1 inch (25 mm) x 1-1/2 inches (38 mm) x 58 inches high (1473 mm).

I. Anchors: Expansion shields and threaded rods at floor connections as applicable. Threaded rods secured to supports above ceiling as applicable. Supports above ceiling furnished and installed as Work of Section 055000.

J. Hardware:
1. Compliance: Operable with one hand, without tight grasping, pinching, or twisting of the wrist, and force to operate does not exceed five pounds.
2. Emergency Access: Hinges, latch allow door to be lifted over keeper from outside compartment on inswing doors.
3. Materials: 18-8 S, Type 304, heavy-gauge stainless steel with satin finish. Chrome-plated “Zamak”, aluminum, or extruded plastic hardware not acceptable.
4. Fastening: Hardware secured to door and stile by through-bolted, theft-resistant, pin-in-head Torx stainless steel machine screws into factory-installed, threaded brass inserts. Fasteners secured directly into core not acceptable.
a. Threaded Brass Inserts: Factory-installed; withstand direct pull force exceeding 1500 lb (680 kg) per insert.
5. Clothes Hooks: Projecting no more than 1-1/8 inch (29 mm) from face of door.
6. Hardware Type: Institutional Hardware (.67).
a. Latching: 14 gauge (2 mm) sliding door latch, 11 gauge (3.2 mm) keeper; latch slides on a shock-resistant nylon track. Twist-style door latch operation not acceptable.
b. Hinges: 16 gauge (1.6 mm) stainless steel, self-closing, 3 section hinges.
c. Mounting Brackets: 18 gauge (1.2 mm) stainless steel and extend full height of panel.

1) U-Channels: Secure panels to stiles.
2) Angle Brackets: Secure stiles-to-walls and panels-to-walls.

PART 3 EXECUTION

3.1 PREPARATION

A. Prepare substrates including but not limited to blocking and supports in walls and ceilings at points of attachment using methods recommended by the manufacturer for achieving the best result for the substrates under the project conditions.
   1. Inspect areas scheduled to receive compartments for correct dimensions, plumbness of walls, and soundness of surfaces that would affect installation of mounting brackets.
   2. Verify spacing of plumbing fixtures to assure compatibility with installation of compartments.

B. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

C. Do not proceed with installation until substrates have been properly prepared with blocking and supports in walls and ceilings at points of attachment and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.

3.2 INSTALLATION

A. Install products in strict compliance with manufacturer's written instructions and recommendations, including the following:
   1. Verify blocking and supports in walls and ceilings have been installed properly at points of attachment.
   2. Verify location does not interfere with door swings or use of fixtures.
   3. Use fasteners and anchors suitable for substrate and project conditions
   4. Install units rigid, straight, plumb, and level.
   5. Conceal evidence of drilling, cutting, and fitting to room finish.
   6. Test for proper operation.

3.3 ADJUSTING, CLEANING AND PROTECTION

A. Adjust hardware for proper operation after installation. Set hinge cam on in-swinging doors to hold doors open when unlatched. Set hinge cam on out-swinging doors to hold unlatched doors in closed position.

B. Touch-up, repair or replace damaged products.

C. Clean exposed surfaces of compartments, hardware, and fittings.

END OF SECTION 10 21 13

SECTION 10 28 00 - TOILET ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Toilet and bath accessories.
2. Underlavatory guards.

B. Related Sections include the following:
1. Division 10 Section "Toilet Compartments" for compartments and screens.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions and thicknesses, dimensions, profiles, fastening and mounting methods, specified options, and finishes for each type of accessory specified.

B. Samples: For each accessory item to verify design, operation, and finish requirements.

1. Approved full-size Samples will be returned and may be used in the Work.

C. Setting Drawings: For cutouts required in other work; include templates, substrate preparation instructions, and directions for preparing cutouts and installing anchoring devices.

D. Maintenance Data: For accessories to include in maintenance manuals specified in Division 1. Provide lists of replacement parts and service recommendations. *(Project Close-Out Item)*

E. Design Calculations: Computations demonstrating design and/or test data to Architect for review and/or submittal to the Division of the State Architect. Design calculations shall be proposed and signed by a registered professional engineer to comply with the requirements of the 2022 C.B.C., Section 11B-609.8 regarding structural strength of grab bars, fasteners and mounting devices to be secured to the toilet partitions.

1.4 QUALITY ASSURANCE

A. Source Limitations: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise approved by Architect.

B. Product Options: Accessory requirements, including those for materials, finishes, dimensions, capacities, and performance, are established by specific products indicated in the Toilet and Bath Accessory Schedule.

1. Products of other manufacturers listed in Part 2 with equal characteristics, as judged solely by Architect, may be provided.
2. Do not modify aesthetic effects, as judged solely by Architect, except with Architect's approval. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.

1.5 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by disabled persons, proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.6 WARRANTY *(Project Close-Out Item)*

A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

1. Manufacturer’s written 1 year warranty against defects in materials and workmanship on all accessories.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide accessories by one of the following:

1. Toilet and Bath Accessories:

a. American Specialties, Inc.
b. Bobrick Washroom Equipment, Inc.*
c. Bradley Corporation.

*Indicates manufacturer’s numbers elsewhere to indicate project requirements.

2. Underlavatory Guards:

a. Brocar Products, Inc.
b. Truebro, Inc.

B. Products: Subject to compliance with requirements, provide one of the products indicated for each designation in the Toilet and Bath Accessory Schedule at the end of Part 3.

2.2 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch minimum nominal thickness, unless otherwise indicated.

B. Brass: ASTM B 19, leaded and unleaded flat products; ASTM B 16, rods, shapes, forgings, and flat products with finished edges; ASTM B 30, castings.

C. Sheet Steel: ASTM A 366/A 366M, cold rolled, commercial quality, 0.0359-inch minimum nominal thickness; surface preparation and metal pretreatment as required for applied finish.

D. Galvanized Steel Sheet: ASTM A 653/A 653M, G60.

E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service), nickel plus chromium electrodeposited on base metal.

F. Baked-Enamel Finish: Factory-applied, gloss-white, baked-acrylic-enamel coating.

G. Mirror Glass: ASTM C 1036, Type I, Class 1, Quality q2, nominal 6.0 mm thick, with silvering, electroplated copper coating, and protective organic coating complying with FS DD-M-411.

H. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

I. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.

2.3 FABRICATION

A. General: One, maximum 1-1/2-inch- diameter, unobtrusive stamped manufacturer logo, as approved by Architect, is permitted on exposed face of accessories. On interior surface not exposed to view or back surface of each accessory, provide printed, waterproof label or stamped nameplate indicating manufacturer's name and product model number.

B. Surface-Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.

C. Recessed Toilet Accessories: Unless otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors and access panels with full-length, stainless-steel hinge. Provide anchorage that is fully concealed when unit is closed.

D. Framed Glass-Mirror Units: Fabricate frames for glass-mirror units to accommodate glass edge protection material. Provide mirror backing and support system that permits rigid, tamper-resistant glass installation and prevents moisture accumulation.

1. Provide galvanized steel backing sheet, not less than 0.034 inch and full mirror size, with nonabsorptive filler material. Corrugated cardboard is not an acceptable filler material.

E. Mirror-Unit Hangers: Provide mirror-unit mounting system that permits rigid, tamper- and theft-resistant installation, as follows:

1. One-piece, galvanized steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
2. Heavy-duty wall brackets of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.

F. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated.

C. Install grab bars to withstand a concentrated load of at least 250 lbf, in any direction, when tested according to method in ASTM F 446.

D. Toilet Tissue Dispensers: Supplied by District and installed by Contractor. 3 inch maximum profile from wall surface in accessible stalls, typical.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

3.3 TOILET AND BATH ACCESSORY SCHEDULE

A. Paper Towel Dispenser: Where this designation is indicated, provide the following:
1. Bobrick B-262, Surface Mounted Paper Towel Dispenser

B. Toilet Tissue Dispenser: Where this designation is indicated, provide one of the following:
1. Kimberly Clark, Professional #09554, smoke gray OR

2. Tork, #68T, Jumbo Overflow, system 21

C. Soap Dispenser: Where this designation is indicted, provide the following:
1. Purell foam dispenser, Go Jo #5120-06 gray

D. Grab Bar: Where this designation is indicated, provide stainless-steel grab bar complying with the following:

1. Products: Provide one of the following: (Bobrick B-5806)
2. Stainless-Steel Nominal Thickness: Minimum 0.05 inch.
3. Mounting: Concealed with manufacturer's standard flanges and anchors.
4. Gripping Surfaces: Manufacturer's standard slip-resistant texture.
5. Outside Diameter: 1-1/4 inches for medium-duty applications.
6. Clearance: 1-1/2 inches from wall to inside face of bar.

E. Sanitary Napkin Disposal Unit: Where this designation is indicated, provide stainless-steel sanitary napkin disposal unit complying with the following:

1. Surface Mounted Type: With seamless exposed walls; self-closing top cover; locking bottom panel with stainless-steel, continuous hinge; and removable, reusable receptacle. (Bobrick No. B-270)

F. Seat-Cover Dispenser Where this designation is indicated, provide seat-cover dispenser complying with the following: (Georgia Pacific Safe-t-gard No. 57748)

1. Surface-Mounted Type: ½ fold unit with concealed opening at bottom for filling.

G. Mirror Unit: Where this designation is indicated, provide mirror unit complying with the following:

1. Stainless-Steel, Channel-Framed Mirror: Fabricate frame from stainless-steel channels in manufacturer's standard satin or bright finish with square corners mitered to hairline joints and mechanically interlocked. (Bobrick No. B-290)

H. Mop and Broom Holder: Where this designation is indicated, provide mop and broom holder complying with the following:

1. Products: Provide one of the following.
2. Mop and Broom Holder with Utility Shelf: 34-inch- long unit fabricated of minimum nominal 0.05-inch- thick stainless steel with shelf; support brackets for wall mounting; four hooks for wiping rags; three spring-loaded, rubber hat, cam-type, mop/broom holders mounted on front of shelf. (Bobrick No. B-239-34)

I. Underlavatory Guard: Where this designation is indicated, provide underlavatory guard complying with the following:

1. Insulating Piping Coverings: White, antimicrobial, molded-vinyl covering for supply and drain piping assemblies intended for use at accessible lavatories to prevent direct

contact with and burns from piping. Provide components as required for applications indicated with flip tops at valves that allow service access without removing coverings.

END OF SECTION 10 28 13

SECTION 12 93 00 – Site Furnishings

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provision of the Contract, apply to this Section.

1.2 SUMMARY

A. The extent of work in this Section includes the provision and installation of the site furnishing equipment and structures with all miscellaneous hardware, foundations and appurtenances required for installation.

1.3 QUALITY ASSURANCE

A. All manufactured items shall be inspected and approved upon delivery.

B. Unless otherwise specified, install all materials in accordance with manufacturer's recommendations.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical data and installation instructions for site furnishings conforming to requirements of Front-End Specifications.

B. Product Warranty, spare or replacement parts, and/or care instructions shipped with components shall be delivered to Owner prior to substantial completion.

1.5 DELIVERY, STORAGE AND HANDLING:

A. Store and handle products so as not to impede work of others.

B. Protect products from damage or theft during delivery, handling, storage and installation.

C. Contractor shall schedule delivery and receive site furnishings contained within this Specification whether purchased as part of this project or purchased by Owner as part of this project. This shall include unloading site furnishings, taking inventory and accepting delivery.

PART 2 - PRODUCTS

2.1 MATERIALS

	Description	Manufacturer	Model #
1.	Basketball Post Single		
	Vertical pole	Porter Athletic	UPRT003520G0
	Backboard	Porter Athletic	207
	Goal and Net	Porter Athletic	00251H00
2.	Volleyball		
	Post with pulley reel and hooks	Porter Athletic	761100
	Sleeve cap	Porter Athletic	COVR0005500
	Outdoor ground sleeve	Porter Athletic	00402000

Contractor shall purchase touch-up paint for each color of powder coated products for use as needed after installation. Deliver un-used touch-up paint to Owner prior to substantial completion.

Manufacturer	- Local Representative	Phone	Website
Porter Athletic	-Porter Athletic	(888)277-7778	www.porterathletic.com\facility
Timberform	-Park Pacific	(888) 460-7275	www.parkpacific.com
Pole Tech	-Pole Tech	(800) 633-6733	www.poletech.com
LA Steel Craft Products	Ross Recreation	(707) 538-3800	
Partac Peat Corp.	Partac Peat Corp.	(800)247-2326	

PART 3 - EXECUTION

3.1 SEQUENCING AND SCHEDULING:

A. Coordinate construction timing with installation of site furnishings in conformance with other pertinent Sections of the Specifications.

3.2 INSTALLATION

A. Site Furnishings: Install where shown on drawings, as detailed and per manufacturer instructions. All site furnishings shall be secured in a vandal resistant manner acceptable to the Architect.

B. Sports Equipment: Install where shown on drawings, as detailed and per manufacturer instructions.

C. Concrete Footings: Install footings with top of concrete sloped to drain at 1%. Install where shown on drawings and as detailed and per manufacturer's instructions.

D. Sleeves: Install site furnishings, standards and posts into sleeves embedded into concrete bases for removal and replacement where indicated or detailed on drawings.

END OF SECTION 12 93 00

SECTION 31 11 00
CLEARING AND GRUBBING

PART 1 - GENERAL

1.01 SUMMARY

A. Clearing vegetation, debris, trash and other materials within limits indicated.

B. Grubbing of vegetation within limits indicated.

1.02 RELATED DOCUMENTS

A. Caltrans Standard Specifications.

1. Section 17-2, Clearing and Grubbing.

B. California Building Code: Chapter 33 – Site Work, Demolition and Construction.

PART 2 - PRODUCTS

2.01 NOT USED

PART 3 - EXECUTION

3.01 PREPARATION

A. Locate and clearly flag vegetation to remain or to be relocated.

3.02 RESTORATION

A. Repair or replace vegetation indicated to remain that is damaged by construction operations, as directed by the Owner.

B. Employ a qualified arborist, licensed in jurisdiction where the Project is located, to submit details of proposed repairs and to repair damage to shrubs.

3.03 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots.

B. Remove trash, debris, logs, concrete, masonry and other waste materials.

C. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.

D. Completely remove stumps, roots, obstructions, and debris extending to a depth of 18-inches below subgrade.

E. Use only hand methods for grubbing within drip line of remaining trees.

END OF SECTION

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SECTION 31 13 00
SELECTIVE TREE REMOVAL AND TRIMMING

PART 1 - GENERAL

1.01 SUMMARY

A. Protecting existing trees and vegetation to remain.

B. Trimming tree limbs and roots.

C. Removing trees as designated.

1.02 DEFINITIONS

A. ANSI: American National Standards Institute.

B. CAL-OSHA: California Occupational Safety and Health Administration.

1.03 QUALITY ASSURANCE

A. Do not remove or prune trees without first securing a permit from the appropriate agency.

B. Prune to the standards of the International Society of Arborists and to ANSI A300.

PART 2 - PRODUCTS

A. NOT USED

PART 3 - EXECUTION

3.01 PREPARATION

A. Locate and clearly flag trees to remain or to be relocated.

3.02 TREE PROTECTION

A. Erect and maintain temporary fence around drip line of individual trees or around perimeter drip line of groups of trees to remain. Remove fence when construction is complete.

B. Do not store construction materials, debris, or excavated material within drip line of remaining trees.

C. Do not permit vehicles or equipment within drip line of remaining trees.

D. Do not excavate within drip line of remaining trees, unless otherwise indicated.

E. Where excavation for new construction is required within drip line of trees, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation edge as possible.

F. Cover exposed roots with burlap and water regularly.

G. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

H. Coat cut faces of roots more than 1 ½ inches in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.

I. Cover exposed roots with wet burlap to prevent roots from drying out. Backfill with soil as soon as possible.

3.03 TREE PRUNING

A. Prune trees to balance the crown, and eliminate hazards. Perform main work to reduce sail effect through thinning, reducing end weights, shortening long heavy limbs, removing deadwood, weak limbs and sucker growth. Prune limbs back to an appropriate lateral branch.

B. Make final cuts at the outer edge of the branch collar in accordance with the arborist's recommendations.

C. Perform pruning work in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.

3.04 ROOT PRUNING

A. Do not cut tree roots greater than 3-inch in diameter and less than 12-inches below ground level without approval of the Owner.

B. Cut tree roots cleanly, as far from the trunk as possible, and not underneath any area where walkways are to be constructed. Root pruning shall be to a depth of 18-inches.

C. Tree root prune using a Vermeer root-cutting machine. Obtain the Owner's approval before using alternate equipment or techniques.

D. Complete tree root pruning prior to any excavation adjacent to the tree.

E. Do not expose tree roots to drying out. Cover root ends with soil or burlap and keep moist until the final backfill is completed.

3.05 TREE REMOVAL

A. Remove trees designated for removal prior to the construction of new improvements.

B. Perform tree removal work in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.

C. Remove or grind stumps to a minimum of 18-inches below finish subgrade. Remove surface roots to this depth within 24-inches of the tree trunk.

3.06 RESTORATION

A. Repair or replace trees indicated to remain that are damaged by construction operations, as directed by the Owner.

B. Employ a qualified arborist, licensed in jurisdiction where the Project is located, to submit details of proposed repairs and to repair damage to trees.

C. Replace trees that cannot be repaired and restored to full-growth status, as determined by the Owner.

END OF SECTION

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SECTION 31 20 00
EARTHWORK

PART 1 – GENERAL

1.01 WORK SPECIFIED IN THIS SECTION

A. Work of this section includes all required excavation, grading, preparation of subgrade for fills, proper placement of fills, including backfilling and compaction, the watering, rolling and compacting of fill material in place and the finish grading all as required by the drawings and as specified herein.

B. All grading work shall be performed in accordance with:
1. Title 24, Part 2, C.C.R., 2022 C.B.C., 2021 I.B.C. with California Amendments & Supplements
2. The grading code of the County and any special requirements of the permit.
3. The Geotechnical Investigation report for the project site
4. Provide special inspection for engineered fill and compaction, Title 24, Part 2, C.C.R., 2022 C.B.C., 2021 I.B.C. with California Amendments & Supplements
5. Applicable General and Special Conditions of these specifications herein after set forth in full or by reference.
6. A final grading report shall be submitted by the Geotechnical Consultant in accordance with Title 24, Part 2, C.C.R., 2022 C.B.C. Appendix J

1.02 PRINCIPAL ITEMS OR WORK INCLUDED HEREIN.

A. Excavation
B. Filling
C. Backfilling
D. Geotechnical Consultant and Tests
E. Grading
F. Miscellaneous related work necessary for a complete job.
G. Special Requirements.

1.03 SCHEDULING

A. PAD GRADING: It is imperative that Building construction commence as quickly as possible, therefore, contractor shall submit a schedule of grading that clearly establishes the construction of the Building Pad area as a priority of grading construction along with providing appropriate or required reports and certifications from the Geotechnical Consultant, Civil Engineer, and governmental authority necessary to commence foundation excavation and building construction.

1.04 RELATED WORK SPECIFIED IN OTHER SECTIONS.

A. Clearing and Grubbing: Section 31 11 00

B. Final subgrade preparation for asphalt paving: Section 32 12 00. Flexible Paving.

C. Aggregate base beneath asphalt paving is specified under Flexible Paving, Section 32 12 00.

D. Excavation and backfill for utility lines specified under Mechanical and Electrical Sections, shall be performed as specified in this Section.

PART 2 - PROTECTION

2.01 Contractor shall protect adjacent properties, roads, right-of-ways, easements and existing improvements from damage during the life of the grading operation and prevent caving, sloughing or the placing of materials or stock piles on adjacent properties.

2.02 Provide cribbing, sheathing, and shoring necessary to safely retain the earth banks and protect excavations and adjoining grades from caving and other damage resulting from excavating, together with suitable forms of protection against bodily injury to personnel employed on the work and the general public. The responsibility for the design, installation, and maintenance of required cribbing and shoring shall be entirely that of the Contractor and shall meet the approval of the State Division of Industrial Safety and local governing agencies' requirements.

2.03 Utility lines and structures shown shall be protected and treated as indicated. Where work not shown is encountered, report it to the Architect before proceeding with excavation. The Contractor shall bear the costs for all repairs to damaged or broken utilities and any damages related thereto.

2.04 It shall be the Contractor's full responsibility to take all measures necessary during grading to protect slope areas, both cut and fill, existing improvements and adjacent properties from storm damage and flood hazard originating on this project until final acceptance by the Owner. It shall be the Contractor's responsibility to maintain completed slopes until all slopes are in satisfactory compliance with the job specifications, all berms have been properly constructed, and all associates drainage devices have met the requirements of the Architect. It shall also be the Contractor's responsibility to prevent silt run-off from the limits of work.

PART 3 - GEOTECHNICAL CONSULTANT, TESTS, AND REPORTS

3.01 A Geotechnical Consultant designated by the Owner will be engaged to perform continuous inspection of the placing and compacting of all fills and backfills within the limits of grading of this project. All work shall be done in accordance with these specifications and as recommended and approved by the Geotechnical Consultant. Costs for all such inspections and tests shall be paid by the Owner. The Contractor shall be responsible for notifying the Geotechnical Consultant in advance so that he may be present to perform his services as needed. The Geotechnical Consultant shall approve all subgrades prior to placement of fill or placement of forms and reinforcing.

3.02 The Geotechnical Consultant shall also make an investigation of the fill material to establish the ability of the soil to sustain the vertical loads to be imposed on the fill by the proposed structure.

3.03 The Geotechnical Consultant shall submit compaction reports to the Architect and the Civil Engineer at the completion of the work, including test results and plot plans indicating the locations from which the tested samples of fill were taken. The Geotechnical Consultant shall keep the Architect informed on the progress of the grading work.

3.04 No clearing, demolitions, filling and backfilling, or grading operations shall be performed without the presence of a representative of the Geotechnical Consulting firm. Operations undertaken at the site

without the Geotechnical Consultant present may result in exclusions of affected areas from the final compaction report for the project. The presence of the Geotechnical Consultant will be for the purpose of providing observation and field testing, and will not include any supervising or directing of the actual work of the Contractor, directing his/her employees or agents. Neither the presence of the field representative nor the observations and testing by the Geotechnical Consulting firm shall excuse the Contractor in any way for defects discovered in the Contractor's work. The Geotechnical Consulting firm shall not be responsible for job or site safety on this project, which shall be the sole responsibility of the Contractor.

3.05 The existing soil conditions at this site have been investigated, and a report of findings is on file at the Owners office for review by the Contractors during the bidding period. This information is offered as supplemental information only, and no guarantee of existing soil or other conditions is intended.

PART 4 - MATERIALS

4.01 All imported material and sources for import material shall be approved by the Geotechnical Consultant prior to hauling on site. Contractor shall be responsible for communicating the necessary information to the Geotechnical Consultant in a timely manner so the Geotechnical Consultant may perform appropriate testing and reporting.

4.02 The Contractor shall import any and all additional fill material required to complete the grading on this project. Imported fill soils shall be non-expansive, granular soils meeting the USCS classifications of SM, SP-SM or SW-SM with a maximum rock size of 3 inches and 5 to 35% passing the No. 200 sieve. The Geotechnical Consultant shall evaluate the import fill soils before hauling to the site. The imported fill shall be placed in lifts no greater than 8 inches in loose thickness and compacted to at least 90% relative compaction (ASTM D1557) near optimum moisture content.

4.03 Fill material within new building and paved areas shall be clean, well-pulverized soil free of vegetation matter, rocks larger than 3 inches in any dimension, and other debris, and shall be subject to approval by the Geotechnical Consultant.

4.4 Backfill material for storm drain and utility lines shall be non-expansive granular materials, such as clean sand, and shall be placed in a minimum thickness of 6 inches for bedding and backfilled to 12 inches above top of pipe. Bedding sand shall have a sand equivalent value of 30 or greater determined in accordance with Cal-Trans Test Method # 217.

PART 5 - SURPLUS EARTH MATERIAL

5.01 All surplus earth material not needed for the completion of the grading shall be removed from the site by the Contractor and disposed of in a legal manner.

PART 6 - INADEQUATE SOIL CONDITIONS

6.01 Should soil of inadequate density and bearing capability be encountered at the elevations indicated on the drawings, or where new fill is to be placed upon existing loose fill material exposed by excavation, the excavation shall be carried to the depth required to attain soil of bearing quality as determined by the Geotechnical Consultant. The adequacy of all soil bearing value shall be determined by the Geotechnical Consultant.

PART 7 - EXECUTION

7.01 PRE JOB CONFERENCE

An onsite pre job meeting with Architect, the Construction Manager, the Geotechnical Consultant, Civil Engineer, Inspector, and the Utility Line and Earthwork Subcontractor(s) is required prior to all grading related operations. ATTENDANCE IS MANDATORY.

7.02 PREPARATION

A. Protect adjacent property and existing improvements and structures as necessary to prevent undermining, caving of cuts, and miscellaneous damage, or sloughing of material onto adjacent property.

B. Provide cribbing, sheathing, and shoring necessary to safely retain the earth banks and protect excavations and adjoining grades from caving and other damage resulting from excavation together with suitable forms of protection against bodily injury to personnel employed on the work and the general public. Be responsible for the design, installation, and maintenance of required cribbing and shoring and same shall meet the approval of the State Division of Industrial Safety and local governing agencies' requirements.

C. Protect existing improvements and adjacent properties from storm damage and flood hazard originating on this project until final acceptance by the Owner. Prevent silt runoff from the limits of work in accordance with governmental requirements, and the S.W.P.P.P.

D. Borrow pits, if any, shall meet all requirements of these Specifications for over-excavation and backfill.

7.03 DUST CONTROL

During all grading operations, water shall be applied to the surfaces in the working area at frequent intervals and in sufficient quantities to allay the dust and for proper compaction. No other method will be permitted.

7.04 CLEAN-UP

Upon completion of work in this Section, remove rubbish, trash, and debris resulting from operations. Remove disused equipment and implements of service, and leave entire area involved in a neat, clean, and acceptable condition.

7.05 EXCAVATION

A. Prior to any excavation or filling operation, the entire area within the limits of work containing vegetation shall be excavated to a minimum depth to ensure removal of all vegetation. This material shall be disposed of off the site in a legal manner.

B. Excavate to the depths, lines, and grades indicated. Excavate sufficiently over-size to permit installation and removal of concrete forms and all other required work.

C. Footing pads, if poured neatly, may be excavated to the net pad widths plus two inches if approved by the Architect. Approval will not be given until the completed excavation has been inspected.

D. Should footing excavations exceed reburied dimensions or should sloughing occur, fill such extra space with concrete at no additional cost to the contract. If unsuitable material is found at the indicated depths, immediately notify the Architect.

E. Sequencing of the work to ensure that one part of the excavating does not interfere with another part rests with the Contractor.

F. Notify the Structural Engineer 48 hours before foundation excavations are ready for inspection.

G. The bottoms of footings shall be free of loose material, debris, and water before concrete is placed.

H. Cut banks shall be neatly trimmed to the required finish surface as the cut progresses, or the Contractor shall have the option of leaving the cuts full and finish grading by mechanical equipment which will produce the finish surfaces as shown on the drawings.

I. All cut or "at grade" building, concrete and asphalt pavement areas shall be scarified to a minimum depth of 8 inches below subgrade brought to an optimum moisture content, and compacted to a density of not less than 90% of maximum dry density.

7.06 FILLING

A. Prior to placing new fill in all other areas, the exposed cleared surface should be plowed, scarified, or otherwise processed to a depth of at least 24 inches, watered and/or aerated, as required, thoroughly mixed to a uniform, near optimum moisture condition, and recompacted to at least 90 percent of the ASTM D1557 test standard.

B. All recompacted and new fill required to secure final subgrade elevations should be spread, water and/or aerated as required, thoroughly mixed to a uniform near optimum moisture condition, and compacted in approximated 8-inch thick lifts to at least 90 percent. Backfilling of excavations made for removal of any existing buried elements during site clearing should also be performed in this manner.

C. Imported fill materials should consist of clean soils, free from vegetation, debris, or rocks larger than 3 inches. The Expansion Index value should not exceed a maximum of 50 ("Low" expansive per UBC Table 18-1-B.)

D. Where fills are placed on existing slopes exceeding a slope of five horizontal to one vertical, the slopes shall be benched in accordance with the Geotechnical Consultant's requirements and local governing public agencies' requirements, and compacted as herein specified before placing fill material on same, so that all fills shall be placed in horizontal layers as specified. Widths of benches shall be as directed by the Geotechnical Consultant.

E. Rock encountered in the excavation on this site may, at the option of the Contractor, be broken up into pieces not larger than three inches in maximum dimension, and be incorporated in the fill material if spread as directed by the Geotechnical Consultant. Otherwise, all rocks larger than three inches in maximum dimensions shall be removed from the site. Rocks and stones larger than one inch in maximum dimension will not be permitted within the top 12 inches of finished grade in non-paved areas.

F. Fill banks shall be graded full and compacted beyond the grade of the finish bank. After the banks have been filled, they shall be trimmed to the finish grades and limits shown on the drawings.

7.07 BACKFILLING

A. Place no backfill until work in excavations has been approved. Remove cave-ins and loose soil to permit inspection.

B. Place backfill in layers which will compact to six inches maximum, concurrently on both sides of footings and walls. Thoroughly compact each layer with mechanical tampers, adding water as required to obtain optimum moisture content, and compact as set forth in paragraph 7.9 herein.

C. Backfill placed in narrow, restricted areas, such as along utility trenches, may possibly be placed in up to 12-inch thick lifts, depending on the materials, procedures and equipment being employed. Backfill consolidation by flooding or jetting is prohibited unless approved by the Geotechnical Consultant. In any case, all backfill should be mechanically compacted to at least 90 percent of the aforementioned test standard.

7.08 FINISH GRADING

A. The entire area within the limits of grading as indicated on the Drawings shall be constructed to the lines, grades, elevations, slopes, and cross sections indicated on the Drawings. When the grading has been completed, the areas shall be rolled smooth with a steel tandem roller or equal.

B. Fine grade to bring areas to required lines and grades. The subgrade elevation within the building area for slabs on grade (without a base course) shall be within 0.50 inch along a 10-foot straight edge.

C. Slope finish grades to drain surface water away from buildings, walks, paving, and other structures. Generally, grade with uniform slope between points where elevations are given, or between such points and existing grades. Excavate and grade swales to provide drainage away from and around buildings.

D. Areas to Receive Paving or Surfacing: Review plans and details for each area. See plans for paving and base course thickness. Review Drawings for site work details.

E. Areas to Receive Interior Building Slab-on-Grade: Review plans and details for thickness of slabs and granular fill under slabs.

F. Areas to receive Topsoil and/or Planting: Where not otherwise indicated, areas outside of buildings shall be given uniform slopes between points for which finish grades are shown, or between such points and existing established grade, except that vertical curves or roundings shall be provided at abrupt changes in slope.

G. Rocks or cobbles larger than 1-inch in diameter shall not be placed in the upper 12-inches of planting area fill, rocks, or cobbles larger than 3/4 inch shall not appear on the finish graded surface.

H. It shall be the Contractor's full responsibility to take all measures necessary during grading to protect slope areas, both cut and fill, and adjacent properties form storm damage and

flood hazard originating on this project until final acceptance by the Owner. It shall be the Contractor's responsibility to maintain completed slopes until all slopes are in satisfactory compliance with the job specifications.

7.09 COMPACTION

A. All fills shall be compacted to at least 90 percent of maximum density obtainable using the ASTM test procedure D1557. All areas, which are scarified, shall be recompacted to these same requirements.

B. All earthwork operations should be subject to compaction monitoring field observation and testing by the Geotechnical Consultant. The Geotechnical Consultant should be notified at least two days in advance of the start of grading. A joint meeting between a representative of the Client, the Contractor and the Geotechnical Consultant is recommended prior to grading to discuss specific procedures and scheduling.

C. Compaction by flooding or jetting is prohibited unless approved by the Geotechnical Consultant.

7.10 SPECIAL REQUIREMENTS

A. REMEDIAL GRADING

1. Building slabs and Footings
   Overexcavate to a depth of 2 feet below existing grade or the bottom of building footings, whichever is greater, to extend a minimum of 5 feet beyond the outer edge of the building slabs or footings (including column supports).

2. Garden and Retaining walls
   Overexcavate to a depth of 2 feet below existing grade or the bottom of footings, whichever is greater, to extend a minimum of 2 feet beyond the face of the footing.

3. Areas to receive fill, pavements or hardscape
   The top 18 inches of the native subgrade shall be overexcavated. The bottom of overexcavation shall be scarified an additional 6 inches, moisture conditioned and compacted to 90% relative compaction per ASTM D1557.

B. A representative of the Geotechnical Consultant’s firm shall observe the bottom of all excavations. Artificial fill, soft soils, organic soils, or other unsuitable material remaining in the bottom of the excavations shall be overexcavated until competent natural material is encountered. Competent natural soil is defined as undisturbed material exhibiting a relative compaction of at least 85 percent.

C. Prior to replacing compacted fill in over-cut building, concrete flatwork and A.C. paved areas, the exposed over-cut surface should be plowed, scarified, or otherwise processed to an additional depth of at least 12 inches, water and/or aerated as required, thoroughly mixed to an uniform, near optimum moisture condition, and recompacted to at least 90 percent of maximum dry density obtainable using the ASTM D1557 test standard.

D. All recompacted and new fill should be spread, watered, mixed and compacted by mechanical means in approximate 8 inch thick lifts to at least 90 percent of the aforementioned standard.

E. Completed building, exterior concrete pavement, and A.C. pavement subgrades should be trimmed and rolled to a firm smooth surface. Final watering and rolling should be performed immediately prior to placing concrete or paving.

F. Prior to placing backfill within the remaining excavation behind new retaining walls, these areas should first be cleared of all significant vegetation, construction debris, loose and/or disturbed soils, etc. All new backfill should be spread, watered or aerated as required, thoroughly mixed to a uniform near optimum moisture condition and compacted by mechanical means in approximate 6 to 8 inch thick lifts. The degree of compaction obtained should be at least 90 percent of maximum dry density per the ASTM D1557 laboratory test standard.

G. The top 12 inches of soil within all designated planted areas shall be imported topsoil or stockpiled existing site soil capable of supporting plant growth. The 12-inch layer shall be measured down from the finish grade shown on the project drawings.

H At the completion of grading operations and prior to building, A.C. pavement and concrete paving construction, Contractor shall provide an as-built grading plan at his own expense. As-built grading plan shall be prepared, signed and dated by a licensed land surveyor or Registered Civil Engineer licensed to practice land surveying.

I. The upper 6 inches of subgrade soils shall be compacted to 95% of maximum dry density when no aggregate base material is specified for asphalt paving.

END OF SECTION

SECTION 31 23 00
EXCAVATION AND FILL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Excavation and/or embankment from existing ground to subgrade, including soil sterilant, for roadways, driveways, parking areas, walks, paths, or trails and any other site improvements called for on the Plans.

1.02 SECTION EXCLUDES

A. Earthwork related to underground utility installation, see Section 31 23 33 – Trenching and Backfilling.

1.03 RELATED DOCUMENTS

A. ASTM:

1. D 1557, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).

2. D 1586, Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils.

3. D 2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

4. D 3740, Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.

5. D 4318. Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

6. E 329, Standard Specification for Agencies Engaged in Construction Inspection, Testing or special Inspection.

B. California Code of Regulation Title 24, Part 2, California Building Code:

1. Chapter 11B – Accessibility to Public Buildings.

2. Chapter 33 – Safeguards During Construction.

C. Caltrans Standard Specifications:

1. Section 10-6, Watering.

2. Section 19, Earthwork.

D. CAL/OSHA, Title 8.

1.04 DEFINITIONS

A. Borrow: Approved soil material imported from off-site for use as Structural Fill or Backfill.

B. Excavation: Removal of material encountered above subgrade elevations.

1. Authorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions as shown on plans.

2. Unauthorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions. Unauthorized excavation shall be without additional compensation.

C. Structural Backfill: Soil materials used to fill excavations resulting from removal of existing below grade facilities, including trees. Any fill soil or aggregate base or crush rock under the building shall not contain recycled asphalt, asphalt grindings, or soil with petroleum products. See Section 31 23 33 – Trenching and Backfilling.

D. Structural Fill: Soil materials used to raise existing grades.

E. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material ¾-cubic yards or more in volume that, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2-inches.

F. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below grade.

G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials.

H. Unsuitable Material: Any soil material that is not suitable for a specific use on the Project.

I. Utilities: onsite underground pipes, conduits, ducts and cables.

1.05 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.

B. Submit material certificates signed by the material producer and the Contractor, certifying that that each material item complies with, or exceeds the specified requirements.

1.06 QUALITY ASSURANCE

A. Conform all work to the appropriate portion(s) of the California Code of Regulations, Title 24 and Caltrans Standard Specifications, Sections 10-6 and 19.

B. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

C. Upon completion of the construction work, certify that all compacted fills and foundations are in place at the correct locations, and have been constructed in accordance with sound construction practice. In addition, certify that the materials used are of the types, quality and quantity required

by these Technical Specifications. The Contractor shall be responsible for the stability of all fills and backfills constructed by his forces.

D. Finish soil grade tolerance at completion of grading:

1. Building and paved areas: +0.05

2. Other areas: ±0.10 feet.

E. The project geotechnical engineer shall be notified of the construction schedule at least one week prior to the beginning of major site construction, and notified at least 48 hours (working days) before being required to perform field observation and testing.

1.07 PROJECT CONDITIONS

A. Promptly notify the Owner of surface or subsurface conditions differing from those disclosed in the construction documents. First notify the Owner verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents will be allowed unless the Contractor has notified the Owner in writing of differing conditions prior to the Contractor starting work on affected items.

B. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.

C. Prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

D. Temporarily stockpile fill material in an orderly and safe manner and in a location approved by the Owner.

E. Provide dust and noise control in conformance with Division 1 General Requirements for Cleaning and Waste Management.

F. Environmental Requirements: When unfavorable weather conditions necessitate interrupting earthwork operation, areas shall be prepared by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion. After interruption, compaction specified in last layer shall be re-established before resuming work.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from on-site excavations.

B. On-Site Structural Fill and Structural Backfill: Soil or soil-rock mixture from on site excavations, free from organic matter or other deleterious substances. On-site structural fill and backfill shall not contain rocks or rock fragments over 4 inches in greatest dimension and not more than 15

percent shall be over 2-1/2 inches in greatest dimension and with an organic content less than 3.0 percent by weight.

C. Imported Structural Fill and Structural Backfill: Conform to the requirements of on-site structural fill. Material shall also be a non-expansive and predominantly granular soil or soil-rock mixture with plasticity index of 15 or less in accordance with ASTM D 4318 and an R-Value of 25 or greater.

PART 3 - EXECUTION

3.01 GENERAL

A. Conform to Section 19, Earthwork, Caltrans Standard Specifications as modified by the Contract Documents.

B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.

C. The use of explosives will not be permitted.

3.02 CONTROL OF WATER AND DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding the site and surrounding area. Provide dewatering equipment necessary to drain and keep excavations and site free from water.

B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.

C. Obtain the Owner’s approval for proposed control of water and dewatering methods.

D. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.

E. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations.

F. Maintain dewatering system in place until dewatering is no longer required.

3.03 WET WEATHER CONDITIONS

A. Do not prepare subgrade, place or compact soil materials if above optimum moisture content.

3.04 BRACING AND SHORING

A. Conform to California and Federal OSHA requirements.

B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.

C. Be solely responsible for all bracing and shoring and, if requested by the Owner, submit details and calculations to the Owner. The Owner may forward the submittal to the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the Owner.

D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the position or operation of the facility being constructed or adjacent utilities and facilities.

3.05 EXCAVATION

A. Excavate earth and rock to lines and grades shown on drawings and to the neat dimensions indicated on the Plans, required herein or as required to satisfactorily compact backfill.

B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.

C. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.

D. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements.

3.06 REMOVAL OF EXISTING FILLS AND UNSUITABLE MATERIAL

A. Over-excavate areas of existing fills and other unsuitable material encountered during mass grading.

B. Compensation for increased removal widths and depths that are not required will not be considered, except when such increase is necessary for protection of life and property as determined by and approved by the Owner.

3.07 GRADING

A. Uniformly grade the Project to the elevations shown on plans.

B. Finish ditches, gutters and swales to the sections, lines and grades indicated and to permit proper surface drainage.

C. Round tops and bottoms of slopes as indicated or to blend with existing contours.

3.08 SUBGRADE PREPARATION

A. Install underground utilities and service connections prior to final preparation of subgrade and placement of base materials for final surface facilities. Extend services so that final surface facilities are not disturbed when service connections are made.

B. Prepare subgrades under paved areas, curbs, gutters, walks, structures, other surface facilities and areas to receive structural fill.

C. Prepare subgrades for paved areas, curbs and gutters by plowing or scarifying surface at least 6 inches below final subgrade elevations and 5-feet beyond edge of pavement. Uniformly moisture condition to obtain optimum moisture contents. Break clods and condition surface by harrowing or dry rolling. Remove boulders, hard ribs and solid rock. Prepare earth uniform for full depth and width of subgrade.

D. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.

3.09 PLACEMENT OF STRUCTURAL FILL

A. Place structural fill on prepared subgrade.

B. Spread structural fill material in uniform lifts not more than 8-inches in un-compacted thickness and compact.

C. Place structural fill material to suitable elevations above grade to provide for anticipated settlement and shrinkage.

D. Overbuild fill slopes to obtain required compaction. Remove excess material to lines and grades indicated.

E. Do not drop fill on structures. Do not backfill around, against, upon concrete, or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.

F. Backfill in uniform lifts not exceeding 8 inches in uncompacted thickness. Each lift should be brought to a uniform moisture content of at lease 1 percent above optimum prior to compacting by either spraying the soil with water of it is too dry or aerating the material if it is too wet.

3.10 KEYWAYS AND BENCHES

A. Provide keyways as indicated for fill slopes steeper than 6 horizontal to 1 vertical. Extend keyway -feet minimum into competent, undisturbed soil or 3-feet minimum into competent, undisturbed rock.

B. Place subsurface drains in bottom of keyway in conformance with Section 33 46 00 – Subdrainage.

C. Bench subgrade as indicated above toe of fill.

D. Place subsurface drains at benches every 20 vertical feet.

3.11 LOT FINISH GRADING

A. Blade finish lots to lines and grades indicated.

3.12 COMPACTION AND TESTING

A. Do not compact by ponding, flooding or jetting.

B. Compact soils at optimum water content. Aerate material if it is too wet. Add water to material if it is too dry. Thoroughly mix lifts before compaction to ensure uniform moisture distribution.

C. Perform compaction using rollers, pneumatic or vibratory compactors.

D. Compaction requirements:

1. Compact structural fills less than 5-feet thick to 90 percent compaction.

2. Compact structural fill 5-feet thick or greater to 95 percent compaction.

3. Compact the upper 6 inches of subgrade soils beneath pavements, curbs and gutters to 95 percent compaction. Extend compaction 5-feet beyond pavement.

4. Compact the upper 6-inches of subgrade soils to the following percentage of compaction: 95 percent under walks and pavements; 93 percent for foundations; and 90 percent for areas to receive structural fill."

3.13 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

END OF SECTION

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SECTION 31 23 33

TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Excavation, bedding, and backfill for underground storm drain, sanitary sewer, and water piping and associated structures.

1.02 SECTION EXCLUDES

A. Drainage fill material and placement around subdrains.

B. Trenching and backfill for other utilities such as underground HVAC piping, electrical conduit, telephone conduit, gas piping, cable TV conduit, etc.

1.03 RELATED DOCUMENTS

A. ASTM:

1. C 33, Standard Specification for Concrete Aggregates.

2. C 150, Standard Specification for Portland Cement.

3. C 260, Standard Specification for Air-Entraining Admixtures for Concrete.

4. C 618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

5. D 1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).

6. D 2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.

7. D 2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

8. D 3740, Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.

9. E 329, Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

10. E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.

B. California Code of Regulation Title 24, Part 2, California Building Code:

1. Chapter 11B – Accessibility to Public Buildings.

2. Chapter 33 – Safeguards During Construction.

C. Caltrans Standard Specifications:

1. Section 19, Earthwork.

2. Section 26, Aggregate Bases.

3. Section 68, Subsurface Drains.

4. Section 96, Geosynthetics.

D. CAL/OSHA, Title 8.

1.04 DEFINITIONS

A. AC: Asphalt Concrete.

B. ASTM: American Society for Testing and Materials.

C. Bedding: Material from bottom of trench to bottom of pipe.

D. CDF: Controlled Density Fill.

E. DIP: Ductile Iron Pipe.

F. Initial Backfill: Material from bottom of pipe to 12-inches above top of pipe.

G. PCC: Portland Cement Concrete.

H. RCP: Reinforced Concrete Pipe.

I. Springline of Pipe: Imaginary line on surface of pipe at a vertical distance of ½ the outside diameter measured from the top or bottom of the pipe.

J. Subsequent Backfill: Material from 12-inches above top of pipe to subgrade of surface material or subgrade of surface facility or to finish grade.

K. Trench Excavation: Removal of material encountered above subgrade elevations and within horizontal trench dimensions.

1. Authorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions as shown on plans.

2. Unauthorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions. Unauthorized excavation shall be without additional compensation.

L. Utility Structures:

1. Storm drainage manholes, catch basins, drop inlets, curb inlets, vaults, etc.

2. Sanitary sewer manholes, vaults, etc.

3. Water vaults, etc.

1.05 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.

B. Product Data:

1. Grading and quality characteristics showing compliance with requirements for the Work.

2. Certify that material meets requirements of the Project.

C. Samples:

1. If required, provide 40-pound samples of all imported trench bedding and backfill material sealed in airtight containers, tagged with source locations and suppliers of each proposed material.

2. Provide materials from same source throughout work. Change of source requires approval of the Owner.

1.06 QUALITY ASSURANCE

A. Conform all work to the appropriate portion(s) of the Caltrans Standard Specifications, Section 19.

B. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

C. Conform work to the requirements of the California Building Code.

1. Section 1809A.14 – Pipe and Trenches.

1.07 PROJECT CONDITIONS

A. Promptly notify the Owner of surface or subsurface conditions differing from those disclosed in the construction documents. First notify the Owner verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents will be allowed unless Contractor has notified the Owner in writing of differing conditions prior to contractor starting work on affected items.

B. Protect open, trenches, and utility structure excavations with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.

C. Stockpile on-site and imported backfill material temporarily in an orderly and safe manner.

D. Provide dust and noise control in conformance with Division 1 General Requirements for Cleaning and Waste Management.

PART 2 - PRODUCTS

2.01 PIPE BEDDING AND INITIAL BACKFILL

A. ASTM D 2321, Class IA, IB or II.

1. Clean and free of clay, silt or organic matter.

B. Permeable Material: Conform to Section 68-2.02F(3) of Caltrans Standard Specifications, Class 2 permeable.

C. Class 2 Aggregate Base: Conform to Section 26 of Caltrans Standard Specifications, ¾-inch maximum. Material shall also be non-expansive and predominantly granular soil or soil-rock mixture “(percent of passing #200: 50 maximum, 5 minimum)” with plasticity index of 15 or less.

D. Sand: Conform to Section 19-3.02F(2) of Caltrans Standard Specifications.

2.02 WARNING TAPE

A. See Section 33 10 00 – Water Utilities.

2.03 SUBSEQUENT BACKFILL

A. Conform to on-site or imported structural backfill in Section 31 23 00 – Excavation and Fill.

2.04 CONTROLLED DENSITY FILL (CDF) (IN TRENCHES)

A. Provide non-structural CDF, from bottom of trench to finish subgrade of subbase or base material, that can be excavated by hand and produce unconfined compressive 28-day strengths from 50-psi to a maximum of 150-psi. Provide aggregate no larger than 3/8-inch top size. The 3/8-inch aggregate shall not comprise more than 30% of the total aggregate content.

B. Cement: Conform to the standards as set forth in ASTM C-150, Type II Cement.

C. Fly Ash: Conform to the standards as set forth in ASTM C-618, for Class F pozzolan. Do not inhibit the entrainment of air with the fly ash.

D. Air Entraining Agent: Conform to the standards as set forth in ASTM C-260.

E. Aggregates need not meet the standards as set forth in ASTM C-33. Any aggregate, producing performances characteristics described herein will be accepted for consideration. The amount of material passing a #200 sieve shall not exceed 12% and no plastic fines shall be present.

F. Provide CDF that is a mixture of cement, Class F pozzolan, aggregate, air entraining agent and water. CDF shall be batched by a ready mixed concrete plant and delivered to the job site by means of transit mixing trucks.

G. The Contractor shall determine the actual mix proportions of the controlled density fill to meet job site conditions, minimum and maximum strengths, and unit weight. Entrained air content shall be a minimum of 4.0%. The actual entrained air content shall be established for each job with the materials and aggregates to be used to meet the placing and unit weight requirements. Entrained air content may be as high as 20% for fluidity requirements.

2.05 CONCRETE STRUCTURE BEDDING AND BACKFILL

A. Precast Structures: Same materials to the same heights as specified for pipe bedding and backfill.

B. Poured-in-Place Structures:

1. Bedding: In general, bedding is not required, pour bases against undisturbed native earth in cut areas and against engineered fill compacted to 90% relative compaction in embankment areas.

2. Side Backfill: On-site or imported structural fill meeting the requirements given in Section 31 23 00 – Excavation and Fill.

2.06 FILTER FABRIC

A. Filter Fabric:

1. Filter Fabric: Section 96-1.02B of Caltrans Standard Specifications.

2. Mirafi 140N (Mirafi Inc., Charlotte, NC) (Tel. 800-438-1855) or equal.

PART 3 - EXECUTION

3.01 TRENCHING AND EXCAVATION

A. Existing PCC or AC Areas: Cut PCC or AC to full depth at a minimum distance of 12-inches beyond the edge of the trench.

B. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.

C. Excavation Depth for Bedding: Minimum of 4-inches below bottom, except that bedding is not required for nominal pipe diameters of 2-inches or less.

D. Excavation Width at Springline of Pipe:

1. Up to a nominal pipe diameter of 24-inches: Minimum of twice the outside pipe diameter.

2. Nominal pipe diameter of 30-inches through 36-inches: Minimum of the outside pipe diameter plus 2-feet.

3. Nominal pipe diameter of 42-inches through 60-inches: Minimum of the outside pipe diameter plus 3-feet.

E. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.

F. Comply with the Owner’s limitations on the amount of trench that is opened or partially opened at any one time. Do not leave trenches open overnight without the approval of the Owner.

G. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.

H. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.

3.02 CONTROL OF WATER AND DEWATERING

A. Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water.

B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.

C. Reroute surface water runoff away from open trenches and excavations. Do not allow water to accumulate in trenches and excavations.

D. Maintain dewatering system in place until dewatering is no longer required.

3.03 BRACING AND SHORING

A. Conform to California and Federal OSHA requirements.

B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the pipes and appurtenances being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.

C. Be solely responsible for all bracing and shoring and, if requested by the Owner, submit details and calculations to the Owner. The Owner may forward the submittal to the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations in trench section or around structures shall precede a response to the submittal by the Owner.

D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the line, grade, or backfill compaction or operation of the utility being installed or adjacent utilities and facilities.

3.04 PIPE BEDDING

A. Accurately shape bedding material to the line and grade called for on the Plans. Carefully place and compact bedding material to the elevation of the bottom of the pipe in layers not exceeding 8-inches in loose thickness. Compact bedding material at optimum water content to 95% relative compaction unless specified otherwise on the. Compact by pneumatic tampers or other mechanical means. Jetting or ponding of bedding material will not be permitted.

3.05 WARNING TAPE

A. Install in accordance with Section 33 10 00 – Water Utilities.

3.06 BACKFILLING

A. Bring initial backfill up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Carefully place and compact initial backfill material to an elevation of 12-inches above the top of the pipe in layers not exceeding 8-inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the. Compact by pneumatic tampers or other mechanical means. Jetting or ponding of initial backfill material will not be permitted.

B. Bring subsequent backfill to subgrade or finish grade as indicated. Carefully place and compact subsequent backfill material to the proper elevation in layers not exceeding 8-inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction, unless specified otherwise on the Plans. Compact by pneumatic tampers or other mechanical means. Jetting or ponding of subsequent backfill material will not be permitted.

C. Do not use compaction equipment or methods that produce horizontal or vertical earth pressures that may cause excessive pipe displacement or damage the pipe.

3.07 CLEANUP

A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the Owner.

B. See Section 01 50 13 – Refer to Division 1 General Requirements for Cleaning and Waste Management for further cleanup requirements.

END OF SECTION

SECTION 31 31 19
VEGETATION CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Application of soil sterilant on subgrades for roadways, driveways, parking areas, walks, paths, trails and any other site improvements called for on the plans.

1.02 RELATED SECTIONS

A. Section 31 23 00 – Excavation and Fill.

1.03 RELATED DOCUMENTS

A. CAL/OSHA, Title 8.

1.04 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.

PART 2 - PRODUCTS

2.01 SOIL STERILANT

A. Commercial chemical for weed control, registered by EPA. Provide granular, liquid or wet-able powder form.

PART 3 - EXECUTION

3.01 SOIL STERILIZATION

A. Apply soil sterilant to areas indicated, such as beneath asphalt concrete pavement, brick pavement, concreter pavement and at grade concrete slabs, including sidewalks, curbs and gutters. Also where indicated apply soil sterilant below expansion and control joints and at areas where pipes, ducts or other features penetrate slabs.

B. Apply soil sterilant uniformly and at the rates recommended by the manufacturer.

C. Apply soil sterilant to prepared subgrade, or after installation of aggregate base as recommended by the manufacturer.

3.02 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

END OF SECTION

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SECTION 32 05 23
CONCRETE FOR EXTERIOR IMPROVEMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES
A. Materials for portland cement concrete.
B. Aggregate and aggregate grading for portland cement concrete.
C. Water for portland cement concrete.
D. Admixtures for portland cement concrete.
E. Proportioning for portland cement concrete.
F. Mixing and transporting portland cement concrete.
G. Formwork for cast in place portland cement concrete.
H. Embedded materials for portland cement concrete.
I. Steel reinforcement for portland cement concrete.
J. Placing and finishing portland cement concrete.
K. Curing portland cement concrete.
L. Protecting portland cement concrete.

1.02 RELATED DOCUMENTS
A. ASTM Standards
   1. A 1064, Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
   2. A 615, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
   3. C 94, Standard Specification for Ready-Mixed Concrete.
   4. C 114, Standard Test Methods for Chemical Analysis of Hydraulic Cement.
   5. C 150, Standard Specification for Portland Cement.
   6. C 618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
   7. D 1751, Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruded and Resilient Bituminous Types).
B. Caltrans Standard Specifications:
   1. Section 51: Concrete Structures.
   2. Section 73: Concrete Curbs and Sidewalks.
   3. Section 90-1: General section of Concrete section.
C. California Building Code:
   1. Chapter 11B – Accessibility To Public Buildings, Public Accommodations, Commercial Buildings and Public Housing.
   2. Chapter 19A – Concrete.
   3. Chapter 33 – Safeguards During Construction.

1.03 DEFINITIONS
A. ASTM: American Society for Testing and Materials.

1.04 SUBMITTALS
A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.
B. Design Mixes: Have all concrete mixes designed by a testing laboratory and approved by the Consulting Engineer. Conform all mixes to the applicable building code requirement, regardless of other minimum requirements listed herein or on the drawings. Submit mix

designs for review before use. Show proportions and specific gravities of cement, fine and coarse aggregate, and water and gradation of combined aggregates.

C. Reinforcing Steel Shop-Drawings

1.05 QUALITY ASSURANCE

A. Concrete shall be subject to quality assurance in accordance with Section 90 of the Standard Specifications.
   1. Slump tests: Have available, at job site, equipment required to perform slump tests. Make one slump test for each cylinder sample, from same concrete batch. Allowable maximum slump shall be 4 inches for walls and 3 inches for slabs on grade and other work.

B. Certifications:
   1. Provide Owner's Representative at the time of delivery with certificates of compliance signed by both Contractor and Supplier containing the following statements:
   2. Materials contained comply with the requirements of the Contract Documents in all respects.
   3. Proportions and mixing comply with the design mix approved by the Consulting Engineer. Design mix shall have been field tested in accordance with the herein requirements of the Caltrans Standard Specifications and produces the required compressive strength under like conditions.
   4. Statement of type and amount of any admixtures.
   5. Provide Owner's Representative, at time of delivery, with certified delivery ticket stating volume of concrete delivered and time of mixing, or time of load-out in case of transit mixers.

C. Conform to the applicable provisions of Section 51, 73 and 90 of the Caltrans Standard Specification and these Technical Specifications.
   1. Conform construction of portland cement concrete surface improvements (including curbs, gutters, medians, valley gutters, walks) to the requirements of Section 73 of the Caltrans Standard Specifications unless otherwise required in these Technical Specifications or shown on the Plans.
   2. Construct "V" ditches in accordance with Section 72-5.03 of the Standard Specifications; except that finishing shall be in accordance with Standard Specification Section 73 instead of 53, or as otherwise required in these Technical Specifications or shown on the Plans.
   3. Conform other construction of portland cement concrete items to the requirements of Section 51 of the Caltrans Standard Specifications unless otherwise required in these Technical Specifications or shown on the Plans.

D. Conform to the requirements of the California Building Code section 1910A.2 for testing of reinforcing bars.

1.06 DESIGNATION

A. General: Whenever the 28-day compressive strength is designated herein or on the plans is greater than 3,600 psi, the concrete shall considered to be designated by compressive strength. The 28-day compressive strength shown herein or on the plans which are 3,600 psi or less are shown for design information only and are not considered a requirement for acceptance of the concrete. Whenever the concrete is designated by class or as minor concrete herein or on the plans, the concrete shall contain the cement per cubic meter shown in section 90-1.01 of the Caltrans Standard Specifications.

B. Unless specified otherwise herein or on the Plans, Portland Cement Concrete for this Project shall be Class "2" as specified in the Caltrans Standard Specifications.

PART 2 - PRODUCTS

2.01 PORTLAND CEMENT

A. General: Type V or type II (modified) cement conforming to the requirements of ASTM C 150, with the following modifications:
   1. Cement shall not contain more than 0.60% by weight of alkalies, calculated as the percentage of Na_2O plus 0.658 times the percentage of K_2O when determined by either 4 intensity flame photometry or by the atomic absorption method. The instrument and procedure used shall be qualified as to precision and accuracy in accordance with the requirements of ASTM C 114.
   2. The autoclave expansion shall not exceed 0.50%.
   3. Mortar containing the Portland Cement to be used and the sand, when tested in accordance with Test Method No. Calif. 527, shall not expand in water more than 0.010% and shall have an air content less than .048%.
   4. Allowable tri-calcium Aluminate (C_3A) by weight shall not exceed 5%. Allowable tetracalcium alumino ferrite plus twice the tricalcium aluminate (C_4AF+2C_3A) by weight shall not exceed 25%. The sulfate expansion test (ASTM C 452) may be used in lieu of the above chemical requirements, provided the sulfate expansion does not exceed 0.040% at 14 days (max.).
   5. Contractor may substitute pozzolan for Portland Cement in amounts up to 15% of the required mix unless high early strength concrete is specified. Pozzolan shall consist of Class F Fly Ash meeting the requirements of ASTM C 618.

B. Cement for Surface Improvements: Provide a coloring equivalent to ¼ pound of lampblack per cubic yard. Add to the concrete at the central mixing plant.

C. Liquiblack, as supplied by Concrete Corporation of Redwood City, California, may be used in lieu of lampblack. One pint of liquiblack shall be considered equal to one pound of lampblack.

2.02 AGGREGATE AND AGGREGATE GRADING

A. General: Conform to the requirements of Section 90-1.02C(1), 1.02C(2) and 1.02C(3) of the Caltrans Standard Specifications.

B. Aggregate Size and Gradation: Conform to the requirements of section 90-3 of the Caltrans Standard Specifications for 25-mm (1-inch) maximum combined aggregate.

2.03 WATER

A. General: Conform to the requirements of section 90-1.02D of the Caltrans Standard Specifications, for mixing and curing portland cement concrete and for washing aggregates.

2.04 CLASSIFICATION OF PORTLAND CEMENT CONCRETE

A. Concrete for the following items shall be designated by the following classes per Section 90-1.01 of the Caltrans Standard Specifications:
   1. Vehicular Pavement: Class 2.
   2. Curbs, Gutters, and Sidewalks: Minor Concrete.
   3. Cast in place Concrete Pipe: The concrete shall consist of a minimum of 564 pounds of Portland cement per cubic yard of concrete.
   4. Thrust Blocks: The concrete shall have a minimum compressive strength of 3,000 psi.
   5. Sign and Fence Footings: The concrete shall consist of a minimum of 376 pounds of Portland cement per cubic yard of concrete.
   6. Water, Storm, and Sanitary Structures: The concrete shall consist of a minimum of 564 pounds of Portland cement per cubic yard of concrete.

2.05 EXPANSION JOINT MATERIAL

A. Material for expansion joints in portland cement concrete improvements shall be premolded expansion joint fillers conforming to the requirements of ASTM Designation D 1751. Expansion joint material shall be shaped to fit the cross section of the concrete prior to being placed. Suppliers certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site. Unless noted otherwise herein or on the Plans expansion joint thickness shall be as follows:
   1. Curbs, Curb Ramps, Island Paving, Sidewalks, Driveways and Gutter Depressions: ¼-inch.
   2. Concrete Slope Protection, Gutter Lining, Ditch Lining and Channel Lining: ½-inch.
   3. Structures: As indicated.

2.06 REINFORCEMENT AND DOWELS

A. Bar reinforcement for concrete improvements shall be deformed steel bars of the size or sizes called for on the plans conforming to the requirements of ASTM Designation A 615 for Grade 60 bars. Size and shape for bar reinforcement shall conform to the details shown or called for on the Plans. Substitution of wire mesh reinforcement for reinforcing bars will not be allowed.

B. Slip dowels, where noted or called for on the plans or detail drawings shall be smooth billet-steel bars as designated and conforming to the requirements of ASTM Designation A 615 for Grade 60 bars. Ends of bars inserted in new work shall be covered with a cardboard tube sealed with cork; no grease or oil shall be used.

C. Mesh for reinforcement for concrete improvements shall be cold drawn steel wire mesh of the size and spacing called for on the plans conforming to the requirements of ASTM Designation A 1064 for the material and mesh. Size and extent of mesh reinforcement shall conform to the details shown or called for on the plans.

D. Tie wire for reinforcement shall be eighteen (18) gauge or heavier, black, annealed conforming to the requirements of ASTM Designation A 1064.

E. Suppliers certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site.

2.07 COLOR AND PATTERN FOR DECORATIVE SURFACES

A. Colors for decorative surfacing shall be CHROMIX admixtures as manufactured by the L. M. Scofield Company, Schedule A-312.05 or approved equal. The specific color shall be as designated or called for on the Plans.

B. Patterns for decorative surfacing shall be standard "Bomanite" patterns as copyrighted by the Bomanite Corporation of Palo Alto, California or equal. The specific pattern shall be as designated or called for on the Plans.

2.08 ACCESSORY MATERIALS

A. Conform water stops and other items required to be embedded in of Portland Cement Concrete structures to the applicable requirements of Section 51 of the Caltrans Standard Specifications unless otherwise specifically noted or called for on the Plans or detail drawings.

B. Curing Compounds:
   1. Regular Portland Cement Concrete: "Non-Pigmented Curing Compound - chlorinated Rubber Base-Clear" conforming to the requirements contained in Section 90-1.03B(3), of the Caltrans Standard Specifications.
   2. Color Conditioned Decorative Portland Cement Concrete: LITHOCHROME colorwax as manufactured by the L. M. Scofield Company or approved equal.

2.09 FORMS

A. Conform to the requirements of Section 51-1.03C(2) of the Caltrans Standard Specifications.

2.10 PRECAST CONCRETE STRUCTURES

A. Conform to the following Sections of Caltrans Standard Specifications:
   1. 51-7, Minor Structures.
   2. 70-5.02, Flared End Sections.
   3. 70-1.02H, Precast Concrete Structures.

2.11 PORTLAND CEMENT CONCRETE VEHICULAR PAVEMENT

A. General: See Section 32 13 00 – Rigid Paving.

PART 3 - EXECUTION

3.01 STRUCTURAL EXCAVATION

A. Structural excavation may be either by hand, or by machine and shall be neat to the line and dimension shown or called for on the plans. Excavation shall be sufficient width to provide adequate space for working therein, and comply with CAL-OSHA requirements.
B. Where an excavation has been constructed below the design grade, refill the excavation to the bottom of the excavation grade with approved material and compact in place to 95% of the maximum dry density.
C. Remove surplus excavation material remaining upon completion of the work from the job site, or condition it to optimum moisture content and compact it as fill or backfill on the site.

3.02 SOIL STERILANT

A. Furnish and apply to areas indicated in accordance with Section 31 31 19 – Vegetation Control.

3.03 BRACING AND SHORING

A. Conform to California and Federal OSHA requirements.
B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
C. Be solely responsible for all bracing and shoring and, if requested by the Owner's Representative, submit details and calculations to the Owner's Representative. The Owner's Representative may forward the submittal to the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the Owner's Representative.
D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the position or operation of the facility being constructed or adjacent utilities and facilities.

3.04 PLACING CONCRETE FORMS

A. Form concrete improvements with a smooth and true upper edge. Side of the form with a smooth finish shall be placed next to concrete. Construct forms rigid enough to withstand the pressure of the fresh concrete to be placed without any distortion.
B. Thoroughly clean all forms prior to placement and coat forms with an approved form oil in sufficient quantity to prevent adherence of concrete prior to placing concrete.

C. Carefully set forms to the alignment and grade established and conform to the required dimensions. Rigidly hold forms in place by stakes set at satisfactory intervals. Provide sufficient clamps, spreaders and braces to insure the rigidity of the forms.
D. Provide forms for back and face of curbs, lip of gutters and edge of walks, valley gutters or other surface slabs that are equal to the full depth of the concrete as shown, noted or called for on the Plans. On curves and curb returns provide composite forms made from benders or thin planks of sufficient ply to ensure rigidity of the form.

3.05 PLACING STEEL REINFORCEMENT

A. Bars shall be free of mortar, oil, dirt, excessive mill scale and scabby rust and other coatings of any character that would destroy or reduce the bond. All bending shall be done cold, to the shapes shown on the plans. The length of lapped splices shall be as follows:
   1. Reinforcing bars No. 8, or smaller, shall be lapped at least 45 bar diameters of the smaller bar joined, and reinforced bars Nos. 9, 10, and 11 shall be lapped at least 60 bar diameters of the smaller bars joined, except when otherwise shown on the plans.
   2. Splice locations shall be made as indicated on the plans.
B. Accurately place reinforcement as shown on the plans and hold firmly and securely in position by wiring at intersections and splices, and by providing precast mortar blocks or ferrous metal chairs, spacers, metal hangers, supporting wires, and other approved devices of sufficient strength to resist crushing under applied loads. Provide supports and ties of such strength and density to permit walking on reinforcing without undue displacement.
C. Place reinforcing to provide the following minimum concrete cover:
   1. Surfaces exposed to water: 4-inches.
   2. Surfaces poured against earth: 3-inches.
   3. Formed surfaces exposed to earth or weather: 2-inches.
   4. Slabs, walls, not exposed to weather or earth: 1-inch.
D. Minimum spacing, center of parallel bars shall be two and one half (2-1/2) times the diameter of the larger sized bar. Accurately tie reinforcing securely in place prior to pouring concrete. Placing of dowels or other reinforcing in the wet concrete is not permitted.

3.06 MIXING AND TRANSPORTING PORTLAND CEMENT CONCRETE

A. Transit mix concrete in accordance with the requirements of ASTM Designation C 94. Transit mix for not less than ten (10) minutes total, not less than three (3) minutes of which shall be on the site just prior to pouring. Mix continuous with no interruptions from the time the truck is filled until the time it is emptied. Place concrete within one hour of the time water is first added unless authorized otherwise by the Owner's Representative.
B. Do not hand mix concrete for use in concrete structures.

3.07 PLACING PORTLAND CEMENT CONCRETE

A. Thoroughly wet subgrade when concrete is placed directly on soil. Remove all standing water prior to placing concrete.
B. Do not place concrete until the subgrade and the forms have been approved.
C. Convey concrete from mixer to final location as rapidly as possible by methods that prevent separation of the ingredients. Deposit concrete as nearly as possible in final position to avoid re-handling.
D. Place and solidify concrete in forms without segregation by means of mechanical vibration or by other means as approved by the Owner's Representative. Continue vibration until the material is sufficiently consolidated and absent of all voids without causing segregation of material. The use of vibrators for extensive shifting of fresh concrete will not be permitted.

E. Concrete in certain locations may be pumped into place upon prior approval by the Owner's Representative. When this procedure requires redesign of the mix, such redesign shall be submitted for approval in the same manner as herein specified for approval of design mixes.

3.08 PLACING ACCESSORY MATERIALS

A. Place water stops and other items required to be embedded in of portland cement concrete structures at locations shown or required in accordance with Section 51 of the Caltrans Standard Specifications unless otherwise specifically noted or called for on the Plans.
B. Curing Compounds:
   1. Regular Portland Cement Concrete: Apply "Non-Pigmented Curing Compound - chlorinated Rubber Base-Clear" in accordance with Section 90-1.03B(3), 1.03B(5) and 1.03B of the Caltrans Standard Specifications.
   2. Color Conditioned Decorative Portland Cement Concrete: Apply LITHOCHROME colorwax in accordance with the manufactures instructions.

3.09 EXPANSION JOINTS

A. Construct expansion joints incorporating premolded joint fillers at twenty (20) foot intervals in all concrete curbs, gutters, sidewalks, median/island paving, valley gutters, driveway approaches and at the ends of all returns. At each expansion joint install one-half inch by twelve inch (1/2" x 12") smooth slip dowels in the positions shown or noted on the detail drawings.
B. Orient slip dowels at right angles to the expansion joint and hold firmly in place during the construction process by means of appropriate chairs.

3.10 WEAKENED PLANE JOINTS

A. Construct weakened plane joints in concrete curbs, gutters, sidewalks, median/island paving and valley gutters between expansion joints at ten (10) foot intervals throughout, or as otherwise indicated. Depth of joint score depth to be one-fourth (25%) the thickness of the concrete.
   1. Grooved Joints: Form weakened plane joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8-inch. Repeat grooving of weakened plane joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

3.11 FINISHING CONCRETE

A. Finish curb and gutter in conformance with the applicable requirements of Section 73-1.03C and 73-1.05A of the Caltrans Standard Specifications as modified herein.
B. Where monolithic curb, gutter and sidewalk is specified, separate concrete pours will not be allowed.
C. Provide a medium broom finish to all horizontal surfaces unless otherwise shown.

3.12 FORM REMOVAL

A. Remove forms without damage to the concrete. Remove all shores and braces below the ground surface, before backfilling.
B. Do not backfill against concrete until the concrete has developed sufficient strength to prevent damage.
C. Leave forms for cast-in-place walls in place at least 72 hours after pouring.
D. Leave edge forms in place at least 24 hours after pouring.

3.13 CONSTRUCTION

A. Form, place and finish concrete walkways, island paving, valley gutters and driveway approaches in conformance with the applicable requirements of Section 73-1.03C and 73-3 of

the Caltrans Standard Specifications as modified herein.

B. Construct new concrete curb, curb and gutter and valley gutters against existing asphalt concrete by removing a minimum of 12-inches of the asphalt concrete to allow placement of curb or gutter forms. Patch pavement with a 6-inch deep lift of asphalt concrete after gutter form is removed.

3.14 CONNECTING TO EXISTING CONCRETE IMPROVMENTS

A. New curb, gutter, or sidewalk is to connect to existing improvements to remain by saw cutting to existing sound concrete at the nearest score line, expansion joint or control joint. Drill and insert ½-inch diameter by 12-inch long dowels at 24-inches on center into existing improvements. Install pre-molded expansion joint filler at the matching joint.

B. A cold joint to the existing curb is not acceptable.

3.15 DECORATIVE SURFACING CONSTRUCTION

A. Decorative surfacing concrete walks, concrete median islands or other installations shall be formed and placed as a concrete slab conforming to the details shown or noted on the Plans.

3.16 FIELD QUALITY CONTROL

A. Finish subgrade for concrete improvements shall be subject to approval prior to placement of forms.

B. No concrete shall be placed prior to approval of forms.

C. Concrete improvements constructed shall not contain "bird baths" or pond water and shall be smooth and ridge free.

D. Conform the finish grade at top of curb, flow line of gutter, and the finish cross section of concrete improvements to the design grades and cross sections.

E. Variation of concrete improvements from design grade and cross section as shown or called for on the plans shall not exceed the tolerances established in Sections 73-1.03 and/or 73-3 of the Caltrans Standard Specifications.

3.17 RESTORATION OF EXISTING IMPROVEMENTS

A. Replace in kind all pavement or other improvements removed or damaged due to the installation of concrete improvements.

B. Remove, landscaping or plantings damaged or disturbed due to the installation of concrete improvements. Replace in kind.

END OF SECTION

SECTION 32 11 00
BASE COURSES

PART 1 - GENERAL

1.01 SECTION INCLUDES
A. Aggregate subbase.
B. Aggregate base.
C. Cement treated base.
D. Lime stabilization.

1.02 RELATED DOCUMENTS
A. ASTM:
   1. D 3740, Standard Practice for Minimum Requirement for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
   2. E 329, Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
   3. E 548, Standard Guide for General Criteria Used for Evaluating Laboratory Competence.
B. Caltrans Standard Specifications:
   1. Section 24-2, Lime Stabilized Soil.
   2. Section 25, Aggregate Subbases.
   3. Section 26, Aggregate Bases.
   4. Section 27, Cement Treated Bases.

1.03 DEFINITIONS
A. Geotechnical Testing Agency: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock definition testing, as documented according to ASTM D 3740 and ASTM E 548.
B. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material ¾-cubic yards or more in volume that when tested, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2-inches.
C. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below grade.
D. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials.

1.04 SUBMITTALS
A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.
B. Submit material certificates signed by the material producer and the Contractor, certifying that that each material item complies with, or exceeds the specified requirements.

1.05 QUALITY ASSURANCE
A. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.
B. Do not mix or place cement treated base when the temperature is below is below 36 degrees F or when the ground is frozen.
C. Finish surface of material to be stabilized prior to lime treatment shall be as specified in Section 24-2.01D(1)(a) of Caltrans Standard Specifications.

D. Finish surface of the stabilized material after lime treatment shall be as specified in Section 24-2.03F of Caltrans Standard Specifications.
E. Finish surface of cement treated base shall be as specified in Section 27 of Caltrans Standard Specifications.
F. Do not project the finish surface of aggregate subbase above the design subgrade.
G. Finish grade tolerance at completion of base installation: +0.05'

1.06 PROJECT CONDITIONS

A. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
B. Temporarily stockpile material in an orderly and safe manner and in a location approved by the Owner.
C. Provide dust and noise control in conformance with Division 1 General Requirements.

PART 2 - PRODUCTS

2.01 AGGREGATE SUBBASE

A. Material: Caltrans Standard Specification Section 25.
   1. Class 1, 2, or 3: Section 25-1.02B.
   2. Class 4: Section 25-1.02C.
   3. Class 5: Section 25-1.02D.

2.02 AGGREGATE BASE

A. Material: Caltrans Standard Specification Section 26.
   1. Class 2, 1-1/2-inch Maximum: Section 26-1.02B.
   2. Class 2, 3/4-inch Maximum: Section 26-1.02B.
   3. Class 3: Section 26-1.02C.

2.03 CEMENT TREATED BASE

A. Materials: Caltrans Standard Specification Section 27-1.02.

2.04 LIME STABILIZATION

A. Lime Treatment Material: Conform to Section 24-2.03B and 24-2.03C of Caltrans Standard Specifications.

PART 3 - EXECUTION

3.01 GENERAL

A. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.

3.02 WET WEATHER CONDITIONS

A. Do not place or compact subgrade if above optimum moisture content.

3.03 AGGREGATE SUBBASE

A. Spreading and Compacting: Sections 25-1.03D and 25-1.03E of Caltrans Standard Specifications.

3.04 AGGREGATE BASE

A. Spreading and Compacting: Section 26-1.03D and 26-1.03E of Caltrans Standard Specifications.

3.05 CEMENT TREATED BASE

A. Cement treated base shall be as follows: Proportioning and Mixing Plant-Mixed: Section 27-1.03D of Caltrans Standard Specifications.

3.06 LIME STABILIZATION

A. Performing the stabilization shall conform to Section 24-2.03C through 24-2.03F of Caltrans Standard Specifications and the following:
   1. Add lime in the amount specified by a Geotechnical Consultant.
   2. Lime treat subgrade soils from back of curb to back of curb to a depth specified by a Geotechnical Consultant.
   3. Mix in two mixing periods, both with the tines lowered to the same depth. Both mixing periods shall be monitored and verified by a Geotechnical Consultant. The second mixing shall occur at about 36 hours after the initial mixing.
   4. Compact and grade the lime mixed subgrade immediately after the second mixing.
   5. Compact the lime treated subgrade to 95 percent as determined by ASTM D1557.
   6. After application of the curing seal, do not allow traffic on the lime treated material for a period of 7 days in lieu of the 3 days specified in Section 24-2.03A of Caltrans Standard Specifications.
   7. Proof-roll the stabilized subgrade after compacting to confirm that a non-yielding surface has been achieved. Yielding areas, if any, shall be mitigated. Mitigation could consist of over-excavation, utilization of stabilization fabric, or chemical treatment. Each case shall be addressed individually in the field by a Geotechnical Consultant.

3.07 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

END OF SECTION

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SECTION 32 12 00
FLEXIBLE PAVING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Prime coat.
B. Tack coat.
C. Asphaltic concrete paving.
D. Asphaltic concrete overlay and slurry seals.
E. Speed bumps.
F. Asphalt curbs.
G. Pavement grinding.

1.02 RELATED DOCUMENTS

A. ASTM:

1. D 979: Standard Practice for Sampling Bituminous Paving Mixtures.
2. D 1073: Standard Specification for Fine Aggregate for Asphalt Paving Mixtures.
3. D 1188: Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples.
4. D 2041: Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.
5. D 2726: Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Asphalt Mixtures.
6. D 2950: Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods.
7. D 3549: Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
8. D 3666: Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Mixtures.

B. Caltrans Standard Specifications.

1. Section 37: Bituminous Seals.
2. Section 39: Asphalt Concrete.
3. Section 96: Geosynthetics.
4. Section 92: Asphalt Binders.
5. Section 94: Asphaltic Emulsions.

C. California Building Code:
1. Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings, and Public Housing.
2. Section 1127B – Exterior Routes of Travel.

1.03 DEFINITIONS

A. ASTM: American Society for Testing Materials.

1.04 QUALITY ASSURANCE

A. Testing Agency: Owner will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.

1. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.

B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
C. Thickness of Asphaltic Concrete: In-place compacted thickness of asphalt courses will be determined according to ASTM D 3549.
D. Surface Smoothness: Finished surface of each asphalt course will be tested for compliance with smoothness tolerances.
E. In-Place Density: Samples of uncompacted paving mixtures and compacted pavement will be secured by testing agency according to ASTM D 979.

1. Reference maximum theoretical density will be determined by averaging results from 4 samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
2. In-place density of compacted pavement may be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.

(a) One core sample may be taken for every 1000 sq. yd. or less of installed pavement, but in no case will fewer than 3 cores be taken.
(b) Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

1.05 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.
B. Job-Mix Designs: Certificates signed by manufacturers certifying that each asphaltic concrete mix complies with requirements.
C. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.

1.06 PROJECT CONDITIONS

A. Environmental Limitations:

1. Prime Coat: Minimum surface temperature of 60 deg F at application.
2. Tack Coat: Minimum surface temperature of 60 deg F at application.
3. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at application.
4. Asphalt Surface Course: Minimum surface temperature of 60 deg F at application.
5. Reinforcing Fabric: Air temperature is 50 deg F and rising and pavement temperature is 40 deg F and rising.

PART 2 - PRODUCTS

2.01 ASPHALTIC CONCRETE

A. Caltrans Standard Specifications Section 39, Type B.
B. Asphalt Materials:

1. Asphalt: Caltrans Standard Specification Section 92, steam refined paving asphalt.
   (a) Asphalt Curbs: use grade PG 70-10
   (b) All other asphalt products: use grade PG 64-10.
2. Prime Coat: Caltrans Standard Specification Section 93, SC-70.
3. Tack Coat: Caltrans Standard Specification Section 94, SS1.
4. Asphaltic Emulsion: Caltrans Standard Specification Section 94, quick-setting type, Grade QS1h anionic or CQS1h cationic.

C. Aggregates: Conform to Caltrans Standard Specification Sections 37-3.02B(2) and 39-2.02 as applicable.
D. Storing, Proportioning and Mixing Materials: Caltrans Standard Specification Section 39-3.
E. Pavement Reinforcing Fabric: Caltrans Standard Specification Section 96.
F. Sand: ASTM D 1073, Grade No. 2 or 3.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
C. Notify Owner in writing of any unsatisfactory conditions. Do not begin paving until these conditions have been satisfactorily corrected.

3.02 PAVEMENT GRINDING

A. Clean existing paving surface of loose or deleterious material immediately before pavement grinding.
B. Grind conforms as indicated.

3.03 SOIL STERILANT

A. Furnish and apply to areas indicated in accordance with Section 31 31 19 – Vegetation Control.

3.04 SURFACE PREPARATION FOR AGGREGATE BASE MATERIALS

A. General: Immediately before placing asphalt materials remove loose and deleterious material from substrate surfaces and ensure that prepared subgrade is ready to receive paving according to the Caltrans Standard Specification Section 39-4.01.
B. Prime Coat: Apply uniformly over surface of compacted-aggregate base according to the Caltrans Standard Specification Section 39-4.02. Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure for 24 hours minimum.

1. If prime coat is not entirely absorbed within 8 hours after application, spread excess prime coat with hand tools and broadcast sand over surface to blot excess asphalt. Use just enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
2. Protect primed substrate from damage until ready to receive paving.

C. Tack Coat: Apply uniformly to all vertical surfaces against which asphaltic concrete is to be placed, including existing surfaces of previously constructed asphalt or portland cement concrete paving and to surfaces abutting or projecting into new asphalt pavement, according to the Caltrans Standard Specification Section 39-4.02.

1. Allow tack coat to cure undisturbed before paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.05 SURFACE PREPARATION FOR PAVEMENT AT ASPHALTIC CONCRETE OVERLAYS AND SLURRY SEALS

A. Pavement Irregularities: Level with asphaltic concrete, Type B, No. 4 maximum.
B. Pavement Cracks:

1. Less than 1/8-inch wide: Clean of all dirt by compressed air jet, spray and seal with RS-1 asphaltic emulsion.
2. Wider than 1/8-inch: Clean of all dirt by compressed air jet, spray and seal with RS-1 asphaltic emulsion and skin patch.

C. Clean surface of all material, such as leaves, dirt, sand, gravel, water and vegetation including roots prior to applying binder of paving asphalt to existing surface.
D. Oil spots shall be removed with brush and detergents and covered with Oil Spot Sealer by OverKote or an equal product.
E. Prior to first application in exceptionally hot weather, dampen surface with water. Remove excess water and leave surface slightly damp.

3.06 APPLYING ASPHALT PAVEMENT OVERLAYS AND SLURRY SEALS

A. Use OverKote Asphalt Pavement Coating or equal product.
B. Apply at a rate of 25 gallons per 1,000 sf of surface area.
C. Follow all manufacturers' recommendations for preparation and applications procedure of the products used.
D. Apply second coat as soon as first coat is dry.

3.07 PAVEMENT REINFORCING FABRIC

A. Protect from exposure to ultraviolet rays until placed.
B. Reject rolls with broken or damaged cores, or factory wrinkled fabric that prevents wrinkle free placement.
C. Place with binder of paving asphalt in accordance with Section 39-4.03 of Caltrans Standard Specifications.

3.08 ASPHALTIC CONCRETE SPREADING AND COMPACTING EQUIPMENT

A. Spreading Equipment: Caltrans Standard Specification Section 39-5.01.
B. Compaction Equipment: Caltrans Standard Specification Section 39-5.02.

3.09 ASPHALTIC CONCRETE PLACEMENT

A. Place, spread and compact asphaltic concrete to required grade, cross section, and thickness according to the Caltrans Standard Specification Sections 39-6.01, 39-6.02 and 39-6.03.
B. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.10 JOINTS

A. Construct joints to ensure continuous bond between adjoining paving sections according to the Caltrans Standard Specification Sections 39-6.01 and 39-6.02.

    1. Construct joints free of depressions with same texture and smoothness as other sections of asphalt course.
    2. Clean contact surfaces and apply tack coat.
    3. Offset longitudinal joints in successive courses a minimum of 6 inches.
    4. Offset transverse joints in successive courses a minimum of 24 inches.
    5. Compact joints as soon as asphaltic concrete will bear roller weight without excessive displacement.

3.11 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact according to the Caltrans Standard Specification Sections 39-6.01 and 39-6.03.
B. Compaction Requirements: Average Density to be 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.
C. Finish Rolling: Finish roll paved surfaces to remove roller marks while asphalt is still warm.
D. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
E. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh asphalt. Compact by rolling to specified density and surface smoothness.
F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.12 ASPHALT CURBS

A. Construction: Place over compacted surfaces according to Caltrans Standard Specification Section 39-7.01 as specified for dikes. Apply a light tack coat prior to construction, unless pavement surface is still tacky and free of dust.
B. Shape: Place asphaltic concrete to curb cross section indicated.

3.13 SPEED BUMPS

A. Construct speed bumps over compacted pavement surfaces according to Caltrans Standard Specification Section 39-6. Apply a light tack coat prior to construction, unless pavement surface is still tacky and free of dust.
B. Place asphaltic concrete by hand using a template/screed designed to result in speed bump cross-section indicated after compaction.
C. Compact speed bumps with 8-ton static roller.

3.14 INSTALLATION TOLERANCES

A. Asphalt Pavement:

1. Course thickness and surface smoothness within the tolerances in the Caltrans Standard Specification Sections 39-6.01, 39-6.02 and 39-6.03.
2. Total Thickness: Not less than indicated.

B. Trench Patch:

1. Compacted surface: Within 0.01 foot of adjacent pavement.
2. Do not create ponding.

END OF SECTION

SECTION 32 12 33 – PAVING COLORED SURFACING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

B. Asphalt paving shall be installed in conformance with specification section 32 12 00

1.02 DESCRIPTION OF WORK:

A. Extent of asphalt surface treatment work is shown on drawings.

1.03 QUALITY ASSURANCE:

A. Applicator Qualifications: Work performed in accordance with this section shall be performed by an installer accredited and or certified by the surfacing material manufacturer and installer shall submit proof of successful completed installations of similar size projects, installed in the local area of this project with similar scope of work and complexity.

1.04 SUBMITTALS:

A. Product Data: Include material descriptions, finishes and color chart.

B. Accreditation Certificate for applicator.

1.05 SITE CONDITIONS:

A. For new asphalt paving, Contractor shall review asphalt paving to receive surface treatment and verify the asphalt is free of defects and structurally stable. Notify Owner's Representative prior to proceeding with surface treatment to make necessary repairs.

B. For new asphalt paving, the surface shall be dry and free from all foreign matter, including, but not limited to dirt, dust, de-icing materials, and chemical residue. Notify Owner's Representative prior to proceeding with surface treatment to make necessary repairs.

C. For existing asphalt paving, Contractor shall review the asphalt does not contain any defects including cracks, ruts or potholes nor demonstrate any flushing, raveling or like deficiencies. Notify Owner's Representative prior to proceeding with surface treatment to make necessary repairs.

D. For existing asphalt paving, Contractor shall review the surface conditions prior to placing bid. Bid shall include removal of existing pavement markings by sand-blasting, water-blasting, grinding, or other approved mechanical methods. The removal shall, to the fullest extent possible, cause no significant damage to the pavement surface. Obtain approval from Owner's Representative in writing if the removal of surface markings is satisfactory. Work shall not proceed until this approval is granted.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Asphalt Paving Colored Surfacing shall be a product formulated to provide a balance of performance properties for a durable, long-lasting, color and a texture finish for asphalt pavement surfaces. Properties of asphalt paving colored surfacing shall include wear and crack resistance, color retention, adhesion, minimal water absorption and increased friction properties. Asphalt paving colored surfacing shall be environmentally safe and meet EPA requirements for Volatile Organic Compounds (VOC).

B. Manufacturer: Asphalt Paving Colored Surfacing shall be Streetbond, 150, SR and/or CL as indicated on drawing or equal. Contact Streetbond at www.streetbond.com, or contact streetbond certified local installer.

C. Asphalt Paving Colored Surfacing shall meet or exceed the following:

Table 1: Typical Physical Properties of Colored Surfacing:

Characteristic	Test Specifications	Analysis
Solids by Volume	ASTM D-2697	55%
Solids by Weight	ASTM D-2369	68.9%
Density	ASTM D-1475	13.34 lbs/gal (1.599 kg/l)

Table 2: Typical Performance Properties of Colored Surfacing:

Characteristic	Test Specifications	Analysis
Dry time (to re-coat)	ASTM D-5895	35 minutes
Taber Wear Abrasion Dry H-10 Wheel	ASTM D-4060 1 day cure	0.98 g/1000 cycles
Taber Wear Abrasion Wet H-10 Wheel	ASTM D-4060 7 days cure	3.4 g/1000 cycles
Hydrophobicity Water Absorption	ASTM D-570	8.3% (9 days immersion)
Shore Hardness	ASTM D-2240	63 Type D
Mandrel Bend	ASTM D522-93A	¼" @ 21˚C
Permeance	ASTM D1653	3.45 g/m²/hr
Adhesion to Asphalt	ASTM D-4541	Substrate Failure
Friction Wet	ASTM E-303	WP* coated 64 WP* uncoated 57 AC** coated 73 AC** uncoated 60
For Streetbond SR only:		
QUV E Accel. Weathering Environment.	ASTM G-155 2,000 hours (CIE Units)	ΔE = 0.49 (brick color)

VOC	Per MSDS	18.7 g/l
For Streetbond CL only:		
Accelerated Weathering Environment	ASTM G-155 2,000 hours (CIE Units)	ΔE = 0.49 (brick color)
VOC	Per MSDS	23 g/l
For Streetbond 150 only:		
Weathering Environment.	E 1,500 hours	
VOC	Per MSDS	23 g/l

*WP - test conducted on asphalt pavement in wheel path.
**AP – test conducted on asphalt pavement adjacent to curb.

D. Equipment for Colored Surfacing Application: Contractor shall execute work using equipment designed specifically for optimal application of colored surfacing. Contractor shall not use equipment not suitable for this application which may compromise the performance of the coatings.

1. Rapid Sprayer II/or equal: a coating sprayer supplied by colored surfacing manufacturer capable of applying the colored surfacing to the asphalt pavement surface in a thin, controlled film which will optimize the drying and curing time of coating.
2. Coatings Mixer: a motorized device designed to ensure efficient and thorough blending of the colored surfacing components.
3. Rapid Finisher II/or equal: an electric powered broom supplied by the manufacturer for use in applying the colored surfacing.

PART 3 - EXECUTION

3.01 GENERAL:

A. Asphalt Paving Colored Surfacing shall be supplied and applied on non-textured asphalt surfaces by a manufacturer Accredited or Certified Applicator in accordance with the plans and specifications.

3.02 COATINGS:

A. Layers shall be applied consistent with very low vehicular traffic wear rates. Streetbond application shall be a minimum of 3 layers.

3.03 COATING APPLICATION:

A. The applicator shall use Rapid Sprayer II (or equal) to apply the colored surfacing coatings.

B. The asphalt pavement surface shall be completely dry and thoroughly cleaned prior to application of coatings.

C. The first layer of coating shall be spray applied then broomed to work the coating material into the pavement surface. Subsequent applications shall be sprayed then broomed or rolled. Each application of coating material shall be allowed to dry to the touch before applying the next layer.

D. The applicator shall apply the colored surfacing only when the air temperature is 50ºF and rising and will not drop below 50ºF within 24 hours of application. No precipitation should be expected within 24 hours.

3.04 COATING COVERAGE AND THICKNESS

A. The following minimum coverage and thicknesses are recommended as follows for a three layer system:

Coverage	Thickness Wet	Thickness Dry
225 SF/pail	.65 mm and 25.7 mil	.36 mm and 14.1 mil

3.05 OPENING TO TRAFFIC

A. Minimally, the surface coating shall be 100% dry before traffic is permitted. Drying time may vary between one to five hours depending on the weather.

END OF SECTION 32 12 33

SECTION 32 13 00
RIGID PAVING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Furnishing, placing, spreading, compacting and shaping portland cement concrete pavement with undoweled transverse weakened plane joints, for vehicular traffic.

B. Form construction and use in placing portland cement concrete pavement.

C. Joints for portland cement concrete pavement.

D. Finishing portland cement concrete pavement.

E. Curing and protecting portland cement concrete pavement.

1.02 RELATED DOCUMENTS

A. AASHTO Standard Specifications

1. T 53: Standard Method of Test for Softening Point of Bitumen (Ring-and-Ball Apparatus).

B. ASTM Standards

1. A 615: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

2. A 775: Standard Specification for Epoxy-Coated Steel Reinforcing Bars.

3. A 934: Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.

4. C 881: Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.

5. D 2628: Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements.

6. D 2835: Standard Specification for Lubricant for Installation of Preformed Compression Seals in Concrete Pavements.

7. D 6690: Standard Specification for Joint and Crack Sealants, Hot-Applied , for Concrete and Asphalt Pavements.

8. D 3963: Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars.

C. Caltrans Standard Specifications:

1. Section 40, Concrete Pavement.

2. Section 52, Reinforcement.

3. Section 90, Concrete.

4. Section 95, Epoxy.

D. Caltrans Standard Plans:

1. Plan A35A: Portland Cement Concrete Pavement (Undoweled Transverse Joints).

2. Plan A35C: Portland Cement Concrete Pavement Joint and End Anchor Details.

1.03 DEFINITIONS

A. AASHTO: American Association of State Highway and Transportation Officials.

B. ASTM: American Society for Testing and Materials.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

1. Manufacturer must be certified according to the National Ready Mix Concrete Plant Certification Program.

B. Installer Qualification: An experienced installer who has completed pavement work similar in material, design and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.

1.05 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.

B. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results or other circumstances warrant adjustments.

C. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements.

1. Cementitious materials and aggregates.

2. Steel reinforcement and reinforcement accessories.

3. Admixtures.

4. Curing compound.

5. Applied finish material.

6. Bonding agent of adhesive.
7. Joint filler.
8. Joint Sealant.
9. Tie Bars.
10. Epoxy.
11. Backer Rods.

PART 2 - PRODUCTS

2.01 PORTLAND CEMENT CONCRETE

A. General: Conform to Caltrans Standard Specifications, Section 90. Use Class 2 Concrete.

2.02 TIE BARS

A. Deformed reinforcing steel bars conforming to the requirements of ASTM Designation A 615/A (615M), Grade 40 or 60 (Grade 300 or 420).

B. Epoxy-coat in conformance with the provisions in Section 52-2.02 of Caltrans Standard Specifications, except that references made to ASTM Designation D 3963/D 3963M shall be deemed to mean ASTM Designation A 934/A 934M or A 775/775M.

C. Do not bend tie bars.

2.03 EPOXY

A. Bond tie bars to existing concrete with epoxy resin conforming to Section 95-1.02D, "Epoxy Resin Adhesive for Bonding Freshly Mixed Concrete to Hardened Concrete," of the Caltrans Standard Specifications.

2.04 SILICONE JOINT SEALANT

A. Furnish low modulus silicone joint sealant in a one-part silicone formulation. Do not use acid cure sealants. Compound to be compatible with the surface to which it is applied and conform to the following requirements:

Specification	Test Method	Requirement
Tensile stress, 150% elongation, 7-day cure at 25°± 1°C and 45% to 55% R.H.[e]	ASTM D 412 (Die C)	310 kPa max.
Flow at 25° ± 1°C	ASTM C 639[a]	Shall not flow from channel

Extrusion Rate at 25° ± 1°C	ASTM C 603[b]	75-250 g/min.
Specific Gravity	ASTM D 792 Method A	1.01 to 1.51
Durometer Hardness, at -18°C, Shore A, cured 7 days at 25° ± 1°C	ASTM C 661	10 to 25
Ozone and Ultraviolet Resistance, after 5000 hours	ASTM C 793	No chalking, cracking or bond loss
Tack free at 25° ± 1°C and 45% to 55% R.H.[e]	ASTM C 679	Less than 75 minutes
Elongation, 7 day cure at 25° ± 1°C and 45% to 55% R.H.[e]	ASTM D 412 (Die C)	500 percent min.
Set to Touch, at 25° ± 1°C and 45% to 55% R.H.[e]	ASTM D 1640	Less than 75 minutes
Shelf Life, from date of shipment	—	6 months min.
Bond, to concrete mortar-concrete briquets, air cured 7 days at 25° ± 1°C	AASHTO T 132[c]	345 kPa min.
Movement Capability and Adhesion, 100% extension at -18°C after, air cured 7 days at 25° ± 1°C, and followed by 7 days in water at 25° ± 1°C	ASTM C 719[d]	No adhesive or cohesive failure after 5 cycles

Notes:

ASTM Designation: C 639 Modified (15 percent slope channel A).
ASTM Designation: C 603, through 3-mm opening at 345 kPa.
Mold briquets in conformance with the requirements in AASHTO Designation: T 132, sawed in half and bonded with a 1.5 mm maximum thickness of sealant and tested in conformance with the requirements in AASHTO Designation: T 132. Briquets shall be dried to constant mass at 100 ± 5° C.
Movement Capability and Adhesion: Prepare 305 mm x 25 mm x 75 mm concrete blocks in conformance with the requirements in ASTM Designation: C 719. A sawed face shall be used for bond surface. Seal 50 mm of block leaving 12.5 mm on each end of specimen unsealed. The depth of sealant shall be 9.5 mm and the width 12.5 mm.

a. R.H. equals relative humidity.

B. Formulate the silicon joint sealant to cure rapidly enough to prevent flow after application on grades of up to 15 percent.

C. Furnish to the Owner a Certificate of Compliance. Accompany certificate with a certified test report of the results of the required tests performed on the sealant material within the previous 12 months prior to proposed use. Provide the certificate and accompanying test report for each lot of silicone joint sealant prior to use on the project.

2.05 ASPHALT RUBBER JOINT SEALANT

A. Conform to the requirements of ASTM Designation: D 6690 as modified herein or to the following:

1. Provide a mixture of paving asphalt and ground rubber. Ground rubber to be vulcanized or a combination of vulcanized and de-vulcanized materials ground so that 100 percent will pass a 2.36-mm sieve and contain not less than 22 percent ground rubber, by mass. Modifiers may be used to facilitate blending.

2. The Ring and Ball softening point shall be 57°C minimum, when tested in conformance with the requirements in AASHTO Designation: T 53.

3. Provide asphalt rubber sealant material capable of being melted and applied to cracks and joints at temperatures below 204°C.

B. The penetration requirement of Section 4.2 of ASTM Designation: D 6690 do not apply. The required penetration at 25°C, 150g, 5s, shall not exceed 120.

C. The resilience requirement of Section 4.5 of ASTM Designation: D 6690 do not apply. The required resilience, when tested at 25°C, shall have a minimum of 50 percent recovery.

D. Accompany each lot of asphalt rubber joint sealant shipped to the job site, whether as specified herein or conforming to the requirements of ASTM Designation D 6690, as modified herein, by a Certificate of Compliance, storage and heating instructions and precautionary instructions for use.

E. Heat and place in conformance with the manufacturer's written instructions and the details shown on the plans. Provide manufacturer's instructions to the Owner. Do not place when the pavement surface temperature is below 10°C.

2.06 PREFORMED COMPRESSION JOINT SEALANT

A. Material: ASTM Designation: D 2628.

1. Number of cells: 5 or 6.

2. Lubricant Adhesive: ASTM Designation D 2835.

3. Install compression seals along with lubricant adhesive according to the manufacturer's recommendations. Submit manufacture's recommendations to the Owner’s Representative`.

B. Accompany each lot of compression seal and lubricant adhesive by a Certificate of Compliance, storage instructions and precautionary instructions for use. Also submit the manufacturer's data sheet with installation instructions and recommended model or type of preformed compression seal for the joint size and depth as shown on the plans. Show evidence that the selected seal is being compressed at level between 20 and 50 percent at all times for the joint width and depth shown on the plans.

2.07 BACKER RODS

A. Provide backer rods that have a diameter prior to placement at least 25 percent greater than the width of the saw cut after sawing and are expanded, crosslinked, closed-cell polyethylene foam that is compatible with the joint sealant so that no bond, adverse reaction occurs between the rod and sealant. In no case use a hot pour sealant that will melt the backer rod. Submit a manufacturer's data sheet verifying that the backer rod is compatible with the sealant to be used.

PART 3 - EXECUTION

3.01 WATER SUPPLY

A. Conform to Section 40-1.02 of Caltrans Standard Specifications.

3.02 SUBGRADE

A. Conform to Section 40-1.02 of Caltrans Standard Specifications.

3.03 SOIL STERILANT

A. Furnish and apply to areas indicated in accordance with Section 31 31 19 – Vegetation Control.

3.04 PLACING

A. Conform to Section 40-1.03F of Caltrans Standard Specifications.

3.05 SPREADING COMPACTING AND SHAPING

A. Conform to Section 40-1.03 of Caltrans Standard Specifications.

1. Stationary Side Form Construction: Section 40-1.03F(4) of Caltrans Standard Specifications.

2. Slip Form Construction: Section 40-1.03F(5) of Caltrans Standard Specifications.

3.06 INSTALLING TIE BARS

A. Install at longitudinal contact joints, longitudinal weakened plane joints, and transverse contact joints as shown on the plans. In no case, shall any consecutive width of new portland cement concrete pavement tied together with tie bars exceed 15 meters. In no case shall tie bars be used at a joint where portland cement concrete and asphalt concrete pavements abut.

B. Tie bars shall be installed at longitudinal joints by one of the 3 following methods:

1. Drilling and bonding in conformance with the details shown on the plans. Provide a two-component, epoxy-resin, conforming to the requirements of ASTM Designation: C 881, Type V. Grade 3 (Non-Sagging), Class shall be as follows:

Temperature of Concrete	Required Class of Epoxy Resin
Lower than 40° F (4.5 °C)	A
40˚ F (4.5˚ C) through 60˚ F (15.5˚ C)	B
Above 60˚ F (15.5˚ C)	C

2. Provide, at least 7 days prior to start of work, a Certificate of compliance and a copy of the manufacturer's recommended installation procedure. The drilled holes shall be cleaned in accordance with the epoxy manufacturer's instructions and shall be dry at the time of placing the epoxy and tie bars. Immediately after inserting the tie bars into the epoxy, the tie bars shall be supported as necessary to prevent movement during the curing and shall remain undisturbed until the epoxy has cured a minimum time as specified by the manufacturer. Tie bars that are improperly bonded, as determined by the Owner, will be rejected. If rejected, adjacent new holes shall be drilled, as directed by the Owner, and new tie bars shall be placed and securely bonded to the concrete. All work necessary to correct improperly bonded tie bars shall be performed at the Contractor's expense.

3. Insert the tie bars into the plastic slip-formed concrete before finishing the concrete. Inserted tie bars shall have full contact between the bar and the concrete. When tie bars are inserted

through the pavement surface, the concrete over the tie bars shall be reworked and refinished to such an extent that there is no evidence on the surface of the completed pavement that there has been any insertion performed. Any loose tie bars shall be replaced by drilling and grouting into place with epoxy as described in method 1 above at the Contractor's expense.

4. By using threaded dowel splice couplers fabricated from deformed bar reinforcement material, free of external welding or machining. Threaded dowel splice couplers shall be accompanied by a Certificate of Compliance and installation instructions. Installation of threaded dowel splice couplers shall conform to the requirements of the manufacturer's recommendations.

3.07 JOINTS

A. Conform to Section 40-1.03B of Caltrans Standard Specifications, except that tie bars shall be as specified under Part 2, Products.

1. Transverse Contact Joints: Section 40-1.03B of Caltrans Standard Specifications.

(a) Construct a transverse contact (construction) joint at the end of each day's work, or where concrete placement is interrupted for more than 30 minutes, to coincide with the next weakened plane joint location.

(b) If sufficient concrete has not been mixed to form a slab to match the next weakened plane joint, when an interruption occurs, the excess concrete shall be removed and disposed of back to the last preceding joint. The cost of removing and disposing of any excess concrete shall be at the Contractor's expense. Any excess material shall become the property of the Contractor and shall be properly disposed of.

(c) A metal or wooden bulkhead (header) shall be used to form the joint. The bulkhead shall be designed to accommodate the installation of tie bars.

2. Weakened Plane Joints: Section 40-1.03B, except that the insert method of forming joints in pavement shall not be used.

3.08 FINISHING

A. Conform to Sections 40-1.03H(2) and 40-1.103H(3) of Caltrans Standard Specifications.

3.09 CURING

A. Conform to Section 40-1.03I of Caltrans Standard Specifications.

3.10 SEALING JOINTS

A. Liquid Joint Sealant Installation.

1. The joint sealant detail for transverse and longitudinal joints, as shown on the plans, shall apply only to weakened plane joints. Construct weakened plane joints by the sawing method. Should grinding or grooving be required over or adjacent to any joint after sealant has been placed, completely remove the joint material and disposed of, and replace at the Contractor's expense. Recess sealant below the final finished surface as shown on the plans.

2. At the Contractor's option, transverse weakened plane joints shall be either Type DSC or Type SSC as shown on the plans. Longitudinal weakened plane joints shall be Type SSC only as shown on the plans.

3. Seven days after the concrete pavement placement and not more than 4 hours before placing backer rods and joint sealant materials, clean the joint walls by the dry sand blast method and other means as necessary to completely remove from the joint all objectionable material such as soil, asphalt, curing compound, paint and rust. After cleaning the joint, remove all traces of sand, dust and loose material from and near the joint for a distance along the pavement surfaces of at least 50 mm on each side of the joint by the use of a vacuum device. Remove surface moisture at the joints by means of compressed air or moderate hot compressed air or other means approved means. Do not use drying procedures that leave a residue or film on the joint wall. Sandblasting equipment shall have a maximum nozzle diameter size of 6 ± 1 mm and a minimum pressure of 0.62-MPa.

4. Install backer rod as shown on the plans. Provide an expanded, closed-cell polyethylene foam backer rod that is compatible with the joint sealant so that no bond or adverse reaction occurs between the rod and sealant. Install backer rod when the temperature of the portland cement concrete pavement is above the dew point of the air and when the air temperature is 4°C or above. Install backer rod when the joints to be sealed have been properly patched, cleaned and dried. Do not use a method of placing backer rod that leave a residue or film on the joint walls.

5. Immediately after placement of the backer rod, place the joint sealant in the clean, dry, prepared joints as shown on the plans. Apply the joint sealant by a mechanical device with a nozzle shaped to fit inside the joint to introduce the sealant from inside the joint. Apply adequate pressure to the sealant to ensure that the sealant material is extruded evenly and that full continuous contact is made with the joint walls. After application of the sealant recess the surface of the sealant as shown on the plans.

6. Any failure of the joint material in either adhesion or cohesion of the material will be cause for rejection of the joint. Conform the finished surface of joint sealant to the dimensions and allowable tolerances shown on the plans. Rejected joint materials or joint material whose finished surface does not conform to the dimensions shown on the plans shall be repaired or replaced, at the Contractor's expense, with joint material that conforms to the requirements.

7. After each joint is sealed, remove all surplus joint sealer on the pavement surface. Traffic shall not be permitted over the sealed joints until the sealant is tack free and set sufficiently to prevent embedment of roadway debris into the sealant.

B. Preformed Compression Joint Seal Installation

1. The compression seal alternative joint detail for transverse and longitudinal joints, as shown on the plans, shall apply only to weakened plane joints. Construct weakened plane joints by the sawing method. Should grinding or grooving be required over or adjacent to any joint after the compression seal has been placed, completely remove the joint materials and disposed of, and replace at the Contractor's expense. Compression seal shall be recessed below the final finished surface as shown on the plans.

2. At the Contractor's option, transverse weakened plane joints shall be either Type DSC or Type SSC as shown on the plans. Longitudinal weakened plane joints shall be Type SSC only as shown on the plans.

3. Seven days after the concrete pavement placement and not more than 4 hours before placing preformed compression joint seals, clean the joint walls by the dry sand blast method and other means as necessary to completely remove from the joint all objectionable material such as soil, asphalt, curing compound, paint and rust. After cleaning the joint, remove all traces of sand, dust and loose material from and near the joint for a distance along the pavement surfaces of at least 50 mm on each side of the joint by the use of a vacuum device. Remove surface moisture at the joints by means of compressed air or moderate hot compressed air or other means. Do not use drying procedures that leave a residue or film on the joint wall. Sandblasting equipment shall have a maximum nozzle diameter size of 6 ± 1 mm and a minimum pressure of 0.62-MPa.

3.11 PROTECTING CONCRETE PAVEMENT

A. Conform to Section 40 of Caltrans Standard Specifications.

END OF SECTION

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SECTION 32 13 13.1

CONCRETE WORK (LANDSCAPE)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

B. All grading, earthwork, excavations, backfills, compaction, and other grading operations shall be accomplished in accordance with the soils report (which shall be part of the Contract Documents). Contractor shall be responsible for securing a copy of the soils report. The project soils engineer shall be present during all grading operations. The soils engineer shall direct samples to be submitted and tests to be taken. Contractor shall cooperate with the requirements of the soils engineer.

C. Specification Division 31, Earthwork, Soils and Earthwork, Rough Grading, and Excavation and Fill.

D. Specification 32 11 00 Aggregate Base Course.

1.2 DESCRIPTION OF WORK:

A. The extent of concrete work is shown on the landscape architectural drawings and details and shall include, but is not limited to, pedestrian concrete walkways, steps, ramps, curbs, mowbands, footings and walls.

1.3 QUALITY ASSURANCE:

A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:

1. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".

2. ACI 318 Building Code Requirements for Structural Concrete.

3. ASTM C150, for Type I, Type II or Type III Portland cement concrete.

4. Chapter 19A, 2022 C.B.C.

B. Certification: Weighmaster Certificate

C. Duties of the Inspector: The inspector shall notify the Architect, Structural Engineer and the Division of State Architect at least 48 hours in advance of the first pour of concrete and sufficiently in advance of subsequent pours. Comply with Section 4-333.1 and Chapter 7, Part I, Title 24, California Code of Regulations (CCR).

Installer Qualifications:

1. Experience: The concrete installing firm shall have contracted for and successfully completed construction of a minimum of five (5) California public school district construction projects, approved by the Division of the State Architect (DSA), within the past five (5) years of similar size, complexity, budget and scope.

2. Licensure: The concrete installation firm shall hold a current, active C8 “Concrete Contractor” license classification by the California State License Board that has been consistently active for at least five (5) years and that has not been suspended or revoked.

3. Supervision: The concrete installing firm shall have a qualified and experienced concrete technician on site during concrete installation.

D. “Colored” Concrete Installer Qualifications: Installer of “colored” concrete shall be qualified by colored concrete manufacturer. Contact manufacturer representative for a list of locally qualified installers.

1.4 SUBMITTALS:

A. Shop Drawings Reinforcement: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required and openings through concrete structures.

B. Design Mixes Submittal: Submit written reports of design mixes to the Architect of each proposed mix for each class of concrete within thirty-five (35) days after the issuance of the "Notice to Proceed", but no later than ten (10) days prior to the first scheduled concrete pour. Do not begin concrete production until all design mixes have been reviewed by the Architect and independent testing facility.

1. Separate submittal data shall be submitted for each mixture for the following:

a. Concrete Paving – Pedestrian, steps, curbs, walls, footings and concrete base at resilient surfacing
b. Concrete Paving – Vehicular.

C. Job-site Samples: Contractor shall pour concrete samples as indicated below for each concrete color and finish specified on Drawings for written approval from Owner’s Representative prior to installation as follows:

1. Two (2) foot by two (2) foot concrete flatwork.

2. Two linear feet by width and height detailed for each concrete wall specified to include decorative tile.

D. Submittal Checklist:

1. Installer qualifications.
2. Reinforcement shop drawings.
3. Design mixes.
4. Aggregate Base rock.
5. Expansion joint material.
6. Joint filler.
7. Sealant.
8. Concrete colors; natural, lamp black, and/or colored.
9. Waterproofing for walls.

PART 2 - PRODUCTS

2.1 FORM MATERIALS:

A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

C. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments.

D. Expansion Joint for flatwork that does not have a stamp pattern: Asphalt impregnated felt fiber expansion material, one half inch (1/2”) thick by full depth of concrete, in compliance with ASTM D1751.

E. Expansion Joint for flatwork with a stamp pattern: Use Form-A-Key (or equal) key-loc system joint and stake manufactured of 24 gauge galvanized steel with dowel knock outs six (6) inches on center spacing shaped in the form of a constant tongue and groove key between adjacent concrete slab sections secured in place by 13 gauge HRPO steel stakes installed at 24" intervals conforming to ASTM A653 joint and ASTM A569 stakes.

F. Expansion Joint for poured-in-place walls: Asphalt impregnated felt fiber expansion material, one half inch (1/2") thick by full depth of concrete, in compliance with ASTM D1751.

2.2 REINFORCING MATERIALS:

A. Reinforcing Bars (Rebar): ASTM A 615, Grade 60, deformed, except #3 and smaller may be Grade 40. Test in accordance with Section 1903A and 1910A.2, 2022 C.B.C.

B. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place.

2.3 CONCRETE MATERIALS:

A. Portland Cement: ASTM C 150, Type V, conforming to ACI 318-19 and test in accordance with Section 1903A, 2022 C.B.C.

B. Fly Ash or other pozzolan can be used as a partial substitute for ASTM 150 Portland cement as follows:

1. Fly Ash conforming to ASTM C618, Class F, the maximum Loss on Ignition (LOI) shall be less than 3%. Class C is not permitted.

2. Slag, Ground Granulated Blast Furnace Slag Cement (GGBFS) shall conform to ASTM C989 or AASHTO M 302 Grade 100 or 120.

3. Silica Fume: ASTM C1240, Standard Specification for Silica Fume used in cementitious mixtures.

4. High-Reactivity Metakaolin (HRM): ASTM C618, aluminosilicate pozzolan.

C. Normal Weight Aggregates: Shall be #57 aggregate, uniformly graded and in compliance with ASTM C 33.

1. Maximum aggregate size: 100% passing 1" sieve for footings, walls, steps, curbs and exterior walkways.

2. Class: Negligible weathering region, but not less than 1N.

3. Aggregate shall be certified by testing to be "innocuous" with respect to alkali silica reactivity, or shall be certified by the supplier based on service records in accordance with ASTM C33 Appendix X1.

D. Water: Water used in mixing concrete shall be clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials or other substances that may be deleterious to concrete or reinforcement and shall be tested and verified through ASTM C1602.

E. Admixtures: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluable chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.

1. Air-Entraining Admixture: ASTM C 260.

2. Water-Reducing Admixture: ANSI/ASTM C 494, Type A, and contain not more than 1% chloride ions.

3. High-Range, Water-Reducing Admixture: ASTM C 494, Type F

4. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E

5. Water-Reducing and Retarding Admixture: ASTM C 494, Type D

F. Crushed Aggregate Base Rock: Shall be coarse aggregate for regular weight concrete. Aggregate shall be hard, durable, uncoated, graded, cleaned and screened crushed rock or gravel conforming to current requirements of ASTM C33. Crusher-run stone or bank-run gravel will not be permitted.

G. Liquid Membrane-Forming Curing Compound: Liquid type membrane-forming curing compound complying with ASTM C-309, Type I, Class A unless other type acceptable to Architect. Comply with Volatile Organic Compounds (VOC) content limits, as required by Air Pollution Control Regulations on Architectural Coatings (less than 350 g/l).

H. Curing Methods:

1. Moist Curing: continuous misting, sprinkling or ponding.

2. Moisture-retaining cover curing: After wetting the concrete surface, cover with wet-curing blanket. Lay blanket in accordance with manufacturer’s instructions, over-lapping edges and extending edges twelve (12) inches beyond area of concrete to be cured. Remove air pockets. Repair any holes or tears that occur using sheeting material and waterproof tape.

3. Compound curing: Apply specified curing compound as soon as final finishing operations are complete. Use as recommended by the manufacturer’s written instructions.

I. Color Materials:

1. Liquid lamp black shall be default color for concrete flatwork not specified on drawings as “Natural” or “Colored”. Add one pint of liquid lamp black per cubic yard of concrete flatwork.

2. Concrete specified as “Natural” shall have no color added. Unless specified otherwise on Drawings, concrete curbs, steps, and walls to be “Natural.”

3. Concrete specified as “Colored” shall be LM Scofield Systems Chromix Admixtures for Color-Conditioned Concrete and/or Scofield Integral Color SG Standard Grade, to include Standard Colors, Custom Colors and Special Order Colors for all concrete specified on drawing as “colored”.

4. Colored concrete shall be sealed per manufacturer with one of the following to be selected by Architect and Owner’s Representative:

   a. Scofield Selectseal Plus (gloss finish).
   b. Cementone Clear Concrete Sealer (low gloss).
   c. Scofield Cureseal-W Concrete Curing Compound and Sealer (low gloss).
   d. Lithochrome Colorwax Concrete Curing Compound (color matched, natural finish).
   e. Colorcure Concrete Curing Compound and Sealer (color matched).

5. Contractor shall pour samples on site as necessary for Architect and/or Owner’s Representative to select final color(s) for project.

J. Concrete Colors and Patterns:

1. Type I – Lamp Black with asphalt impregnated felt fiber expansion material.

2. Type II – Colored, LM Scofield colors to be determined, with stamp pattern to be determined and KeyKold type expansion joint system.

2.4 PROPORTIONING AND DESIGN OF MIXES:

A. Prepare design mixes for each type and strength of concrete. Use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.

B. Comply with ACI 318-19 section 26.4.3.

C. Submit written reports to Architect of each proposed mix for each class of concrete at least 10 days prior to the first scheduled concrete pour. Do not begin concrete production until mixes have been reviewed by Architect.

D. Design mixes to provide normal weight concrete with the following properties:

1. Concrete Paving – Pedestrian, steps, curbs, walls, footings and concrete base at resilient surfacing:

   a. 3,000 psi 28-day compressive strength
   b. 0.60, maximum, water to cement (W/C) ratio
   c. Minimum cementitious content shall be 470 pounds, minimum, per cubic yard.
   d. Aggregate to be 1” maximum.
   e. 28-day shrinkage, SEAONC Method: 0.050 maximum.

2. Concrete Paving – Vehicular

   a. 4,000 psi 28-day compressive strength
   b. 0.50, maximum, water to cement (W/C) ratio
   c. Minimum cementitious content shall be 470 pounds, minimum, per cubic yard.
   d. Aggregate to be 1” maximum.
   e. 28-day shrinkage, SEAONC Method: 0.050 maximum.

E. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.

F. Admixtures: Use only as indicated by approved design mix.

G. Color Additive for concrete not specified as “colored”: add one pint of liquid lamp black per cubic yard of all exterior Concrete Paving – Pedestrian and Concrete Paving - Vehicular. Steps, Curbs, Walls and Footings shall not include lamp black in the design mix.

H. Color for concrete specified as “colored”: Color mixture as determined by manufacturer in accordance with color selected and sealed per manufacturer recommendations.

I. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

1. All concrete: Shall be four (4) inches, plus or minus one (1) inch.

2.5 CONCRETE MIXES:

A. Ready-Mix Concrete: Comply with ASTM C94. Measure, batch and mix concrete materials and concrete according to ASTM C-94. Furnish batch certificates, indicating project identification, name and number, date, mixture type, mixing time, quantity and amount of water added for each batch discharged and used in the Work to the Architect.

2.6 SACK FINISH MORTAR

A. Mortar shall be composed of Portland cement, sand, and water proportioned and mixed as specified in Caltrans Section 51 1.135.

B. Mortar shall be furnished and placed in recesses and holes, on surfaces, under structural members, and at other locations specified in these specifications, the special provisions or shown on the plans.

C. The proportion of cement to sand, measured by volume, shall be one to two (1:2) unless otherwise specified.

D. Materials shall conform to the provisions in Caltrans Section 90, "Portland Cement Concrete."

E. The maximum size of sand shall not be larger than 0.5 of the size of the recess, hole or space where the mortar is to be placed.

F. The mortar shall contain only enough water to permit placing and packing.

G. Concrete areas to be in contact with the mortar shall be cleaned of all loose or foreign material that would in any way prevent bond between the mortar and the concrete surfaces and shall be flushed with water and allowed to dry to a surface dry condition immediately prior to placing the mortar.

H. The mortar shall completely fill and shall be tightly packed into recesses and holes, on surfaces, under structural members, and at other locations specified. After placing, all surfaces of mortar shall be cured by the water method as provided in Caltrans Section 90 7, "Curing Concrete," for a period of not less than 3 days.

I. Keyways, spaces between structural members, holes, spaces under structural members and other locations where mortar could escape shall be mortar tight before placing mortar.

J. No load shall be allowed on mortar that has been in place less than 72 hours, unless otherwise permitted by the Engineer.

K. All improperly cured or otherwise defective mortar shall be removed and replaced by the Contractor at the Contractor's expense.

2.7 WATERPROOF MEMBRANE:

A. Rolled, self-adhering waterproof membrane, composed of nominally 56 millimeter thick layer of polymeric waterproofing membrane on a heavy duty, four-millimeter thick, cross-laminated polyethylene carrier film laminated together, MEL-ROL, product of W. R. Meadows/Sea Tight, or equal conforming to A.R.E.M.A. Specifications Chapter 29, Waterproofing.

PART 3 - EXECUTION

3.1 AGGREGATE BASE PLACEMENT

A. Place aggregate in maximum 6-inch layers and compact to specified density.

B. Level and contour surfaces to elevations and gradients indicated.

C. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

D. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

E. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

F. Tolerances:

1. Flatness: Maximum variation of 1/4 inch measured with 10-foot straight edge.

2. Scheduled Compacted Thickness: Within 1/4 inch.

3. Variation From Design Elevation: Within 1/2 inch.

G. Field Quality Control:

1. Flatness: Compaction testing will be performed in accordance with ASTM D1557.

2. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

3.2 FORMS

A. FORMS – FOR FLATWORK WITHOUT A STAMP PATTERN

1. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

2. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.

3. Fabricate forms for easy removal without hammering or prying against concrete surfaces or damage to cast-in-place concrete or adjacent materials. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

4. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items build into forms. Comply with ACI 347 and ACI 318-19 Section 26.11.

5. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

6. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

B. FORMS AND EXPANSION JOINTS FOR CONCRETE FLATWORK WITH A STAMPED PATTERN

1. Form and expansion joint for concrete flatwork with a stamped pattern: Key Loc hardscape: Design, erect, support, brace and maintain formwork per Key-Loc Joint Manufacturer (Form-A-Key Products) recommendations and to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

    a. Stretch line over entire length of pour. Drive stakes at approximately 20 foot centers. Set stakes to finish floor elevation.
    b. Intermediate stakes are driven to the bottom of the line at approximately 2 foot centers.
    c. Hang Key-Lock Joint on stakes and push down. Key-Loc Joint automatically locks into place.
    d. Install “snap-in” joint splice for perfect alignment of joint ends.
    e. Install stake clip when it is necessary to pour on the stake side first.
    f. Knockouts are provided at 6” centers along Key-Loc Joint for rebar penetration. When Key-Loc is used as a shut-off, the knockouts shall be bent to 45 degrees into the pour to act as anchors.
    g. Place concrete in slab straight from ready-mix truck or by alternative means.
    h. The square top of the Key-Loc Joint serves as a screed rail for screeding and finishing the surface.

3.3 PLACING REINFORCEMENT:

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least minimum coverage for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

E. Where concrete is installed at door thresholds and/or transitions to building interior spaces, 24” length, #3 smooth rebar dowels shall be installed12” into the new concrete paving and 12” into the adjacent building structure, spaced at 18” on center with a minimum of two in each location. Epoxy to secure end of dowel set into building and lubricate end cast into new concrete paving.

F. Where concrete is installed at door thresholds of modular buildings with steel framing, #5 rebar shall be welded securely to building floor plate, extending 12” into new concrete paving, spaced 18” on center with a minimum of two at each door threshold. Lubricate end cast into new concrete paving.

3.4 EXPANSION AND CONTROL JOINTS:

A. Locate and install joints so as not to impair strength and appearance of the structure, and as acceptable to Architect.

B. Continue reinforcement across expansion and control joints or install smooth rebar dowels.

C. Control/score joints (for walkways, steps, ramps and curbs): Unless shown otherwise on plan, install ½” radius score joints evenly spaced at a maximum of eight feet in two perpendicular directions, continuous and one third the depth of the slab.

D. Control/score joints (for walls, steps and vertical surfaces): Unless shown otherwise on plan, install ½” radius score joints evenly spaced at a maximum of eight feet in on center. Align vertical wall score joints with horizontal paving joints whenever possible. Install ½” radius or chamfered edge at each side of joint as called for in drawings, continuous and 1 ½” in depth.

E. Expansion Joints for new walkways and ramps that are <u>not</u> colored and/or <u>do not</u> have a stamp pattern: Asphalt impregnated felt fiber expansion material, one half inch (1/2”) thick by full depth of concrete, in compliance with ASTM D1751.

F. Expansion Joints for new walkways and ramps that are colored and/or have a stamp pattern: Unless shown otherwise on plan, install Form-A-Key (or equal) key-loc system, evenly spaced at a maximum of 24 feet in two perpendicular directions. Where new walkways meet existing concrete, install ½" asphalt saturated felt expansion joint material 1/4" below the finish surface and continuously throughout the full depth of slab.

G. Expansion Joints (for walls, steps and vertical surfaces): Unless shown otherwise on plan, install expansions joints where walls meet existing or proposed structures and evenly spaced at a maximum of 24 feet in two perpendicular directions. Align vertical wall expansion joints with horizontal paving joints whenever possible. Install ½" asphalt saturated felt expansion joint material ½" below the finish surface where ½" radius concrete edges are indicated and flush with base of chamfer were chamfer edges are indicated and continuously throughout the concrete section. Install ½" radius or chamfered edge at each side of joint as called for in drawings.

3.5 INSTALLATION OF EMBEDDED ITEMS:

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.

B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.6 PREPARATION OF FORM SURFACES:

A. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

3.7 CONCRETE PLACEMENT:

A. Pre-placement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in, in accordance with ACI 318-19. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood dorms immediately before placing concrete where form coatings are not used.

B. Coordinate the installation of joint materials with placement of forms and reinforcing steel.

C. General: Comply with ACI 304, and as herein specified.

D. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

E. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

F. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

G. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" in to preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

H. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction (expansion) joints, until the placing of a panel or section is completed.

I. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

J. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.

K. Maintain reinforcing in proper position during concrete placement operations.

L. Cold Weather Placing: Do not place concrete when air temperature is below 40 degrees F., or expected to fall below within 24 hours. Comply with ACI 306.

M. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305.

N. Concrete flatwork over-pour: Over-pour is excess concrete spilling beyond the limits of the concrete forms. Contractor shall remove over-pour to allow for installation of tree root barriers, irrigation and similar landscape improvements.

3.8 FINISH OF FORMED SURFACES:

A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture impaired by form facing material used, with tie holes and defective areas repaired and patched and fine and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp proofing, painting or other similar system. For "as-cast" concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams, repair and patch defective areas with fins or other projections completely removed and smoothed

C. Related Unformed Surfaces: At tops of walls, horizontal offsets surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.9 CONCRETE EXTERIOR FLATWORK FINISHES:

A. Float Finish: Apply float finish to concrete slab surfaces to receive trowel finish and other finishes as hereinafter specified.

B. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to a tolerance not exceeding 1/8" in 10' when tested with a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

C. Round top edges of all exposed slabs, nosing, etc. with 3/8" radius edging tool, unless chamfered or otherwise noted.

D. Non-Slip Broom Finish (NSBrm-Fn): Unless specified otherwise, apply non-slip broom finish to exterior concrete walks, platforms, steps and ramps, and elsewhere as indicated. Slopes less than 6% shall have a medium broom finish. Slopes 6% and greater shall be heavy broom slip resistant.

E. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.10 CONCRETE CURING AND PROTECTION:

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 305R-20, “Guide to Hot Weather Concreting”.

B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days and above 50 deg. F.

C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

D. Curing Method: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing compound, and/or by combinations thereof, at contractor's option except as noted during hot weather.

E. Cold Weather Requirements: Protect concrete from freezing conditions during the first seven (7) days after placement.

F. Hot Weather Requirements: When hot weather conditions will cause an evaporation rate exceeding 0.2 pounds of water per square foot per hour, as determined by Figure 2.1.5 of ACI 305, cure for initial 24 hours minimum by moisture retaining cover methods.

3.11 REMOVAL OF FORMS:

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Form removal shall comply with ACI 347 and ACI 318-19 Section 26.11.

3.12 RE-USE OF FORMS:

A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

3.13 MISCELLANEOUS CONCRETE ITEMS:

A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.

C. Equipment and Enclosure Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

3.14 CONCRETE SURFACE REPAIRS

A. Concrete pavement surface repairs shall be stable, firm and slip resistant per CBC 11B-302.1.

B. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Owner's Representative.

C. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar, colored to match surrounding surfaces after bonding compound has dried. Surfaces exposed-to-view shall be sacked with colored mortar as directed by Owner's Representative.

D. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Owner's Representative. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning.

E. Flush out form tie holes, fill with dry pack mortar.

F. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

G. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.

H. Repair finished unformed surfaces that contain defects, which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions. Color of repair shall match surrounding surface color.

I. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.

J. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Owner's Representative.

K. Repair methods not specified above may be used, subject to acceptance of Owner's Representative.

3.15 WATERPROOFING SITE RETAINING WALLS:

A. Contractor shall apply waterproof membrane to site retaining walls. Membrane shall continuously cover the surface in contact with soil, vertically from the footing to 2" above the finished grade level of the soil retained.

B. Prepare surface as recommended by manufacturer by filling cracks, priming, filling joint and voids, penetrations and corners.

C. Apply waterproof membrane as recommended by manufacturer.

3.16 SACK FINISH WALLS, STEP SEATING AND CURBS

A. Sack finish shall consist of filling holes or depressions in the surface of the concrete, repairing all rock pockets, removing fins, and removing stains and discolorations visible from traveled ways. Sack finish, unless otherwise specified, shall be considered as a final finish where designated on the plans and details.

B. Except as provided herein, form bolts and any metal placed for the convenience of the Contractor shall be removed to a depth of at least one inch below the surface of the concrete. All rock pockets and other unsound concrete shall be removed. The resulting holes or depressions shall be cleaned and filled with mortar. Form bolts projecting into the cells of box girders need not be removed unless deck forms are removed from the cells, in which case the bolts shall be removed flush with the surface of the concrete.

C. Mortar used to fill bolt holes shall conform to the provisions in this Section for "Mortar." Other depressions and pockets shall be filled with packed mortar as directed by the Architect and the mortar shall be cured in conformance with the provisions in this Section

D. For exposed surfaces, integral concrete color (LM Scofield Chromix) cement shall be added to the mortar in an amount sufficient to result in a patch which, when dry, matches the surrounding concrete.

E. If rock pockets, in the opinion of the Architect, are of such an extent or character as to affect the strength of the structure materially or to endanger the life of the steel reinforcement, the Architect may declare the concrete defective and require the removal and replacement of the portions of the structure affected.

3.17 QUALITY CONTROL TESTING DURING CONSTRUCTION:

A. The Owner will employ a testing laboratory to perform other tests and to submit test reports.

B. Reinforcing steel shall be supplied with heat number and mill analysis per ACI 318-19.

C. Shrinkage Limitation: All concrete shall meet drying shrinkage limitations as follows:

D. 0.032 percent at age 21 days, with tolerance of +25% for specimens taken during the course of the work.

E. The use of aggregates with a proven history of compliance with the above limitations will be accepted as fulfilling this requirement. In the absence of satisfactory evidence, the laboratory shall prepare specimens (4" x 4" prisms 10" gage length, ASTM C-157-64T) and test for compliance prior to approval.

3.18 PROJECT CLOSE-OUT: (not applicable)

END OF SECTION 32 13 13.1
(REVISED 02/10/2020)

SECTION 32 16 13
CONCRETE CURBS AND GUTTERS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Concrete curbs and gutters.

1.02 RELATED DOCUMENTS

A. American Concrete Institute (ACI):

1. ACI 301 - Specifications for Structural Concrete for Buildings.

2. ACI 308 - Standard Practice for Curing Concrete.

B. American society for Testing and Materials (ASTM):

1. ASTM A 185 - Specification for Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement.

2. ASTM A 615 - Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

3. ASTM D 1751 - Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

C. Caltrans Standard Specifications:

1. Section 73: Concrete Curbs and Sidewalks.

2. Section 90: Portland Cement Concrete.

1.03 DEFINITIONS

A. ASTM: American Society for Testing Materials

1.04 SUBMITTALS

A. Submittal procedures shall be as outlined in Section 01 33 00 – Submittal Procedures.

B. Concrete Mix Design: Have all concrete mixes designed by a testing laboratory and approved by the Owner. Conform all mixes to the applicable building code requirement, regardless of other minimum requirements listed herein or on the drawings. Submit mix designs for review before use. Show proportions and specific gravities of cement, fine and coarse aggregate, and water and gradation of combined aggregates.

1.05 QUALITY ASSURANCE

A. Concrete shall be subject to quality assurance in accordance with Section 90 of the Standard Specifications.

B. Certifications:

1. Provide Owner at the time of delivery with certificates of compliance signed by both Contractor and Supplier containing the following statements:

(a) Materials contained comply with the requirements of the Contract Documents in all respects.

(b) Proportions and mixing comply with the design mix approved by the Consulting Engineer. Design mix shall have been field tested in accordance with the herein requirements of the Caltrans Standard Specifications and produces the required compressive strength under like conditions.

(c) Statement of type and amount of any admixtures.

2. Provide Owner, at time of delivery, with certified delivery ticket stating volume of concrete delivered and time of mixing, or time of load-out in case of transit mixers.

C. Conform to the applicable provisions of Section 51, 73 and 90 of the Caltrans Standard Specification and these Technical Specifications.

1. Conform construction of portland cement concrete surface improvements (including curbs, gutters, medians, valley gutters, walks) to the requirements of Section 73 of the Caltrans Standard Specifications unless otherwise required in these Technical Specifications or shown on the Plans.

2. Construct "V" ditches in accordance with Section 72-4 of the Standard Specifications; except that finishing shall be in accordance with Standard Specification Section 73 instead of 53, or as otherwise required in these Technical Specifications or shown on the Plans.

1.06 DESIGNATION

A. General: Whenever the 28-day compressive strength is designated herein or on the Plans is 3,500 psi or greater, the concrete shall considered to be designated by compressive strength. The 28-day compressive strength shown herein or on the plans which are less than 3,500 psi are shown for design information only and are not considered a requirement for acceptance of the concrete. Whenever the concrete is designated by class or as minor concrete herein or on the Plans, the concrete shall contain the cement per cubic yard shown in Section 90-1.01 of the Caltrans Standard Specifications.

PART 2 - PRODUCTS

2.01 GENERAL

A. Comply with requirements of Section 32 05 23 – Concrete for Exterior Improvements.

2.02 PORTLAND CEMENT CONCRETE

A. Unless specified otherwise herein or on the Plans, Portland Cement Concrete for items in this section shall be Minor Concrete as specified in Section 90-1.01 of the Caltrans Standard Specifications.

2.03 CURBS AND GUTTERS FORMS

A. Use flexible spring-steel forms or laminated boards to form radius bends. Tolerance: Not to deviate more than 1/4 inch in 10 feet in grade and alignment.

2.04 EXPANSION JOINT MATERIAL

A. Material for expansion joints in portland cement concrete improvements shall be premolded expansion joint fillers conforming to the requirements of ASTM Designation D 1751. Expansion joint material shall be shaped to fit the cross section of the concrete prior to being placed. Suppliers certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site.

B. Unless noted otherwise herein or on the Plans expansion joint thickness shall be as follows:

1. Curbs, Curb Ramps, Island Paving, Driveways and Gutter Depressions: ¼-inch.

PART 3 - EXECUTION

3.01 GENERAL

A. Comply with requirements of Section 32 05 23 – Concrete for Exterior Improvements.

B. Form, place and finish concrete walkways, island paving, valley gutters and driveway approaches in conformance with the applicable requirements of Section 73-2.03B and 73-3 of the Caltrans Standard Specifications as modified herein.

C. Construct new concrete curb, curb and gutter and valley gutters against existing asphalt concrete by removing a minimum of 12-inches of the asphalt concrete to allow placement of curb or gutter forms. Patch pavement with a 6-inch deep lift of asphalt concrete after gutter form is removed.

3.02 SUBGRADE

A. Conform to Section 40-1.04 of Caltrans Standard Specifications.

3.03 SOIL STERILANT

A. Furnish and apply to areas indicated in accordance with Section 31 31 19 – Vegetation Control.

3.04 PLACING CONCRETE FORMS

A. Form concrete improvements with a smooth and true upper edge. Side of the form with a smooth finish shall be placed next to concrete. Construct forms rigid enough to withstand the pressure of the fresh concrete to be placed without any distortion.

B. Thoroughly clean all forms prior to placement and coat forms with approved form oil in sufficient quantity to prevent adherence of concrete prior to placing concrete.

C. Carefully set forms to the alignment and grade established and conform to the required dimensions. Rigidly hold forms in place by stakes set at satisfactory intervals. Provide sufficient clamps, spreaders and braces to insure the rigidity of the forms.

D. Provide forms for back and face of curbs, lip of gutters and edge of walks, valley gutters or other surface slabs that are equal to the full depth of the concrete as shown, noted or called for on the Plans. On curves and curb returns provide composite forms made from benders or thin planks of sufficient ply to ensure rigidity of the form.

3.05 PLACING STEEL REINFORCEMENT

A. Bars shall be free of mortar, oil, dirt, excessive mill scale and scabby rust and other coatings of any character that would destroy or reduce the bond.

B. Accurately place reinforcement as shown on the plans and hold firmly and securely in position by wiring at intersections and splices, and by providing precast mortar blocks or ferrous metal chairs, spacers, metal hangers, supporting wires, and other approved devices of sufficient strength to resist crushing under applied loads. Provide supports and ties of such strength and density to permit walking on reinforcing without undue displacement.

C. Place reinforcing to provide the following minimum concrete cover:

1. Surfaces exposed to water: 4-inches.

2. Surfaces poured against earth: 3-inches.

3. Formed surfaces exposed to earth or weather: 2-inches.

4. Slabs, walls, not exposed to weather or earth: 1-inch.

D. Minimum spacing, center of parallel bars shall be two and one half (2-1/2) times the diameter of the larger sized bar. Accurately tie reinforcing securely in place prior to pouring concrete. Placing of dowels or other reinforcing in the wet concrete is not permitted.

3.06 PLACING PORTLAND CEMENT CONCRETE

A. Thoroughly wet subgrade when concrete is placed directly on soil. Remove all standing water prior to placing concrete.

B. Do not place concrete until the subgrade and the forms have been approved.

C. Convey concrete from mixer to final location as rapidly as possible by methods that prevent separation of the ingredients. Deposit concrete as nearly as possible in final position to avoid re-handling.

D. Place and solidify concrete in forms without segregation by means of mechanical vibration or by other means as approved by the Owner. Continue vibration until the material is sufficiently consolidated and absent of all voids without causing segregation of material. The use of vibrators for extensive shifting of fresh concrete will not be permitted.

E. Concrete in certain locations may be pumped into place upon prior approval by the Owner. When this procedure requires redesign of the mix, such redesign shall be submitted for approval in the same manner as herein specified for approval of design mixes.

3.07 EXPANSION JOINTS

A. Construct expansion joints incorporating pre-molded joint fillers at twenty (20) foot intervals in all concrete curbs, gutters, median/island paving, valley gutters, driveway approaches and at the ends of all returns. At each expansion joint install one-half inch by twelve inch (1/2" x 12") smooth slip dowels in the positions shown or noted on the detail drawings.

3.08 WEAKENED PLANE JOINTS

A. Construct weakened plane joints in concrete curbs, gutters, median/island paving and valley gutters between expansion joints at ten (10) foot intervals throughout, or as otherwise indicated. Depth of joint score depth to be one-fourth (25%) the thickness of the concrete.

B. Grooved Joints: Form weakened plane joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8-inch. Repeat grooving of weakened plane joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

3.09 FINISHING CONCRETE

A. Finish curb and gutter in conformance with the applicable requirements of Section 73-2.03B and 73-1.03C of the Caltrans Standard Specifications as modified herein.

B. Where monolithic curb, gutter and sidewalk is specified, separate concrete pours will not be allowed.

C. Provide a medium broom finish to all horizontal surfaces unless otherwise shown.

3.10 FORM REMOVAL

A. Remove forms without damage to the concrete. Remove all shores and braces below the ground surface, before backfilling.

B. Do not backfill against concrete until the concrete has developed sufficient strength to prevent damage.

C. Leave edge forms in place at least 24 hours after pouring.

3.11 CONNECTING TO EXISTING CONCRETE IMPROVEMENTS

A. New curb or gutter is to connect to existing improvements to remain by saw cutting to existing sound concrete at the nearest score line, expansion joint or control joint. Drill and insert ½-inch diameter by 12-inch long dowels at 24-inches on center into existing improvements. Install pre-molded expansion joint filler at the matching joint.

B. A cold joint to the existing curb is not acceptable.

3.12 FIELD QUALITY CONTROL

A. Conform the finish grade at top of curb, flow line of gutter, and the finish cross section of concrete improvements to the design grades and cross sections.

B. Variation of concrete improvements from design grade and cross section as shown or called for on the plans shall not exceed the tolerances established in Sections 73-1.05 and/or 73-1.06 of the Caltrans Standard Specifications.

3.13 RESTORATION OF EXISTING IMPROVEMENTS

A. Replace in kind all pavement or other improvements removed or damaged due to the installation of concrete improvements.

B. Remove, landscaping or plantings damaged or disturbed due to the installation of concrete improvements. Replace in kind.

END OF SECTION

SECTION 32 17 00
PAVEMENT SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Parking lot striping.
B. Disabled loading zone striping and disabled parking symbol.
C. Traffic symbols.
D. Curb painting.
E. Traffic and parking control signage.

1.3 QUALITY ASSURANCE

A. Materials and work of this section shall conform with Local Municipality Public Works standards and specifications.

1.4 REGULATORY REQUIREMENTS

A. Conform to regulations of Bay Area Air Quality Management District and California Air Resources Board regarding use of paint.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Do no painting when surface and air temperatures are below 40 degrees F or below those temperatures recommended by the paint manufacturer.

PART 2 PRODUCTS

2.1 STANDARD CATALOG PRODUCTS

A. Symbol Marking Paint and Traffic Marking Paint: Water borne product conforming to State Specification 8010-426-30; Dunn-Edwards Traffic Paint W801, Sinclair 160 Vinyl Traffic Paint, or equal product.

1. ISA Symbol Background: Color - Blue. Size: As indicated in the drawings.

2. Parking Stall Striping, Traffic Symbols and Disabled Loading Zone Striping and Lettering: Color - White. Width for all striping: Three inches, or as indicated in the drawings. Blue border around access aisle. Striping surface shall be as slip resistant as the adjacent surfaces.

3. Disabled Stall Curbs: Color - Blue. Width for all striping: Three inches, or as indicated in the drawings.

4. Sport Court Striping: Color - White.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine receiving surfaces and verify that surfaces are proper for installation.

B. Do not start work until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove dirt, oil, grease, and other foreign matter from the areas of the pavement and curbs to be painted.

B. Do not apply traffic paint to surfaces which are excessively dirty, damp, and cold.

3.3 INSTALLATION

A. Apply parking lot as a 4 inch wide solid line. Apply loading zone striping as 8 inch wide solid line.

B. Stripe parking stalls to the dimensions as shown on the Drawings; traffic symbols shall be as shown. Stripe loading zone to dimensions shown on Drawings.

C. Paint the ISA parking symbol in each accessible parking stall as indicated on the Drawings and in accordance with the American National Standard Institute Figure A117.1.

D. Paint horizontal and vertical face of curbs abutting accessible parking stalls. See Drawings for extent of painted curbs.

E. Apply traffic paint with atomizing spray type striping machine equipped with separate thermostatically controlled heating devices for each paint pot and capable of applying paint whereby the lines and markings have clear-cut edges, true and smooth alignments and uniform thicknesses.

F. Apply paint with completed lines and marking clean, sharp and to dimensions.

1. Ragged ends of segments, fogginess along the sides or objectionable dribbling of paint along the unpainted portions of the strips will not be permitted.

2. The finished paint shall have an opaque, well painted appearance with no black or other discolorations showing through.

G. Set posts for parking sign plumb in minimum 12 inch diameter concrete footings with top of footing 6 inches below finished grade and bottom of footing minimum 36 inches below finished grade. Slope top of concrete for water runoff. Cap top of pipe.

H. Secure signs to posts with saddles and vandal-proof nuts.

I. Install parking control signs with bottom of upper sign 60 inches above finished grade. Install accessible parking signs with bottom of upper sign 80 inches above finished grade. Install lower signs in two sign assemblies with top within 1 inch of bottom of upper sign.

3.4 PROTECTION

A. Exercise reasonable precautions to protect the paint, as applied, during drying time.

Remove objectionable tracking.

END OF SECTION

SECTION 32 18 13

SYNTHETIC GRASS SURFACING COMMAND CORE

PART 1 - GENERAL

1.1 SUMMARY

A. Furnish all labor, materials, tools and equipment necessary for the complete installation of a playground protective synthetic grass surfacing system that meets the requirements of ASTM F 1292-09 and IPEMA Certification of conformance as a safe public play surface as indicated on the plans and as specified herein; including components and accessories required for a complete installation, including but not limited to:

1. Acceptance of prepared sub-base.
2. Coordination with related trades to ensure a complete, integrated, and timely installation: aggregate base course, sub-base material (tested for permeability), grading and compacting, piping and drain components (when required); as provided under its respective trade section.

1.2 RELATED SECTIONS

A. Section 31 23 00 – Excavation and Fill

B. Section 32 11 00 – Base Courses

1.3 REFERENCE STANDARDS

A. ASTM – American Society for Testing and Materials.

1. D1577 - Standard Test Method for Linear Density of Textile Fiber.
2. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering.
3. D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Covering.
4. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics.
5. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test).
6. D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
7. F1292-09 - Standard Test Method for Impact Attenuation or Critical Fall Height of Surfacing Materials Under and Around Playground Equipment.
8. D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.

B. IPEMA – International Play Equipment Manufacturers Association

1. Public Play Surfacing Certified to ASTM F1292-09 - Standard Test Method for Impact Attenuation or Critical Fall Height of Surfacing Materials Under and Around Playground Equipment.

1.4 PERFORMANCE REQUIREMENTS

A. Completed synthetic grass surfacing system shall be capable of meeting the following performance requirements:

1. IPEMA Public Play Surfacing Certified.
2. ASTM D4491: Water permeability test. Synthetic grass surface shall drain at a rate of 300 inches or more, of water per hour.
3. ASTM D1338: Tuft bind. Synthetic grass surfacing shall have a tuft bind, without infill material of 8 pounds or more.

1.5 SUBMITTALS

A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Architect for approval prior to bidding in accordance Section 01 25 13, Product Substitution Procedures.
   1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
   2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.

B. Comply with Section 01 33 00, Submittals Procedures. Submit for approval prior to fabrication.

C. Product Data:
   1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations.
   2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
   3. Submit data in sufficient detail to indicate compliance with the contract documents.
   4. Submit manufacturer's instructions for installation.
   5. Submit manufacturer’s IPEMA Certificate to indicate compliance with certified public play surfacing.

D. Samples: Submit samples, illustrating details of finished product in amounts as required by General Requirements, or as requested by Architect.

E. List of existing installations: Submit list including respective Owner’s representative and telephone number.

F. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.

G. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
   1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
   2. Primary & Secondary Backing Weights, ASTM D5848.
   3. Tuft Bind, ASTM D1335.
   4. Grab Tear Strength, ASTM D1682 or D5034.
   5. Water Permeability, ASTM D4491
   6. Artificial turf fiber proposed for the field(s) must have successfully undergone a minimum of 200,000 cycles on the Lisport wear test. This fiber must be exactly the same fiber that is being proposed for the field(s). Official report must be provided.

1.6 QUALITY ASSURANCE

A. Comply with Section 01 43 00, Quality Assurance.

B. Manufacturer Qualifications: Engaged in manufacturing synthetic grass surfacing products for a minimum of fifteen (15) years.
   1. The Manufacturer shall be experienced in the manufacturing and installation of specified type of playground protective synthetic grass surfacing system. This includes use of a dual polymer

monofilament fiber, slit-film fiber and texturized monofilament fiber, backing, the backing coating, shock absorbing playground pad and the installation method.

2. The Manufacturer shall own and operate its own manufacturing plant. Manufacturing the fiber, tufting of the fibers into the backing materials and coating of the synthetic grass system must be done in-house by manufacturer.
3. The Manufacturer must hold ISO 9001, ISO 14001 and ISO 45001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.
4. The Manufacturer must hold IPEMA certification for specified synthetic grass product.

C. Installer/Contractor Qualifications: Company shall specialize in performing the work of this section.
1. The Company shall provide competent workmen skilled in this specified type of playground protective synthetic grass system installation.
2. The designated Supervisory Personnel on the project shall be certified, in writing by the manufacturer, as competent in the installation of specified type of synthetic grass system, including gluing seams and proper installation of the infill material.
3. The Company shall be certified by the manufacturer and licensed (if required).

D. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:
1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.

E. The Installer/Contractor shall verify special conditions required for the installation of the playground protective synthetic grass system if required.

F. The Installer/Contractor shall notify the Architect of any discrepancies.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with Section 01 60 00, Product Requirements.

B. Deliver and store components with labels intact and legible.

C. Store materials/components in a secure manner, under cover and elevated above grade.

D. Protect from damage during storage, handling and installation. Protect from damage by other trades.

E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.

1.8 SEQUENCING AND SCHEDULING

A. Coordinate the Work with installation of work of related trades as the Work proceeds.

B. Sequence the Work in order to prevent deterioration of installed system.

1.9 WARRANTY

A. See Section 01780 - Closeout Submittals, For Additional Warranty Requirements.

B. The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of ten (10) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured; pre paid for the entire 10 year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:

1. Pre-Paid 10-year insured warranty from a single source.
2. Maximum per claim coverage amount of $33,000,000.
3. Minimum of thirty-three million dollars ($33,000,000) annual.
4. Must cover full 100% replacement value of total square footage installed, minimum of $7.00 per sq ft. (in case of complete product failure, which will include removal and disposal of the existing surface)
5. Provide a sample copy of insured, non-prorated warranty and insurance policy information.
6. Policy cannot include any form of deductible to be paid by the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURER AND DISTRIBUTOR

Approved Manufacturer: FieldTurf USA, Inc. 175 N. Industrial Boulevard, Calhoun, GA 30701
Contact: Steve Taylor – staylor@heavenlygreens.com - 408.595.2105

A. Approved Product: COMMAND CORE

2.2 MATERIALS AND PRODUCTS

A. Synthetic Grass Surfacing system shall consist of the following:
   1. Synthetic grass surfacing made with a combination of dual polymer monofilament fibers, slit-film fibers and texturized monofilament fibers, tufted into a fibrous, perforated and porous backing.
   2. Anchoring device to secure perimeter edge of synthetic grass.
   3. Infill: PureGeo-Coconut made of coconut peat and cork that partially covers the synthetic grass. Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.
   4. Glue, thread, seaming fabric and other materials used to install and mark the synthetic grass.

B. Synthetic grass surfacing system shall have the following properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier A	14000
ASTM D1577	Fiber Denier B	10000+
ASTM D1577	Fiber Denier C	5000+
ASTM D5823	Pile Height	1.625”
ASTM D5793	Stitch Gauge	3/8”
ASTM D5848	Pile Weight	65 oz/square yard
ASTM D5848	Primary Backing	>9oz/square yard
ASTM D5848	Secondary Backing	>21 oz/square yard
ASTM D5848	Total Weight	>94 oz/square yard
ASTM D1338	Tuft Bind (Without Infill)	8lbs
ASTM D4491	Turf Permeability	300 inches/hour
N/A	Infill Component	3 lbs/square foot

Variation of +/- 5% on above listed property values is within normal manufacturing tolerances

C. Synthetic grass surfacing product shall consist of dual polymer monofilament fibers, slit-film fibers and texturized monofilament fibers tufted into a primary backing with a secondary backing.

D. Backing:
1. Primary backing shall be a triple-layered polypropylene fabric.
2. Secondary backing shall consist of an application of porous urethane to permanently lock the fiber tufts in place.
3. Perforated (with punched holes), backed turf is acceptable.
4. Turf with attached scrim in lieu of porous urethane is unacceptable.

E. Primary fiber shall be 14,000 denier, low friction, and UV-resistant fiber measuring not less than 1.625 inches high. Secondary fiber shall be +10,000 denier. Third fiber shall be +5,000 denier.

F. Infill materials shall be approved by the manufacturer.
1. Infill shall consist of PureGeo-Coconut made of coconut peat and cork . Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.

G. Glue and seaming fabric, for seaming of synthetic grass shall be as recommended by the synthetic grass manufacturer.

2.3 QUALITY CONTROL IN MANUFACTURING

A. The manufacturer shall own and operate its own manufacturing plant in North America. Both tufting of the fibers into the backing materials and coating of the turf system must be done in-house by the synthetic grass manufacturer. Outsourcing of either is unacceptable.

B. The manufacturer shall have full-time certified in-house inspectors at their manufacturing plant that are experts with industry standards.

C. The manufacturer’s full-time in-house certified inspectors shall perform pre-tufting fiber testing on tensile strength, elongation, tenacity, and denier, upon receipt of fiber spools from fiber manufacturer.

D. Primary backing shall be inspected by the manufacturer’s full-time certified in-house inspectors before tufting begins.

E. The manufacturer’s full-time in-house certified inspectors shall verify “pick count”, yarn density in relation to the backing, to ensure the accurate amount of face yarn per square inch.

F. The manufacturer’s full-time, in-house, certified inspectors shall perform product inspections at all levels

of production including during the tufting process and at the final stages before the synthetic grass is loaded onto the truck for delivery.

G. The manufacturer shall have its own, in-house laboratory where samples of synthetic grass are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that all sub-base leveling is complete prior to installation.

B. Installer/Contractor shall examine the surface to receive the synthetic grass, the shock absorbing playground pad, and accept the sub-base planarity in writing prior to the beginning of installation.
   1. Acceptance is dependent upon the Owner's test results indicating compaction and planarity are in compliance with manufacturer's specifications.
   2. The surface shall be accepted by Installer as "clean" as installation commences and shall be maintained in that condition throughout the process.

C. Compaction of the aggregate base shall be 90%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2 inch from design grade.

D. Correct conditions detrimental to timely and proper completion of Work.

E. Do not proceed until unsatisfactory conditions are corrected.

F. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

A. Prior to the beginning of installation, inspect the sub-base for tolerance to grade.

B. Sub-base acceptance shall be subject to receipt of test results (by others) for compaction and planarity that sub-base is in compliance with manufacturer's specifications and recommendations.

C. When requested by Architect, installed sub-base shall be tested for porosity prior to the installation of the synthetic grass system. A sub base that drains poorly is an unacceptable substrate.

3.3 INSTALLATION

A. The finished surface shall appear as mowed grass with no irregularities and shall be required to meet ADA standards for accessibility, as requested by the Architect.

B. The installation shall be performed in full compliance with approved Shop Drawings.

C. Only trained technicians, skilled in the installation of synthetic grass systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, top-dressing or brushing operations.

D. The designated Supervisory personnel on the project must be certified, in writing by the manufacturer, as competent in the installation of this material, including gluing seams and proper installation of the Infill material.

E. Install at location(s) indicated, to comply with final shop drawings, manufacturers'/installer's instructions.

F. The Installer/Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Architect and/or Owner, verifying that the changes do not in any way affect the Warranty. Infill materials shall be approved by the manufacturer and installed in accordance with the manufacturer's standard procedures.

G. Playground protective synthetic grass system shall be installed directly over the prepared aggregate.
   1. The Contractor and the Installer shall handle the shock pad with caution to ensure it is not damaged in any way. Precautions shall also be taken to prevent damage to the sub-base during the installation of the material.
   2. Shock pad is installed as a series of interlocking panels per the instructions provided by the manufacturer
   3. Shock pad shall be installed with geotextile side up.
   4. Detailed installation guidelines (e.g. installation manual) shall be requested by shock pad Installer and provided by shock pad manufacturer
   5. Coordinate installation of foam pad with the synthetic turf installation as required to conform to both manufacturer warranties.

H. Infill Materials:
   1. Infill materials shall be applied in thin lifts. The turf shall be brushed as the material is applied. The infill material shall be installed to a depth determined by the manufacturer.
   2. Infill material shall be installed in a systematic order.
   3. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of PureGeo-Coconut made of coconut peat and cork. Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.
   4. The Installer/Contractor shall keep area clean throughout the project and clear of debris. Upon completion of installation, the finished project shall be inspected by the installation crew and an installation supervisor.

3.4 ADJUSTMENT AND CLEANING

A. Do not permit traffic over unprotected surface.

B. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.

C. All usable remnants of new material shall become the property of the Owner.

D. The Contractor shall keep the area clean throughout the project and clear of debris.

E. Surfaces, recesses, enclosures, and related spaces shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

3.5 PROTECTION

A. Protect completed playground protective synthetic grass surfacing system throughout construction process until project completed.

END OF SECTION 32 13 13.1
(REVISED 02/10/2020)

32 18 16 - RUBBERIZED SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Rubberized playground surfacing.
2. Surfacing sub-base.

B. Related Work includes:

1. Playground equipment, see Drawings.

1.3 DESCRIPTION

A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the installation of the poured-in-place resilient playground surfacing.

1.4 PERFORMANCE REQUIREMENTS

A. ASTM C518 Thermal Resistance

B. ASTM C1028 Dry Static Coefficient of Friction test

C. ASTM C1371-04a Determination of Emittance of materials

D. ASTM C1549-04 Solar Reflectance Index near Ambient Temperatures test

E. ASTM D395 Compression set

F. ASTM D412 Tensile Strength and Elongation

G. ASTM D624 Tear Strength

H. ASTM D2047 Static Coefficient of friction

I. ASTM D2895 Flammability Test

J. ASTM D3389 Taber Abrasion test

K. ASTM E108 Class “A” Fire Resistance

L. ASTM E303-93 (2008) Skid resistance

M. ASTM E1980-01 Solar Reflective Index / Low Slope opaque

N. ASTM F1292 Head Impact Attenuation

O. ASTM F1292 Head Impact Attenuation (Over play system wiring conduit)

P. ASTM E303 Skid Resistant Test

1.5 DESCRIPTION

A. A dual durometer poured-in-place system with an upper wearing layer and an underlying impact attenuation cushion layer. The finished surface shall be porous and capable of being installed at varying thickness to comply with Critical Fall Height requirements of playground equipment installed in conjunction with the surface.

1.6 SUBMITTALS

A. Manufacturer's Product Literature and Specification Data.

B. ASTM F1292-09 Impact Attenuation Test Certification for the poured-in-place system to be installed in compliance with the Critical Fall Height as determined by the Playground Equipment to be installed in conjunction with the poured-in-place surfacing system.

C. IPEMA Certification is Mandatory. Submit IPEMA Certificate at time of bid.

D. Statement of Warranty for a minimum five year period with detailed Warranty Claim requirements of the owner and specific procedures to be followed by the manufacturer in terms of response and repair of warranty claims.

E. Insurance requirement – manufacturer will submit insurance certificate for General Liability and Excess liability for a total of $15,000,000 (Fifteen Million dollars). Submit this insurance document at time of bid. Lesser amounts of coverage shall automatically disqualify bid.

1.7 QUALITY ASSURANCE

A. Manufacturer shall have manufactured and installed playground poured-in-place surfacing systems for a minimum of 10 years and meet current ASTM F-1292-09 Test Criteria and CPSC Publication 325.

B. The installation of the poured-in-place product shall be completed by Manufacturer Certified Contractors or by direct employees of the Manufacturer's Installation Division. Manufacturer's detailed installation procedures shall be submitted to the Architect and made a part of the Bid Specifications.

PART 2 - PRODUCTS

2.1 PRODUCTS:

A. SpectraPour® Safety Surfacing. Contact Chris Wolf at SpectraTurf, (800) 875-5788 or fax (951) 734-3630 www.spectraturf.com.

B. FlexGround pour in place surfacing.

C. Or approved equal. Equals shall be submitted for review no less than 10 days before bid. No exceptions to this 10-day prior approval requirement are allowed.

2.2 MATERIALS:

A. Rubberized playground surfacing:

1. The SpectraPour® play surface shall be manufactured from a precise blend of Spectra EPDM (or Spectra TPV by special request) mixed with 100% SpectraPour 1118 AROMATIC polyurethane. Polyurethane contained any TDI shall not be allowed due to environmental regulations. For hot, humid climates, SpectraPour 1102, a slower speed version may be substituted for SpectraPour 1118.

2. SpectraPour cushion course (bottom layer) shall be a precise blend of Spectra SBR rubber particles of heterogeneous distribution bonded by Spectra 1165 polyurethane binder applied to 100% of the rubber and installed to a designated thickness as required by the Consumer Product Safety's Commission's Guidelines and ASTM F1292-09 Test Criteria.

3. SpectraPour wearing surface (top layer) shall be a mixture of black EPDM or colored EPDM 1-4 mm granules (or Spectra TPV by special request), bonded by a polyurethane binder applied to 100% of the granules and applied to a minimum thickness of 1/2" over the cushion layer. Color choice and blend ratios to be of color selected by the owner.

4. SpectraPour Geotextile Fabric shall be used on systems installed directly over type 2 road base similar sub-base materials. SpectraTurf Geotextile Fabric is not used over concrete or asphalt substrates.

5. Finish Texture: Pebble grain.

6. Color: 50% Beige, 50% Brown.

B. Sub-base material options:

1. Aggregate Base: Installation of a minimum four (4) inch layer of aggregate crushed rock or road base shall be completed and compacted to a 90% rating and a + ¼" level when measured with a ten foot straight edge in any direction. The compaction shall be completed in two (2) inch lifts after the area has been water sprayed. The entire area shall be graded at a minimum of 1.5 - 2% for drainage in compliance with existing site conditions. Aggregate base other than type 2 road base must be submitted to SpectraTurf for approval.

2. Compacted Aggregate Base: SpectraPour Geotextile Fabric shall be applied over the compacted and graded stone sub-base. The application of the poured in-place system shall be applied over the SpectraPour Geotextile Fabric.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that survey is specified in Division 1 Section “Execution Requirements” or is otherwise available. Consider using sleeves to leave voids in new concrete substrates. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries**,** site clearing, earthwork, pavement work, and other conditions affecting performance.

B. Do not begin installation before final grading is completed, unless otherwise permitted by Architect.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. The sub-base of the entire area to be surfaced shall be cleared of any foreign materials and treated to eliminate growth of grass, weeds, shrubbery, trees, etc.

B. The native sub-base shall be graded to allow for proper water drainage that will prevent sub-base erosion.

C. The native sub-base shall be compacted to a 90% rating.

D. Curbing shall be installed at the perimeter of the area to be installed and may be concrete or other acceptable system that will not deteriorate over the anticipated life of the system. Curbing shall be set at an acceptable grade level to permit proper drainage and contain the area.

PART 4 – CORRECTIONS

4.1 Any portion of the above stated work shall be inspected by SpectraTurf prior to application of the safety surfacing materials.

4.2 Any corrections deemed necessary by SpectraTurf or the Architect shall be completed by the parties responsible for the appropriate portion of the work prior to the installation of the Safety Surfacing system.

4.3 Under no circumstances shall SpectraTurf assume responsibility nor warranty cost for any failure of work completed by others (see Statement of Warranty).

END OF SECTION 32 18 16

SECTION 32 31 00 – ORNAMENTAL STEEL FENCING AND GATES

PART 1 – GENERAL

1.01 WORK INCLUDED

A. The contractor shall provide all labor, materials and appurtenances necessary for installation of the welded ornamental steel fence system defined herein.

1.02 RELATED WORK

B. Section 31 11 00 – Clearing and Grubbing
C. Section 32 05 23 – Concrete for Exterior Improvements

1.03 SYSTEM DESCRIPTION

A. The manufacturer shall supply a total fence system of Montage II® Welded and Rackable (ATF – All Terrain Flexibility) Ornamental Steel Genesis™ design. The system shall include all components (i.e., panels, posts, gates and hardware) required.

1.04 QUALITY ASSURANCE

A. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.05 SUBMITTAL

A. The manufacturer's literature shall be submitted prior to installation.

1.06 PRODUCT HANDLING AND STORAGE

A. Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

PART 2 – MATERIALS

2.01 MANUFACTURER

A. The fence system shall conform to Montage II® Welded and Rackable (ATF – All Terrain Flexibility) Ornamental Steel Genesis™ design, extended picket bottom rail treatment, 3-rail style manufactured by Ameristar Fence Products, Inc.

2.02 MATERIAL

A. Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (310 MPa) and a minimum zinc (hot-dip galvanized) coating weight of 0.90 oz/ft2 (276 g/m2), Coating Designation G-90.

B. Material for pickets shall be 1" square x 14 Ga. tubing. The rails shall be steel channel, 1.75" x 1. 75" x .105". Picket holes in the rail shall be spaced 4.715" o.c. Fence posts and gate posts shall meet the minimum size requirements of Table 1.

C. Provide caps for all posts.

Table 1 – Minimum Sizes for Montage II Posts			
Fence Posts	Panel Height		
2-1/2" x 12 Ga.	Up to & Including 6' Height		
3" x 12 Ga.	Over 6' Up to & Including 8' Height		
Gate Leaf	Gate Height		
	Up to & Including 4'	Over 4' Up to & Including 6'	Over 6' Up to & Including 8'
Up to 4'	2-1/2" x 12 Ga.	3" x 12 Ga.	3" x 12 Ga.
4'1" to 6'	3" x 12Ga.	4" x 11 Ga.	4" x 11 Ga.
6'1" to 8'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16"
8'1" to 10'	4" x 11 Ga.	6" x 3/16"	6" x 3/16"
10'1" to 12'	4" x 11 Ga.	6" x 3/16"	6" x 3/16"
12'1" to 14'	4" x 11 Ga.	6" x 3/16"	6" x 3/16"
14'1" to 16'	6" x 3/16"	6" x 3/16"	6" x 3/16"

2.03 FABRICATION

A. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.

B. Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar's proprietary fusion welding process, thus completing the rigid panel assembly.

C. The manufactured panels and posts shall be subjected to an inline electrodeposition coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be black. The coated panels and posts shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2.

D. The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fences under ASTM F2408.

E. Swing gates shall be fabricated using 1.75" x 14ga Forerunner double channel rail, 2" sq. x 11ga. gate ends, and 1" sq. x 14ga. pickets. Gates that exceed 6' in width will have a 1.75" sq. x 14ga. intermediate upright. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding. Gusset plates will be welded at each upright to rail intersection. Cable kits will be provided for additional trussing for all gate leaves over 6'.

Table 2 – Coating Performance Requirements		
Quality Characteristics	ASTM Test Method	Performance Requirements
Adhesion	D3359 – Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance over 1,500 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).
Weathering	D822 D2244, D523 (60˚	Weathering Resistance over 1,000 hours (Failure mode is

Resistance	Method)	60% loss of gloss or color variance of more than 3 delta-E color units).

PART 3 – EXECUTION

3.01 PREPARATION

A. All new installation shall be laid out by the contractor in accordance with the construction plans.

3.02 FENCE INSTALLATION

A. Fence posts shall be spaced according to Table 3, plus or minus ½". For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence panels shall be attached to posts with brackets supplied by the manufacturer. Posts shall be set in concrete footings having a minimum depth of 36", unless noted otherwise in architectural drawings. The "Concrete" section of this specification shall govern material requirements for the concrete footings.
B. All posts are to be capped. All caps are to be tack welded to posts.

	Table 3 – Montage II – Post Spacing By Bracket Type									
Span	For INVINCIBLE® 8' Nominal (91-1/2" Rail)				For CLASSIC, GENESIS, & MAJESTIC 8' Nominal (92-5/8" Rail)					
Post Size	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"
Bracket Type	Industrial Flat Mount (BB301)*		Industrial Line 2-1/2" (BB319) 3" (BB320)		Industrial Universal 2.5" (BB302) 3" (BB303)		Industrial Flat Mount (BB301)		Industrial Swivel (BB304)*	
Post Settings ± ½" O.C.	94-1/2"	95"	94-1/2"	95"	96"	96-1/2"	96"	96-1/2"	*96"	*96-1/2"
*Note: When using BB304 swivel brackets on either or both ends of a panel installation, care must be taken to ensure the spacing between post and adjoining pickets meets applicable codes. This will require trimming one or both ends of the panel. When using the BB301 flat mount bracket for Invincible style, rail may need to be drilled to accommodate rail to bracket attachment.										

3.03 FENCE INSTALLATION MAINTENANCE

A. When cutting/drilling rails or posts adhere to the following steps to seal the exposed steel surfaces; 1) Remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1-3 above will negate warranty. Ameristar spray cans or paint pens shall be used to prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-Ameristar parts or components will negate the manufactures' warranty.

3.04 GATE INSTALLATION

A. Gate posts shall be spaced according to the manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers' gate drawings and architectural drawings shall identify the necessary gate hardware required for the application. Gate hardware shown in the manufacturer's drawings shall be provided by the manufacturer of the gate and shall be installed per

manufacturer's recommendations. Additional gate hardware shown on the architectural drawings shall be provided by and installed by the contractor.

B. For gates the exceed 6' in length, gate posts are to be filled with concrete.

3.05 CLEANING

A. The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

END OF SECTION 32 31 00

SECTION 32 31 13 - CHAIN-LINK FENCING AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Chain-Link Fences: Industrial.
2. Gates: Horizontal slide and swing.

1.2 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates.

1. Fence and gate posts, rails, and fittings.
2. Chain-link fabric, reinforcements, and attachments.
3. Gates and hardware.

B. Samples for Initial Selection: Manufacturer's color charts or 6-inch lengths of actual units showing the full range of colors available for components with factory-applied color finishes.

C. Samples for Verification: For each type of chain-link fence and gate indicated.

1. Polymer-coated steel wire (for fabric) in 6-inch lengths.
2. Polymer coating, in 6-inch lengths on shapes for posts, rails, wires, and] gate framing and on full-sized units for accessories.

D. Product Certificates: For each type of chain-link fence, and gate, signed by product manufacturer.

1. Strength test results for framing according to ASTM F 1043.

Qualification Data: For Installer.

E. Maintenance Data: For the following to include in maintenance manuals:

1. Polymer finishes.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed chain-link fences and gates similar in material, design, and extent to those indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

B. Pre-installation Conference: Conduct conference at Project site to comply with district requirements.

1.4 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Chain-Link Fences and Gates:

a. Allied Tube and Conduit Corporation
b. American Fence Corporation
c. Anchor Fence, Inc.
d. United States Steel

2.2 CHAIN-LINK FENCE FABRIC

A. General: Height indicated on Drawings. Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with ASTM A 392, CLFMI CLF 2445, and requirements indicated below:

1. Steel Wire Fabric: Metallic coated wire with a diameter of 0.148 inch.

a. Mesh Size: 1 inch.
b. Weight of Metallic (Zinc) Coating: ASTM A 392, Type II, Class 2 oz./sq. ft**.** with zinc coating applied after weaving.
c. Polymer Coating: Minimum 7 mil PVC plastic resin finish. ASTM D 668, Class 2 over metallic-coated steel wire.

1) Color: Black

d. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturer's standard clear protective coating.
e. Furnish one piece fabric widths for fencing up to 12 feet high.

2. Steel Wire Fabric: Metallic coated wire with diameter of 0.148 inch.

a. Mesh size: 3-1/2 inch by 5 inch, prewoven. Acceptable supplier: Security Contractor Services (408) 295-8556 or approved equal.

3. Selvage: Knuckled at both selvages.

2.3 INDUSTRIAL FENCE FRAMING

A. Posts and Rails: Comply with ASTM F 1043 for framing, ASTM F 1083 for Group IC round pipe, and the following:

1. End, Corner and Pull Posts - Up to 7 foot fabric height: 2.375" OD steel pipe, 3.65 lbs. Per lin. Ft., or 3.5" x 3.5" roll formed sections, 4.85 lbs. per lin. ft.
2. End, Corner and Pull Posts – Over 7 foot fabric height: 2.875" OD steel pipe, 5.79 lbs. Per lin. Ft., or 3.5" x 3.5" roll formed sections, 4.85 lbs. per lin. ft.
3. Line Posts – Up to 7 foot fabric height: 1.90: OD steel pipe, 2.70 lbs. per lin. ft., or 1.875" x 1.625" C- sections, 2.28 lbs. per lin. ft.
4. Line Posts – Over 7 foot to 8 foot fabric height: 2.375" OD steel pipe, 3.65 lbs. per lin. ft., or 2.25" x 1.875" H-sections, 2.64 lbs. per lin. ft.
5. Line Posts – Over 7 foot fabric height: 2.875" OD steel pipe, 5.79 lbs. per lin. ft., or 2.25" x 1.875" H-sections, 3.26 lbs. per lin. ft.
6. Top Rail: 1.66" OD steel pipe, 2.27 lbs. per lin. ft., or 1.625" x 1/25" roll-formed sections, 1.35 lbs. per lin. ft.

B. Swing Gate Post: Furnish posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:

1. Leaf width up to 6 feet: 2.875" OD steel pipe, or 3.5" x 3.5" roll formed, 4.85 lbs. per lin. ft.
2. Leaf width over 6 feet to 13 feet: 4.00" OD steel pipe, 5.79 lbs. per lin. ft.
3. Leaf width over 13 feet to 18 feet: 6.625" OD steel pipe, 18.97 lbs. per lin. ft.
4. Leaf width over 18 feet: 8.625" OD steel pipe, 28.55 lbs. per lin.ft.

C. Horizontal-Slide Gate Post: According to ASTM F 1184.

1. Openings up to 12 Feet: Steel post, 2.875" OD steel pipe, 4.64-lbs. per lin. ft.
2. Openings Wider than 12 Feet: Steel post, 4.00" OD, 8.65 lbs. per lin. ft..
3. Guide posts for Class 1 horizontal-slide gates equal the gate post height, 1 size smaller, but weight is not less than 3.11 lb/ft.; installed adjacent to gate post to permit gate to slide in space between.

D. Coating for Steel Framing:

1. Metallic Coating:

a. Type A, consisting of not less than minimum 2.0-oz./sq. ft. average zinc coating per ASTM A 123/A 123M or 4.0-oz./sq. ft. zinc coating per ASTM A 653/A 653M.
b. Thermally bonded (PVC) plastic resin finish over metallic coating (galv) not less than 10 mils. Color to match chain link fabric.

2.4 TENSION WIRE

A. General: Provide horizontal tension wire at the following locations:

1. Location: Extended along top and bottom of fence fabric.

B. Metallic-Coated Steel Wire: 0.177-inch- diameter, marcelled tension wire complying with ASTM A 817, ASTM A 824, and the following:

1. Metallic Coating: Type II, zinc coated (galvanized) by hot-dip process, with the following minimum coating weight:

a. Matching chain-link fabric coating weight.

2.5 INDUSTRIAL SWING GATES

A. General: Comply with ASTM F 900 for single and double swing gate types.

1. Metal Pipe and Tubing: Galvanized steel. Comply with ASTM F 1043 and ASTM F 1083 for materials and protective coatings.

B. Frames and Bracing: Fabricate members from round, galvanized steel tubing with outside dimension and weight according to ASTM F 900 and the following:

1. Gate Fabric Height: 2 inches less than adjacent fence height.
2. Leaf Width: As indicated.
3. Frame Members: Tubular Steel: 1.90 inches round.

C. Frame Corner Construction:

1. Welded or assembled with corner fittings and rivets, and 3/8-inch diameter, adjustable truss rods for gate panels.

D. Hardware: Provide hardware and accessories for each gate, galvanized per ASTM A153, and in accordance with the following:

1. Latches, forked type or plunger-bar type permitting operation from both sides of gate, hinges, center gate stops and keepers for each gate leaf more than 5 feet wide. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.
2. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 180 degree gate opening. Provide 1-1/2 pair of hinges for each leaf over 7 foot nominal height.
3. Keeper: Provide keeper for vehicle gates, which automatically engages gate leaf and holds it open position until manually released.
4. Double Gates: Provide gate stops for double gates, consisting of mushroom type flush plate with anchors, set in concrete, and designed to engage center drop rod or plunger bar. Include locking device and padlock eyes as integral part of latch, permitting both gate leaves to be locked with a single padlock.

2.6 INDUSTRIAL HORIZONTAL-SLIDE GATES

A. General: Comply with ASTM F 1184 for single or double slide gate types. Provide manufacturer's standard heavy-duty inverted channel track, ball bearing hanger sheaves, overhead framing and supports, guides, stays, bracing, hardware, and accessories as required.

2.7 FITTINGS

A. General: Comply with ASTM F 626.

B. Post and Line Caps: Provide for each post.

1. Line post caps with loop to receive tension wire or top rail.

C. Rail and Brace Ends: Attach rails securely to each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:

1. Top Rail Sleeves: Pressed-steel or round-steel tubing not less than 6 inches long.
2. Rail Clamps: Line and corner boulevard clamps for connecting intermediate and bottom rails in the fence line-to-line posts.

E. Tension and Brace Bands: Pressed steel.

F. Tension Bars: Steel, length not less than 2 inches shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post. Bars shall be 3/16" x ¾".

G. Truss Rod Assemblies: Steel, hot-dip galvanized after threading rod and turnbuckle or other means of adjustment.

H. Tie Wires, Clips, and Fasteners: According to ASTM F 626.

1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:

a. Hot-Dip Galvanized Steel: 0.148-inch diameter wire**;** galvanized coating thickness matching coating thickness of chain-link fence fabric.

I. Finish:

1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz. /sq. ft. zinc.

2.8 CAST-IN-PLACE CONCRETE

A. Materials: Portland cement complying with ASTM C 150, Type I aggregates complying with ASTM C 33, and potable water. Measure, batch, and mix Project-site-mixed concrete according to ASTM C 94/C 94M.

1. Concrete Mixes: Normal-weight concrete**,** 2%to 4% air entrained with not less than 3000-psi compressive strength (28 days), 3-inch slump, and 1-inch maximum size aggregate.

B. Materials: Dry-packaged concrete mix complying with ASTM C 387 for normal-weight concrete mixed with potable water according to manufacturer's written instructions.

2.9 POLYMER FINISHES

A. Supplemental Color Coating: In addition to specified metallic coatings for steel, provide fence components with polymer coating.

B. Metallic-Coated Steel Tension Wire: PVC-coated wire complying with ASTM F 1664, Class 2b.

C. Metallic-Coated Steel Framing and Fittings: Comply with ASTM F 626 and ASTM F 1043 for polymer coating applied to exterior surfaces and, except inside cap shapes, to exposed interior surfaces.

1. Polymer Coating: Not less than 10-mil- thick PVC finish.

D. Color: Black.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries**,** site clearing, earthwork, pavement work, and other conditions affecting performance.

1. Do not begin installation before final grading is completed, unless otherwise permitted by Architect.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.

1. Install fencing on established boundary lines inside property line or as indicated.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

1. If diameter is not indicated, excavate holes for posts to diameters as recommended by manufacturer, but not less than 4 times the largest cross section of post.

2. **Use Sonatube or equal formwork to 6" below grade**

B. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.

1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Extend concrete 2 inches above grade; shape and smooth to shed water. Protect aboveground portion of posts from concrete splatter.
3. Center and align posts in holes 3 inches above bottom of excavation.

C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.

D. Line Posts: Space line posts uniformly at 10 feet o.c. maximum.

E. Post Tops: Provide weather tight closure cap with loop to receive top rail. One cap for each post.

F. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Install braces at end and gate posts and at both sides of corner and pull posts.

1. Locate horizontal braces at midheight of fabric 6 feet or higher, on fences with top rail. Install so posts are plumb when diagonal rod is under proper tension.

G. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch- diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric.

1. Top Tension Wire: Install tension wire through post cap loops.
2. Bottom Tension Wire: Install tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.

H. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

I. Bottom Rails: Install, spanning between posts.

J. Chain-Link Fabric: Apply fabric to outside of enclosing framework. Leave 2 inches between finish grade or surface and bottom selvage (except at Tennis Courts, which shall be 1 inch), unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

K. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c. At gates, install fabric with stretcher bars at vertical edges and top and bottom edges. Attach stretcher bars to gate frame at not more than 15 inches o.c.

L. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at 1 end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

M. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

3.5 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.6 ADJUSTING

A. Gate: Adjust gate to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain gates.

END OF SECTION 32 31 13

SECTION 32 84 00

Planting Irrigation

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Provide complete, automatically controlled, spray sprinkler, turf rotor, bubbler and/or drip underground irrigation system as shown on Drawings.

B. This Section includes but is not limited to: excavating, backfilling, finish grading, piping, valves, sprinklers, specialties, controls, and wiring for automatic control irrigation system.

C. Related Sections include the following:

1. 32 91 00 Temporary Tree and Plant Protection.

2. 32 92 00 Turf Planting

1.3 DEFINITIONS

A. Certified Landscape Irrigation Auditor (CLIA): a person certified to perform landscape irrigation audits by the Irrigation Association Certification Board.

B. Lateral (Circuit) Piping: Downstream from control valves to sprinklers, rotors, emitters and specialties. Piping is under pressure during flow.

C. Mainline Piping: Downstream from point of connection to water distribution piping to, and including, control valves. Piping is under water-distribution-system pressure.

D. The following are industry abbreviations for plastic materials:

1. ASME: American Society of Mechanical Engineers.

2. ASTM: American Society for Testing and Materials.

3. AWG-UF: American Wire Gauge - Underground Feeder

4. NFPA: National Fire Protection Association.

5. PSIG: Pounds per Square Inch Gauge.

6. PVC: Polyvinyl Chloride Plastic.

7. SDR: Standard Direct Ratio.

8. V: Volt

1.4 PERFORMANCE REQUIREMENTS

A. Location of Sprinklers, Rotors, Emitters and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs and light standards. Maintain 100 percent, head to head, water coverage of turf and planting areas indicated with uniform coverage and minimum over-spray onto paving and no spray onto buildings and structures.

B. Minimum Working Pressures: The following are minimum rated pressure requirements for piping, valves, and specialties, unless otherwise indicated:

1. Irrigation Main Piping: 200 psig.

2. Lateral (Circuit) Piping: 150 psig.

1.5 SUBMITTALS

A. Product and Project Data: With-in 14 days after award of the contract, furnish the Owner's Representative with submittal data on all items intended for installation. Substitute equipment or material installed without the approval of the Owner's Representative will be removed and replaced with specified items at this Contractor's expense. Submit manufacturer's technical data and installation instructions for irrigation components conforming to requirements of Division 1, Section 01 33 00 Submittals, Shop Drawings and Product Data. Include pressure ratings, rated capacities, and settings of irrigation components. Submittal shall include the following:

1. Backflow device including cage and/or blanket.

2. Main, lateral (circuit) and sleeving pipe.

3. Pipe fittings, primer and cement.

4. Tracer wire and/or warning tape.

5. Isolation valves.

6. Remote control valves.

7. Valve boxes.

8. Sprinklers, rotors, bubblers, drip emitters.

9. Swing joints.

10. Tree bubbler drain tubes.

11. Controllers. Include wiring diagrams, enclosures and mounting methods.

12. Control wires. Include splice kits and conduit.

13. Valve identification tags.

14. Irrigation Wiring Diagram: Contractor shall prepare and submit an irrigation wire diagram showing location of control wire, common wire, spare control wire and spare common wire with quantities noted at each run shown on copy of irrigation plan in a legible size and format.

15. Irrigation installation firm qualifications in accordance with “quality assurance”.

16. Name and contact information of certified irrigation auditor performing the irrigation audit for this project.

B. Coordination Drawings: During the course of construction, maintain orderly set of irrigation drawings and details on project site during installation of irrigation system. Record daily changes showing piping and major system components. Measure and neatly record dimensions for all mainlines, control wire runs, and all other pertinent information facilitating maintenance and extension of the irrigation system to within one (1) foot horizontally and six (6) inches vertically. Indicate interface and spatial relationship between piping, system components, adjacent utilities, and proximate structures. Up to

date coordination drawings shall be available for review prior to meetings with the Owner's Representative.

C. Submittals at Substantial Completion:

1. Irrigation Record Drawings. Contractor shall record information gathered on "Coordination Drawings" onto a clean set of Irrigation Plans for documentation of as-built conditions.

2. Controller Legend: Upon approval of record drawing submittal, prepare two (2) legible, reduced to 11" by 17" in size, non-fading, waterproof copies of the Record Irrigation Drawings, laminated between two (2) .020 mm (minimum) plastic sheets, printed on front side only. Attach one (1) copy to door of controller or enclosure and deliver one (1) copy to Owner. Plan sheet shall include the following information:

    a. Installing Contractor's company name, phone number and address.

    b. Color coded zone identification by valve.

    c. Zone start time.

    d. Zone water duration.

    e. Type of planting irrigated.

    f. Valve size, station numbers and controller designations.

3. Operation and Maintenance Data: For irrigation systems, to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Closeout Procedures," include data for the following:

    a. Automatic-control valves.

    b. Sprinklers, rotors and/or emitters.

    c. Controllers.

1.6 QUALITY ASSURANCE

A. Governing Agency Requirements:

1. For projects subject to review and approval by local governing agencies, Contractor shall comply with the State of California Model Water Efficient Landscape Ordinance at a minimum and shall conform to local codes and/or ordinances, whichever may be more stringent.

2. For projects under review of DSA, Contractor shall comply with the State of California Model Water Efficient Landscape Ordinance requirements at a minimum.

B. Installer Qualifications:

1. Experience: The irrigation installation firm shall have contracted for and successfully completed construction of a minimum of five (5) California public school district construction projects, approved by the Division of the State Architect (DSA), within the past five (5) years of similar size, complexity, budget and scope.

2. Licensure: The irrigation installation firm shall hold a current, active C27 “Landscaping Contractor” license classification by the California State License Board that has been consistently active for at least five (5) years and that has not been suspended or revoked.

3. Supervision: The irrigation installation firm shall have a qualified and experienced irrigation technician on site during irrigation installation.

4. Drip Irrigation: The irrigation installation firm shall have contracted for and successfully complete construction of a minimum of five (5) drip irrigation installations within the past five (5) years of similar size and complexity.

C. Manufacturer Qualifications: Provide underground irrigation system as a complete unit. Each type component produced by a single acceptable manufacturer, including heads, valves, controls and accessories.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in CEC, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

E. Pipe crossings beneath fire Lanes: Comply with NFPA 24-10, Depth of Cover at Fire Access Lanes.

F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section “Project Management and Coordination”.

G. All work and materials shall be in strict accordance with the latest rules and regulations of the State Fire Marshal, Safety Orders of the Division of Industrial Safety, California Electrical Code, California Administrative Code, part 4, Title 24, “Basic Mechanical Regulations” and other applicable state or local laws or ordinances. Nothing in these drawings or specifications is to be construed as permitting work which does not conform to the codes or regulations.

H. Contractor shall provide all licenses, fees and other charges required for completion of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

B. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.8 PROJECT CONDITIONS

A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:

1. Notify Owner's Representative no fewer than two days in advance of proposed interruption of water service.

2. Do not proceed with interruption of water service without Owner's Representative's written permission.

B. Interruption of Existing Irrigation Service: Do not interrupt existing to remain irrigation service. Prior to demolition work and prior to beginning irrigation work, review project site and meet with Owner Representative to review locations and connections of existing to remain irrigation system. Coordinate with General Contractor to ensure existing irrigation remains in place and operable through the duration of construction. In the event existing irrigation is shut off or damaged during construction, contractor shall provide temporary connections or modifications to continue water service to existing to remain planting material or turf to maintain in a healthy growing condition throughout construction. In the event water service is not available, contractor shall apply water through manual delivery means as necessary. Obtain approval from Owner's Representation two days in advance of any planned disruptions in water service.

1.9 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

Asphalt Playground and Play Structure Replacement

Hayes Elementary School

Oak Grove School District

Project No. 24013

DSA Appl. No. 01-122194

1.10 MAINTENANCE

A. ~~Irrigation maintenance shall coincide with planting maintenance, refer to Specification 32 90 00 "Planting". In the event planting is not part of this work, maintenance shall begin at written approval from Owner's Representative of substantial completion, run sixty (60) calendar days and until receipt of Owner's Representative's written acceptance of completion of punch list items.~~ **Contractor shall maintain newly installed irrigation system until acceptance of final completion of turf planting and irrigation; through substantial completion and completion of punch list items.**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Use new materials of brands shown or Drawings, specified herein or approved equal.

B. Use existing materials if shown on Drawings.

C. Substitution of sprinklers, rotors, drip, valves and controllers will not be allowed due to variation in flows, precipitation rates, friction losses, and sizing and maintaining consistency with client equipment standards.

2.2 PIPES, TUBES, AND FITTINGS

A. Above Grade Irrigation Mainline Piping: Steel Pipe, ASTM A 53/A 53M, Schedule 40, Type S or E, Grade A or B, galvanized with threaded ends.

1. Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M or ASTM A 106, Schedule 40, galvanized, seamless steel pipe with threaded ends.

2. Malleable-Iron Unions: ASME B16.39, Class 150, hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface, and female threaded ends.

3. Gray-Iron Threaded Fittings: ASME B16.4, Class 125, galvanized, standard pattern.

4. Cast-Iron Flanges: ASME B16.1, Class 125.

5. Cast-Iron Flanged Fittings: ASME B16.1, Class 125, galvanized.

B. Mainline piping (unless specified otherwise on Drawings):

1. Class 200 (C900), gasketed, purple reclaimed water PVC pipe, ASTM D-2241, NSF approved (size 6" and larger).

2. Class 315 purple reclaimed water PVC pipe, ASTM D-2239, NSF approved (size 2-1/2" to 4").

3. Schedule 40 purple reclaimed water PVC pipe, ASTM D-1785, NSF approved (size 2" and smaller).

4. Fittings to be schedule 80 PVC.

5. 6" and larger pipe to be secured with Lemco stainless steel LB series joint restraints or approved equal.

C. Lateral piping (unless specified otherwise on Drawings):

1. Schedule 40 purple reclaimed water PVC pipe, ASTM D 2466, NSF approved.

2. Fittings to be schedule 40 PVC.

D. Sleeves (unless specified otherwise on Drawings):

1. For irrigation piping, use schedule 40 purple PVC pipe, NSF approved, two, three (3) inch minimum size for irrigation piping.

2. For irrigation wiring, use schedule 40 PVC pipe, UL listed, NEMA TC-6, ANSI/UL651, ASTM F512, for outdoor, direct bury applications, PVC, two (2) inch minimum size.

3. Fittings to be schedule 80.

2.3 VALVES:

A. BACKFLOW PREVENTION DEVICE: As indicated on the Drawings.

B. QUICK-COUPLERS: As indicated on the Drawings.

C. VALVE BOXES:

1. In paved areas, use Christy concrete utility box, size as required.

2. In planting areas, use Christy plastic underground enclosure. Boxes shall have locking lid, bolt and washer, size as required, color to be green in turf areas, black in planting areas and purple for recycled water systems.

3. Valve boxes to be rectangular for flow sensors, master control valves, remote control valves and ball or gate valves and round for quick coupling valves.

4. Valve box lids shall be labeled “IRRIGATION”.

D. PULL BOXES AND SPLICE BOXES:

1. In paved areas, use Christy concrete utility box, size as required.

2. In planting areas, use Christy plastic underground enclosure. Boxes shall have locking lid, bolt and washer, size as required, color to be green in turf areas, black in planting areas and purple for recycled water systems.

3. Valve boxes to be rectangular for remote control valves and ball or gate valves and round for quick coupling valves.

4. Valve box lids shall be labeled “IRRIGATION”.

E. WIRE MESH AT VALVE BOXES: ½ inch by ½ inch, 16 gauge, galvanized wire mesh hardware cloth.

F. VALVE IDENTIFICATION TAGS: Shall be plastic yellow in color for potable water systems and purple in color for recycled water systems with 1 1/8” stamped black letters indicating controller/station number.

G. SAND BACKFILL: shall consist of natural sand, manufactured sand, existing of native material, or combinations thereof, and shall conform to astm c-40 organic impurities, astm d-2419 sand equivalent and a ph value between 4.5 and 9.

H. VALVE BOX ROCK: shall be ¾” or smaller drain rock or pea gravel unless specified otherwise on Drawings.

I. VALVE BOX SUPPORT BRICK: shall be common red brick unless specified otherwise on Drawings.

AUTOMATIC CONTROL SYSTEM:

A. CONTROLLER: As indicated on Drawings.

B. AUTOMATIC CONTROLLER GROUNDING: Contractor shall install grounding recommended by manufacturer for installation method detailed on this project.

C. WIRING: All 24 v line to be #14-1 awg-uf. Control wire insulation to be red in color and spare wire to be yellow in color. 24 v common wire to be #12-1 awg-uf, insulation to be white in color and spare common insulation shall be black in color.

D. SPLICING MATERIALS: manufacturer's packaged kit consisting of insulating, spring-type connector or crimped joint and epoxy resin moisture seal; suitable for direct burial.

E. CONNECTORS: Shall be or 3M “DBY” connectors or equal.

TRACER WIRE/DETECTABLE WARNING TAPE:

A. Install tracer wire or detectable warning tape as indicated on Drawings.

B. Tracer Wire: #8 solid Bare Copper Wire.

C. Detectable Warning Tape: Electronically detectable plastic tape with metallic core, Terra Tape D, manufactured by Griffolyn Co., or equal, two (2) inches in width, continuously imprinted “caution buried water line”.

CONCRETE THRUST BLOCKING:

A. Shall be clean, Portland cement concrete, cast in place, five sacks of cement per cubic yard mixture with a 28-day compressive strength of 2,500 psi.

SPRINKLERS, DRIP SYSTEM, BUBBLERS, EMITTERS:

A. As indicated on Drawings.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Refer to Division 31 "Earthwork" for excavating, trenching, and backfilling.

B. Install piping and wiring in sleeves under sidewalks, roadways, and parking lots, and under or through footings and building walls.

1. Install piping sleeves by boring or jacking under existing paving if possible.

2. Install a minimum of two (2) three (3) inch diameter sleeves in each location for irrigation piping and a minimum of one (1) two (2) inch diameter electrical conduit sleeving in each location for irrigation wire.

3. Sleeves shall extend twelve (12) inches beyond edges of paving and walls with ends capped.

C. Provide minimum cover over top of underground piping according to the following:

1. Irrigation Mainline Piping: Minimum depth of 24 inches below finished grade to top of pipe.

2. Lateral Piping: Minimum depth of 18 inches below finished grade to top of pipe.

3. Sleeves containing irrigation wires, mainline and/or lateral piping beneath standard paving: Minimum depth of 24 inches below finish surface to top of pipe.

4. Sleeves containing irrigation wires, mainline and/or lateral piping beneath vehicular paving including fire lanes/emergency vehicle access (EVA): Minimum depth of 36 inches below finish surface to top of pipe.

5. Drip Irrigation: Install drip and/or emitter lines and tubing as detailed on Drawings.

D. Excavate trenches with vertical sides, uniform bottom, free of deleterious materials, and wide enough for pipes to lay side by side, fully supported on bottom. Minimum 3" clearance between pipes. Twelve (12") inch minimum width for mainlines and six (6") inch minimum width for lateral lines.

E. Trenches with pressure pipe and control wiring to be backfilled with sand to 6 inches minimum above top of pipe. Continue backfilling in 6 inch layers with soil free of rocks or waste materials. Compact soil to a density equal to the surrounding undisturbed soil, but not less than 90%. Any subsequent depressions shall be filled at the Contractor's expense. Particular attention is directed to firmly tamp and moistening around sprinkler heads and quick-couplers.

1. For irrigation pipes three (3) inches and larger in size, install additional six (6) inch depth sand beneath piping.

F. Trenches and backfill installed under paving, asphalt concrete or concrete shall be backfilled with sand and compacted in layers equal in density to the adjacent undisturbed soil or to 90% compaction, using manual or mechanical tamping devices. All trenches shall be left flush with the adjoining grade.

1. The Contractor shall set in place, cap and pressure test pressurized mainline under paving prior to the paving installation.

2. For irrigation pipes three (3) inches and larger in size, install additional six (6) inch depth sand beneath piping.

3.2 PREPARATION

A. Set stakes to identify locations of proposed irrigation system. Obtain Owner's Representative's approval before excavation.

PIPING APPLICATIONS

B. Install components having pressure rating equal to or greater than system operating pressure.

C. Piping in control valve boxes and above ground may be joined with flanges instead of joints indicated.

D. Aboveground Irrigation Main Piping: Use any of the following piping materials for each size range:

1. NPS 4 and Smaller: Steel pipe; malleable-, gray-, or cast-iron fittings; and threaded joints.

2. NPS 5 and Larger: Steel pipe; malleable-, gray-, or cast-iron fittings; and threaded joints.

E. Underground irrigation main piping shall be purple recycled water pipe, polyvinyl chloride (Type I) plastic pipe PVC 1120 and NSF approved, Schedule 40 PVC solvent-weld unless otherwise indicated on Drawings.

F. Underground Irrigation Lateral (Circuit) piping shall be purple recycled water pipe, polyvinyl chloride (Type I) plastic pipe PVC 1120 and NSF approved, schedule 40 PVC solvent-weld.

G. Mainline pipe sizes 6” and larger shall use gasketed pipe with bell fittings. Where solvent weld joints are required, contractor shall additionally install concrete thrust blocking.

H. Underground Branches and Offsets at Sprinklers and Devices: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.

I. Mainline Fittings and Couplings: Schedule 80, PVC pipe, solvent weld up to 4” and gasketed with bell fittings 6” and larger pipe.

J. Risers to Aboveground Sprinklers and Specialties: ASTM A-120 Schedule 40 galvanized steel pipe with 150 lb. banded galvanized malleable iron fittings.

K. Double Swing Joint Assembly (unless specified otherwise on Drawings):

1. Install per manufacturers recommendations.

2. Install double swing joint at all sprinkler heads and quick couplers.

3. Elbows shall be PVC Class 1220, Schedule 40.

4. Install as follows:

a. Screw 2 inch long nipple horizontally into plastic tee or ell at lateral line.

b. Screw on elbow and a 6 inch long nipple.

c. Screw on another elbow and a 2 inch long nipple and install riser vertically to head, or quick coupler valve.

d. Swing joint must offset to the right.

L. Sleeves: Schedule 40 PVC pipe and socket fittings; and solvent-cemented joints.

M. Transition Fittings: Use transition fittings for plastic-to-metal pipe connections according to the following:

1. Couplings:

    a. Underground Piping NPS 1-1/2 and Smaller: Manufactured fitting or coupling.

    b. Underground Piping NPS 2 and Larger: AWWA transition coupling.

2. Fittings:

    a. Aboveground Piping: Plastic-to-metal transition fittings.

    b. Underground Piping: Union with plastic end of same material as plastic piping.

N. Dielectric Fittings: Use dielectric fittings for dissimilar-metal pipe connections according to the following:

1. Underground Piping:

    a. NPS 2 and Smaller: Dielectric couplings or dielectric nipples.

    b. NPS 2-1/2 and Larger: Prohibited except in valve box.

2. Above ground Piping:

    a. NPS 2 and Smaller: Dielectric unions.

    b. NPS 2-1/2 to NPS 4: Dielectric flanges.

3. Piping in Valve Boxes or Vaults:

    a. NPS 2 and Smaller: Dielectric unions.

b. NPS 2-1/2 to NPS 4: Dielectric flanges.

4. Dielectric fittings are specified in Division 22 Plumbing.

3.3 VALVE APPLICATIONS

A. Backflow Prevention Devices:

1. New and relocated backflow devices must be tested at time of installation. Contractor shall have test performed by a Certified Backflow Tester who has a current State of California Contractor's license C-36 or General Contracting License.

2. For new backflow preventer installation, a Certified Tester shall test and provide results and certification to the Owner's Representative within five (5) days of the date of testing and to provide any testing data or certification required by the local water provider. A Department of Public Health sticker shall be place on backflow device before the system is accepted by the Owner's Representative.

3. Install per local codes and water purveyor requirements.

4. A Department of Public Health sticker shall be placed on backflow device before the system is accepted by the Owner's Representative.

Underground Gate/Ball Valves: Install in control-valve box as detailed on drawings.

B. Underground, Manual Control Valves: Install in manual control-valve box as detailed on drawings.

C. Remote Control Valves: Install in control-valve box as detailed on drawings.

D. Drain Valves: Install in control-valve box as detailed on drawings.

E. Install each valve in a separate valve box (unless noted otherwise in Drawings and details) and in appropriate locations as shown on Drawings. Allow 12 inches between valve boxes and between valve boxes and walls or walks or landscape edges. Boxes shall be arranged perpendicular and parallel to each other and aligned in a row.

3.4 PIPING INSTALLATION

A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings. Piping shown on drawings is diagrammatic. General arrangement of piping shall be followed as near as practical. Where piping is shown running continuously in paving and adjacent to planting area, intent is to install piping within planting areas where practical.

B. Install pipe sleeves at all points where pipes pass through concrete, asphalt or masonry. In footings, allow 1 inch clearance around pipe, and in other locations allow ½ inch. Each end of sleeve shall extend 6 inches beyond edge of paving or structure above. Provide removable non-decaying plug at each end of sleeve to prevent intrusion of earth and debris.

C. If drain valves are used, install piping at minimum uniform slope of 0.5 percent down toward drain valves.

D. Install piping free of sags and vertical bends.

E. Install groups of pipes parallel to each other, spaced to permit valve servicing.

F. Install fittings for changes in direction and branch connections. Pipe bending shall not exceed manufacturer recommended radii.

G. Install flanges adjacent to valves and to final connections to other components with NPS 2-1/2 or larger pipe connection.

H. Install dielectric fittings to connect piping of dissimilar metals.

I. Install underground thermoplastic piping according to ASTM D 2774 and ASTM F 690.

J. Lay piping on solid sub-base, fully and evenly supported by bedding, uniformly sloped without humps or depressions.

K. Install PVC piping in dry weather when temperature is above 40 degrees F (5 degrees C). Allow joints to cure at least 24 hours at temperatures above 40 degrees F (5 degrees C) before testing unless otherwise recommended by manufacturer.

L. Snake pipe a minimum of one (1) additional foot per one hundred (100) feet of pipe to allow for expansion and contraction.

M. Cap or plug openings as soon as lines have been installed to prevent intrusion of debris.

N. Thrust Blocking: Install concrete thrust blocking, at a minimum, on pressurized mainline three (3) inches and four (4) inches in size at changes in direction, connections or branches from mainline and dead ends and as necessary to prevent pipe movement thrusts created by internal water pressure. Concrete shall be placed directly on the fitting perpendicular to the line of thrust and also against the undisturbed earth. The amount of concrete shall be in accordance to the pressure, angle and soil type. Refer to pipe manufacturer for calculating exact size of thrust blocking material, 2022 CPC and IAPMO installation standards.

O. Joint Restraints: Install joint restraints per manufacturer recommendations on pressurized mainlines six (6) inches and larger at changes in direction, connections or branches

from mainline and dead ends and as necessary to prevent pipe movement thrusts created by internal water pressure.

P. After installation of pipe lines and sprinkler risers, and prior to installation of sprinkler heads, automatic valves and quick couplers, thoroughly flush all lines with a full head of water to remove any foreign material, scale, sediment, etc.

3.5 TRACER WIRE

A. Install as detailed along all new irrigation mainline piping on bottom of trench, carefully run to avoid stress from backfilling and shall be continuous throughout the mainline pipe runs. Fasten tracer wire to mainline at eight (8) foot intervals with tape. Take precautions to ensure tape is not damaged or misplaced during backfill operations.

B. Tracer wire shall follow mainline pipe and branch lines, originating in irrigation valve box at gate, ball or remote control valve located closest to irrigation point of connection and run to ball, gate and/or remote control valves at the end of mainline runs or shall loop entire system where mainlines are looped.

C. Record locations of tracer wire origin and terminations on project record drawings.

3.6 DETECTABLE WARNING TAPE

A. Install tape with printed side up, directly over mainline pipe and on top of sand backfill, 18 inches below grade. Take precautions to ensure tape is not damaged or misplaced during backfill operations.

3.7 JOINT CONSTRUCTION

A. Refer to Division 22 Section "Piped Utilities -- Basic Materials and Methods" for basic pipe joint construction.

B. Install threaded pipe joints as follows:

1. Use pipe joint sealant for all plastic to plastic and plastic to steel joints, do not apply to sprinkler inlet ports.

2. For PVC, hand tighten only. Do not over tighten threaded joints. Thread until fitting stops, then add a half turn.

3. Use pipe joint compound and/or Teflon tape for all steel to steel joints.

C. Install gasketed joint per manufacturer recommendations (printed on pipe material) and using the lubricant supplied with the pipe.

3.8 SPRINKLER INSTALLATION

A. Locate part-circle sprinklers to maintain a minimum distance of six (6) inches from adjacent paving and edges and twelve (12) inches clearance from walls, fences and other structures, unless otherwise indicated on Drawings.

B. Spray sprinklers shall not be installed less than 24” from non-permeable surfaces unless the adjacent non-permeable surface is constructed to drain entirely to the landscape area.

C. Swing Joint Assembly:

1. Install triple swing joint at all sprinkler heads and quick couplers.

2. Elbows shall be PVC Class 1220, Schedule 40.

3. Install as follows:

a. Screw 2 inch long nipple horizontally into plastic tee or ell at lateral line.

b. Screw on elbow and a 6 inch long nipple.

c. Screw on another elbow and a 2 inch long nipple.

d. Screw on another elbow and install riser vertically to head, or quick coupler valve.

e. Swing joint must offset to the right.

D. Sprinkler Installation:

1. Install sprinklers heads as shown on drawings and details.

2. Install plumb to finish grade.

3. Tool tighten all sprinkler body covers and nozzles.

3.9 DRIP/EMITTER INSTALLATION

A. Minimum cover sub-surface drip tubing: Drip and/or emitter lines shall be installed as detailed on Drawings and below the mulch top dressing layer.

B. Minimum cover of tubing to individual shrubs: shrub bubbler tubing shall be installed to a depth of (4) inches and rising to the surface at target shrub rootball. No more than one (1) inch of tubing shall be exposed at shrub rootball.

C. Backfill after lines have been reviewed, tested for leaks and approved by Owner's Representative.

D. Assembling drip system shall keep pipe and tubing free from dirt and debris, pipe ends shall be cut square, deburred and cleaned.

E. Flush piping prior to installing remote control valve assembly (control zone kit assembly).

F. Follow manufacturer recommendations.

3.10 AUTOMATIC-CONTROL SYSTEM INSTALLATION:

A. Exact location of controllers shall be reviewed and approved by Owner's Representative.

B. Provide connection to nearest available 110 volt electrical service.

C. Prior to installation of hardscape, coordinate and install electrical supply and control wire conduit, size and quantity as required for each controller and spare wiring. Install pull boxes and conduit from clock location.

D. Contractor shall install grounding system per manufacturer recommendations.

E. Control wiring shall be neatly coiled beneath controller terminal strip and labeled with corresponding station number. Controller terminal strip cover plate shall fasten securely in place.

F. Contractor is responsible to provide fully automatic system operated by specified controller(s). Contractor shall install quantity of red wiring equal to the number of stations on the specified irrigation controller(s), plus five (5) yellow spare control wires for each controller, a common white wire and a spare common black wire. Example, 24 station clock shall have 24 control wires, 5 spare control wires and 2 common wires installed with mainline and running through all associated valve boxes. Wires shall be installed per plans and details from remote control valve(s) to controller(s).

G. Example of mainline that is not looped and terminates in 3 locations with a 24 station clock and 18 stations used:

1. Wire quantities shall be:

- 18 red control wires for stations 1-18
- 6 red control wires for un-used stations 19-24
- 1 white common wire
- 1 black spare common wire
- 5 yellow spare wires

2. Wire runs:
    - 18 red control wires (stations 1-18) shall run from controller to corresponding valve.
    - 6 red control wires (un-used stations 19-24) shall run from controller and loop through each valve box associated with that controller.
    - 1 white common wire shall run from controller and connect to each valve associated with that controller.
    - 1 black spare common wire shall run from controller and connect to each valve associated with that controller.
    - 5 yellow spare control wires shall run from controller and loop through each valve box associated with that controller.
3. Contractor shall label all wires with water-proof marking with corresponding station number or as spare control wire, spare common wire or spare stations 19-24.

H. Wiring path is not shown on drawings and shall run from specified controller(s) to irrigation pull box if shown, then to the nearest irrigation mainline location, follow mainline (existing and/or new) to each remote control valve. Indicate wire location on record drawings where it does not follow mainline. Common and spare wires shall loop through

entire system. Wiring may be shown on drawings only where required for future irrigation extensions.

I. Irrigation Central Control system standard for this project must be compatible with owners central control software and hardware.” Contractor shall ensure controller communicates properly with project central computer and receives daily downloads for weather updates.

3.11 CONNECTIONS/ELECTRICAL WIRING

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Ground equipment according to Division 26 Section.

C. Connect wiring according to Division 26 Section.

D. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

E. 24 volt splices to be made with 3M Co. #3577 splice kit, as to manufacturer’s instructions. Splices to be made only at valve box or pull box.

3.12 REMOTE CONTROL VALVE WIRING

A. Wires shall be installed in gray UL approved, electrical conduit between controller and pull box. Pull box to be located in ground nearest controller. Top of box to be flush with finish grade.

B. Provide separate irrigation wire sleeves under concrete or asphalt for irrigation wires, size and quantity as required, three (3) inches minimum in diameter, 24" minimum cover in planting areas and 36" minimum cover under fire lanes and pavements.

C. Wires from the pull box shall be direct burial. The wiring shall be bundled and secured to the lower side of the irrigation pipe at ten (10) foot intervals with plastic electrical tape. Sufficient slack shall be left in the wire to provide for expansion and contraction.

D. Provide 24 inches excess of coil of control wires in each 100 feet of run to controller.

E. Provide 24 inches excess of coil of control wires in each valve box and pull box.

F. Control wires to be buried a minimum of 24 inches below finish grade.

G. Wiring shall be tested for continuity, open circuits and unintentional grounds prior to connecting to equipment.

H. Install irrigation wire splice boxes where wire splices are necessary.

3.13 LABELING AND IDENTIFYING

A. Valve Identification Tags: Install valve identification tag on each remote control valve with corresponding controller station number.

3.14 FIELD QUALITY CONTROL

A. Manufacturer's Field Service for irrigation pumps and central control systems: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including mounting, electrical connections, water connections, grounding and proper communication on site, with hand-held remotes and with central computer software. Make repairs and/or adjustments as recommended. Submit factory-authorized service representative's written approval of installation at Substantial Completion.

~~B. After substantial completion, Contractor shall schedule an Irrigation Audit to be performed by a third-party certified landscape irrigation auditor. Contractor shall make necessary adjustments, if any, during maintenance period and provide written certification of installation from certified landscape irrigation auditor as part of final completion and end of maintenance.~~

C. Perform the following field tests and inspections in the presence of the Inspector and/or Owner's Representative with 72 hours advance notice. Contractor shall record date, time, names of those present and results and submit to Owner's Representative prior to requesting substantial completion review:

1. Leak test of pressurized mainline: After installation of mainline and prior to installing remote control valves, quick coupling valves or other valve assemblies and prior to backfilling trenches, test the mainline for leaks as follows:

    a. Testing shall occur with trenches open. Center load piping with small amounts of backfill between fittings to prevent pipe displacement, arching or slipping. Fittings to be visible for testing.

    b. Exercise care in filling the system with water to prevent excessive surge pressure and water hammer

c. Test pressurized mainline piping under hydrostatic pressure of 125 psi for eight (8) continuous hours, minimum. Coordinate with Owner's Representative for initial observation of beginning test and observation after test. Install two (2) pressure gauges at opposite ends of mainline system. Pressurize system up to a minimum of 125 psi the day preceding the scheduled test and verify the pressure is holding at both ends. Inspect system early the following day in the presence of the Owner's Representative and note pressure. One hour later, verify pressure has not dropped more than five (5) psi in the presence of the Owner's Representative.

d. Correct deficiencies revealed by test and repeat pressure test to the satisfaction of the Owner's Representative.

2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.

3. Coverage Test: When the irrigation system has been completed, the Contractor, in the presence of the Architect and Owner's Representative, shall perform a Coverage Test to determine if the coverage of water is complete and adequate, the sprinkler heads and/or emitters function according to manufacturers' data and according to the intent of the construction documents. Replace irrigation components not performing satisfactorily and/or respace sprinklers and/or nozzles and/or emitters as necessary to provide complete irrigation coverage of plant material.

   a. For new turf areas, Contractor shall demonstrate irrigation coverage over amended soil and prior to installation of sod and/or seeded turf.

4. Substantial Completion Review: At substantial completion of this Section, work shall be reviewed for conformance with the Drawings and Contractor shall make recommended repairs and/or corrections in a timely manner and prior to final completion.

   ~~a. At substantial completion, contractor shall submit Certified Landscape Irrigation Auditor preliminary report on irrigation system.~~

b. At substantial completion, Contractor shall submit documentation per 1.5 “submittals at substantial completion” to Architect for review and acceptance.

c. At substantial completion, Contractor shall deliver spare parts to District Representative per 1.5 “Submittals at substantial completion”.

5. Final Completion Review: After substantial completion repairs and/or corrections have been completed ~~and at the end of the maintenance period~~, work shall be reviewed for final completion and approved by Owner’s Representative in writing.

~~a. At final completion, Contractor shall submit Certified Landscape Irrigation Auditor final report confirming irrigation installation is compliant with DSA MWELO requirements.~~

3.15 CLOSING IN UN-INSPECTED WORK

A. The Contractor will pay all costs necessitated by required opening, restoration and correction of all work closed in or concealed before inspection, testing as required, and approval by authorized inspections.

3.16 STARTUP SERVICE

A. Verify that controllers are installed and connected according to the Contract Documents.

B. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements in Division 16 Sections.

C. Complete startup checks according to manufacturer's written instructions.

3.17 MAINTENANCE SCHEDULE

A. Fine tune and adjust irrigation system weekly coinciding with the landscape and/or turf planting maintenance period.

B. Adjust settings of controllers within WELO water budget and with seasonal changes.

C. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

D. Adjust sprinklers so they will be flush with, or not more than 1/2 inch above, finish grade.

E. Fill irrigation trenches due to settling.

3.18 CLEANING

A. Completely flush dirt and debris from piping before installing sprinklers and other devices.

B. After completion, cleanup and remove all resultant debris from site.

3.19 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controller and automatic control valves. Refer to Division 1 Section “Demonstration and Training."

3.20 GUARANTEE (Project Close-out Item)

A. Furnish a written Guarantee to the Owner, dated from the date of Final Acceptance, against defective workmanship, materials or components and guaranteeing repair or replacement for a period of 1 year; further guarantee restoration of all damage caused by leaks in the Irrigation System for a like period.

B. Guarantee that the entire installation was made in accordance with the drawings, specifications and manufacturer's recommendations, using designated materials and installation procedures.

C. Submit duplicate copies of the Guarantee for approval by the Owner's Representative. Approval is mandatory before final payment and acceptance.

D. The guarantee for the irrigation system shall be made in accordance with the form attached at the end of this Section. The guarantee form shall be retyped onto the Contractors letterhead and contain the information shown.

Asphalt Playground and Play Structure Replacement

Hayes Elementary School

Oak Grove School District

Project No. 24013

DSA Appl. No. 01-122194

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted.

We agree to repair or replace any defects in materials and workmanship which may develop during the period for one (1) year from the date of acceptance and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time, as determined by the Owner, after receipt of written notice.

The Owner reserves the right to make temporary repairs as necessary to keep the irrigation system and equipment in operating conditions. This shall not relieve the Contractor of his responsibilities under this Guarantee.

In the event of failure to make such repairs or replacements within a reasonable time after receipt of written notice form the Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

Project:_____

Location:_____

_____

Name of Contractor:_____

Signed: (Authorized Signature)_____

Print Name of Authorized Signature_____

Address:_____

_____

Phone:_____ Date of Acceptance: _____

END OF SECTION 32 84 00

(REVISED 06/02/2025)

Asphalt Playground and Play Structure Replacement

Hayes Elementary School

Oak Grove School District

Project No. 24013

DSA Appl. No. 01-122194

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SECTION 32 91 00

Temporary Tree and Plant Protection

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Description of Work:

1. Protection of existing trees and vegetation to remain.
2. Trimming of existing trees.
3. Maintenance of existing trees during construction.
4. Removal and re-installation of existing trees.

C. Traffic:

1. Do not interfere with or close public ways without permission of the Owner's Representative.
2. Do not interfere with adjacent private properties without permission of the Owner's Representative.

D. Site Utilities:

1. Advise utility companies of excavation activities before starting excavations.

2. Locate and identify underground utilities passing through work area before starting work.

3. In event unidentified underground utilities are encountered during work, advise utility owner immediately before proceeding. Add any new utility information to project record drawings for actual location.

4. Protect all existing-to-remain utilities.

5. Do not interrupt existing utilities without advance notice to and approval from the Owner's Representative.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified arborist and tree service firm.

B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work and for removal and re-installation of existing trees.

D. Existing Conditions: Documentation of existing trees and plantings indicated to remain and/or relocate, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1. Use sufficiently detailed photographs.

2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.4 QUALITY ASSURANCE

A. Arborist Qualifications: Certified Arborist as certified by the International Society of Arboriculture (ISA) and having performed similar services for a minimum of five (5) years.

B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

1.5 PROJECT CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.

2. Parking vehicles or equipment.

3. Foot traffic.

4. Erection of sheds or structures.

5. Impoundment of water.

6. Excavation or other digging unless otherwise indicated.

7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

1.6 Definitions

A. Caliper: Caliper on young trees are taken six (6) inches above the soil level and measure by a

diameter across the tree trunk. For a tree exceeding a four (4) inch caliper, the diameter measurement is then taken at twelve (12) inches above the soil level. For a mature tree, the caliper is taken at chest height, generally 4-1/2 to 5 feet above the soil level. The measurement is taken using a tree caliper, a utensil in the shape of an “F” with an adjustable cross arm to slide and rest up against the trunk to measure the precise distance of the trunk width.

B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.

C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by a circle concentric with each tree with a radius equal to the diameter of the drip line unless otherwise indicated.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

PART 2 - PRODUCTS

TREE PROTECTION PROTECTIVE FENCE

A. Existing shrubs and/or trees to remain on the project site shall be protected with a five (5) foot high orange plastic snow fence. Fence shall be mounted on two (2) inch diameter lodge pole posts driven into the ground every six (6) feet to a depth of at least two (2) feet. Fence shall be erected and installed around the perimeter dripline of each shrub, tree or groups of shrubs or trees to remain.

B. During planting and irrigation operations, protective fencing is not required beneath existing to remain trees and shrubs that fall within the newly landscaped and/or irrigation area.

2.1 TOPSOIL

A. Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than one (1) inch in diameter; and free of weeds, roots, and toxic and other non-soil materials.

2.2 ORGANIC MULCH

A. If Specification Section 32 90 00 “Planting” is not issued as part of this project, organic mulch to be green materials, yard trimmings, brush and leaves, ground to 2” and screened to remove material smaller than 3/8”, free from deleterious materials and suitable as a top dressing of trees and shrubs, water -based deep brown in color, Mahogany Wonder Mulch. Contact Vision Recycling, www.visionrecycling.com, (510) 429-1300. Submit sample to Owners Representative’s for review and approval.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain. Tie a 1-inch blue-vinyl tape around each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas if indicated within Drawings.

1. Apply 3-inch average thickness of organic mulch. Do not place mulch within 6 inches of tree trunks.

3.3 TREE- AND PLANT-PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Plastic Protection Zone Fencing: Neatly install protection zone plastic fabric by securing to posts with plastic bands or steel wires, a minimum of two per post, additionally if required to withstand typical construction activity.

2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Owner’s Representative.

3. Access Gates: Install as necessary; adjust to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Owner's Representative. Install one sign spaced approximately every 50 feet on protection-zone fencing, but no fewer than two signs with each facing a different direction.

C. Maintain protection zones free of weeds and trash.

D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Owner's Representative.

E. Maintain protection-zone fencing and signage in good condition as acceptable to Owner's Representative and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.

2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3. Temporary access is permitted for landscape irrigation and planting operations.

3.4 EXCAVATION

A. General: Excavation and trenching shall be performed at a minimum, in accordance with these specifications and per Drawings and Details and in accordance with recommendations from project Arborist retained by Contractor.

B. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.

C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If

encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.

D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:

1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.

2. Cut Ends: Coat cut ends of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to arborist.

3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.

4. Cover exposed roots with burlap and water regularly.

5. Backfill as soon as possible.

B. Root Pruning at Edge of Protection Zone: Prune roots flush with the edge of the protection zone, by cleanly cutting all roots to the depth of the required excavation.

C. Root Pruning within Protection Zone: Avoid cutting trenches within shrub and/or tree protection zone. If trenching is unavoidable, cut trenches with an air spade tool to expose roots without cutting them. Roots encountered smaller than two (2) inches in diameter may be cut, not torn for removal. Cleanly cut roots as close as possible to excavation. Roots larger than two (2) inches in diameter shall remain.

3.6 CANOPY PRUNING

A. General Pruning Procedures:

1. Prune trees according to ANSI A300 (Part 1).

2. Cut branches with sharp pruning instruments; do not break or chop.

3. Do not apply pruning paint to wounds.

B. Pruning Goals (Prune as follows and under the direction of Certified Arborist):

1. Prune trees to remain to compensate for root loss caused by construction damage. Provide subsequent maintenance during landscape irrigation and planting maintenance period and until “final completion” as recommended by Certified Arborist.

2. Prune to remove dead wood, promote proper structure, thin and open canopy, and for general health for the specific tree species.

3. Prune for clearance from structures, pathways and driveways and streets and for a balanced canopy.

C. Cleaning: Chip removed branches and dispose of off-site.

3.7 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.

1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

D. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

3.8 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain, to over-see removal and re-installation of existing plant material and to prepare inspection reports.

3.9 REMOVE AND RE-INSTALL EXISTING TREES

A. Plant material noted on Drawing to be transplanted shall be carefully removed from planting area and planted in new location indicated on Planting Plan. Removal shall consist of digging around the dripline of each plant to be transplanted and to the depth where roots are present. Plant and rootball shall be carefully moved to new planting pit.

B. Re-install transplanted plant material to location indicated on Drawing as follows:

1. Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation. Excavate approximately planting pit sizes twice the width of the planting pot and equal to the depth of the planting pot.

2. Carefully install root ball without damaging root ball or plant.

3. Set rootball onto compacted native soil so the rootball sits one (1) inch above adjacent finish grade.

4. Amend backfill soil per tree planting detail and landscape planting specifications.

5. Place planting soil around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing

remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil.

6. Stake tree(s) per tree planting detail.

3.10 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Owner's Representative.

1. Submit details of proposed root cutting and tree and shrub repairs.

2. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.

3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.

4. Perform repairs within 24 hours.

5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Owner's Representative.

B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the maintenance period or are damaged during construction operations that the Owner's Representative determines are incapable of restoring to normal growth pattern.

1. Provide new trees of same size and species as those being replaced for each tree that measures three (3) inches or smaller in caliper size.

2. Provide new trees of 48" box size and species as those being replaced for each tree that measures greater than three (3) inches. In addition, the liability to the General Contractor shall be set at $500.00 minimum per tree. The Trunk Formula method for Northern California established by the International Society of Arboriculture must be used to compute the actual value.

C. Soil Aeration: Where directed by the Owner's Representative, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill two (2) inch diameter holes a minimum of 12 inches (300 mm) deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.

3.11 REMOVAL OF EXISTING VEGETATION AND/OR TREES:

A. Contractor shall remove and demolish from the site trees and vegetation indicated on the Drawings. Additonal trees and vegetation conflicting with work require written approval by Owner or Architect.

B. Tree removal shall include entire tree above grade and roots below grade. At a minimum, roots shall be removed one (1) inch and larger in diameter within a five (5) foot radius of the tree trunk location. Exact depth shall be determined in accordance with and as required for building and hardscape work included under this contract.

C. Contractor shall fill depressions caused by tree removal with on-site or approved import topsoil fill material in planting areas or engineered fill beneath proposed hardscape and/or building pads as specified in geotechnical report. Do not fill with tree debris, sawdust or grindings.Properly dispose of any vegetation debris in a legal and acceptable manner off Owner's property.

D. Properly dispose of tree debris off site in an acceptable manner.

END OF SECTION 32 91 00

(REVISED 02/10/2020)

SECTION 32 92 00

TURF PLANTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Sodding.

B. Related Sections include the following:

1. Specification Section 31 10 00 "Site Clearing" for topsoil stripping and stockpiling.

2. Specification Section 31 05 13 "Earthwork" for excavation, filling and backfilling, and rough grading.

3. Specification Section "Subdrainage" for subsurface drainage.

1.3 DEFINITION:

A. Finish Grade: Elevation of finished surface of planting soil.

B. Import Topsoil: Shall be obtained from a local source and coming from a site with similar soil characteristics as the project site. Topsoil shall be fertile, friable, natural loam surface soil, reasonably free of subsoil, clay lumps, brush, weeds and other litter and free of roots, stumps, stones and rocks and other extraneous or toxic matter harmful to plant growth.

C. Manufactured Topsoil: Soil produced off-site by homogeneously blending nutrients, minerals, soils or sand with stabilized organic soil amendments to produce surface planting soil capable of sustaining plant growth.

D. Planting Soil: On-site topsoil, import topsoil or manufactured topsoil.

E. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath topsoil.

F. On-site Topsoil: Naturally occurring, on-site, surface soil, usually occurring in the top four (4) to twelve (12) inches of original, undisturbed surface soil containing organic material, necessary nutrients and minerals to sustain plant growth and be approved to sustain plant life by an approved soil and plant lab.

G. Substantial completion for landscape and irrigation: Work shall be considered substantially complete when irrigation, planting, turf planting and seeding are installed correctly per plans and specifications with only minor adjustments required and approval has been submitted in writing by Owner's Representative.

H. Final completion for landscape and irrigation: Work shall be considered complete when irrigation, planting, turf planting and seeding are installed correctly per plans and specifications and the maintenance period has been completed per plans and specifications and approval has been submitted in writing by Owner's Representative.

1.4 SUBMITTALS

A. Product and Material Data: For each type of product specified. Submit manufacturer's technical data and installation instructions for landscape products conforming to requirements of Section 01 33 00 Submittal Procedures to include, but not be limited to:

1. Analysis of proposed soil amending materials by Waypoint Analytical California, Inc. (408) 727-0330, or approved equal, made according to methods established by the Association of Official Analytical Chemists, where applicable.

2. Samples for Verification: For each of the following:

a. Soil conditioner (1/2 c.f. each).

3. Certification of turfgrass sod, identifying source, including name and telephone number of supplier.

4. Material Test Reports: For on-site topsoil, import topsoil and/or manufactured soil proposed for use on this project.

5. Planting soil amendments as recommended by Waypoint Analytical California, Inc. (408) 727-0330, or approved equal.

B. Product Certificates: For soil amendments and fertilizers, signed by product manufacturer shall be delivered to Owner’s Representative upon delivery.

C. Qualification Data: For landscape Installer prior to performing work.

D. Planting Schedule: Indicating anticipated planting dates for turf installation.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Experience: The turf installation firm shall have contracted for and successfully completed construction of a minimum of five (5) California public school district construction projects, approved by the Division of the State Architect (DSA), within the past five (5) years of similar size, complexity, budget and scope.

2. Licensure: The turf installation firm shall hold a current, active C27 “Landscaping Contractor” license classification by the California State License Board that has been consistently active for at least five (5) years and that has not been suspended or revoked.

3. Supervision: The turf installation firm shall have a qualified and experienced turf technician on site during turf installation.

B. Soil-Testing Laboratory Qualifications: Testing lab shall be Waypoint Analytical California, Inc., located in San Jose (408) 727-0330 or Anaheim (714) 282-8777, or approved equal independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Soil Analysis: Furnish soil analysis by a qualified soil-testing laboratory, Waypoint Analytical California, Inc. (408) 727-0330, or approved equal, stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity (CEC) or total exchangeable cations (TEC); sodium absorption ratio; deleterious material; pH; soluable salts, boron, mineral and plant-nutrient content of planting soil.

1. Report suitability of planting soil for lawn growth. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce a satisfactory planting soil.

D. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section “Project Management and Coordination.”

E. Protect all lawn areas from damage or trespass by maintaining construction fencing during construction and maintenance.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Sod: Harvest, deliver, store, and handle sod according to requirements in Turf Producers International’s (TPI) "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding."

1.7 SCHEDULING

A. Planting Restrictions: Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

LAWN MAINTENANCE

C. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Sodded Lawns: Maintenance period shall be a minimum of ninety (90) days from date of Owner's Representative written approval of Substantial Completion and when there are no visible joints, roots are thoroughly knit to the soil and sod appears to be uniformly healthy and green in color.

D. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and spraying for insects and disease and other operations. Roll, re-grade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth lawn. Implement pest management as necessary to controls pests, including gophers.

1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.

E. Watering: Provide and/or maintain temporary piping, hoses, and lawn-watering equipment as necessary to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of mulch.

2. Lay out temporary watering system to avoid walking over muddy or newly planted areas.

F. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one third (1/3) of grass height. Remove no more than one third (1/3) of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

1. Mow and edge before turf reaches three and one-quarter (3-1/4) inches high.

2. Cut to two and one-half (2-1/2) inches high.

3. Remove all clippings.

G. Lawn Post-fertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. to lawn area.

H. Maintain protective barriers in place, erect and secure and clear of lawn edges to allow for uniform growth and for trimming and so as not to block irrigation spray pattern.

1.8 WARRANTY

A. All work executed under this Section shall be warranted free of defects and poor workmanship for a period of one (1) year after date of Final Completion.

B. Turf planting shall be warranted to be in healthy and thriving condition during Warranty period, except for defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond Contractor's control.

C. Repair and/or re-sod turf areas not in vigorous condition immediately upon notification by Owner's Representative during Warranty period.

PART 2 - PRODUCTS

2.1 TURFGRASS SOD

A. Turfgrass Sod: Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted. Not less than 2 years old, free of weeds and undesirable native grasses and machine cut rolls to pad thickness of 5/8 inch, rolled, 4' wide and 90' length.

B. Turfgrass Species: Sod of grass species as follows, with not less than 90 percent germination, not less than 95 percent pure seed, and free of weed seed:

1. Mixture of 90% tall fescue blend and 10% blue grass blend.

a. Available through Delta Bluegrass Co., www.deltabluegrass.com, (800) 637-8873

C. Delivery, Storage and Handling: Sod shall be harvested, delivered and installed within a period of 24 hours. Sod shall be kept moist, fresh and protected at all times.

2.2 PLANTING SOIL

A. Prior to placing bid, Contractor to coordinate with General Contractor, Demolition and/or Grading Contractors and verify quantity and source of planting soil for turf planting areas. Identify Contractor responsible for stockpiling on-site topsoil and/or acquiring import planting soil and installing a minimum of six (6) inches of planting soil in turf planting areas and rough grading in accordance with these specifications, details, notes, grading and drainage plans.

B. Coordinate with General Contractor, Demolition and/or Grading Contractors for removal and replacement of any lime treated soils and replacement with planting soil prior to planting turf to depth required to remove lime treatment.

C. On-site topsoil: Reuse existing topsoil or existing surface soil, found in the top twelve (12) inches, excavated and stockpiled on-site. Verify suitability of existing and/or stockpiled surface soil to produce planting soil by submitting a sample to Waypoint Analytical California, Inc. (408) 727-0330, or approved equal. Acceptable on-site topsoil shall be ASTM D 5268, pH range of 6.0 to 7.0, representative of productive soils in the vicinity, a range of 4 to 20 percent organic material content; free of stones one (1) inch or larger in any dimension, roots, plants, sod, clay lumps and other extraneous materials harmful to plant growth. Sodium absorption rate (SAR) shall not exceed 5.0, conductivity of the saturation extract solution shall not exceed 3.0, and boron concentration in the saturation shall not exceed 1.0 ppm.

D. Import Topsoil: Supplement with imported or manufactured topsoil from off-site, local sources, when quantities of on-site topsoil are insufficient. Do not obtain topsoil from bogs or marshes. If soil is obtained from agricultural land, Contractor shall submit proof soil is nematode free. Import topsoil shall meet the following requirements:

1. USDA Classification of fraction passing 2.0 mm sieve: sandy loam, sandy clay loam or loam.

Class	Particle Size Range	Maximum %	Minimum %
Coarse Sand	0.5 – 2mm	15	0
Silt	.002 - .05 mm	30	10
Clay	< .002 mm	25	10
Other Classes			
Gravel	2 – 13 mm	15	0
Rock	½ - 1 inch	5% by volume with none > 1 inch	
Organic		15	0

2. Chemistry – Suitability Considerations

Salinity: Saturation Extract Conductivity (ECe)	Less than 3.0 dS/m @ 25 degrees C.
Sodium: Sodium Adsorption Ratio (SAR)	Less than 1.00 ppm
Boron: Saturation Extract Concentration	Less than 6.00 ppm
Reaction: pH of Saturated Paste:	5.5 – 7.5 without high lime content.

3. Soil to contain sufficient quantities of available nitrogen, phosphorus, potassium, calcium and magnesium to support normal plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials prior to planting.

4. Soil testing: Contractor shall submit to the Owner's representative for approval, certification from an agricultural soils testing laboratory, Waypoint Analytical California, Inc. (408) 727-0330, or approved equal, that the import topsoil provided conforms to the specifications prior to delivery of import or placement of on-site topsoil. Soil testing shall have been performed on import topsoil source within the previous year.

2.3 FERTILIZER AND SOIL AMENDMENTS

A. Contractor shall collect and submit two samples of proposed planting soil, representative of the top six (6) inches of planting soil, to a locally known soil testing laboratory, Waypoint Analytical California, Inc. (408) 727-0330, or approved equal, for analysis and amendment recommendations. Soil samples shall be taken from proposed planting areas or topsoil source. Sample shall be taken to a depth of 8 inches. Contractor shall amend per soil testing laboratory recommendations. Soil amendments in this specification are provided for bidding purposes only.

B. Fertilizers: All fertilizers shall be of an approved brand with a guaranteed chemical analysis as required by USDA regulations and shall be dry and (except for plant tabs) free flowing.

C. Soil Preparation: As specified in soil laboratory recommendation. The following materials and quantities are given for bidding purposes only. Contractor shall amend soil using products, quantities and methods specified by Waypoint Analytical California, Inc., or approved equal.

1. 6-20-20 granular fertilizer.

2. Soil sulfur.

D. Soil Conditioner: 0-1/4 inch nitrogen-fortified organic amendment contributing at least 270 pounds of organic matter per cubic yard.

E. Planting Tablets: 21 gram controlled release fertilizer supplying nitrogen for up to 1 ½ years and 20-10-5 content.

2.4 HERBICIDES

A. All herbicides shall be approved by the District prior to use.

B. Contractor shall contact Owner's Representative prior to application of herbicides for District policies, rules and regulations pertaining to herbicide application.

C. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application to remove broad-leaf weeds from existing turf.

D. Non-selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application to remove herbacious vegetation in areas indicated.

2.5 WATER

A. Water shall be suitable for irrigation and free from ingredients harmful to sodded areas.

2.6 LANDSCAPE EDGINGS/HEADERBOARD

A. Wood Strip Edging: Of sizes shown, and as follows:

1. Wood Material: Construction heart redwood, 2 by 6 in size, length as required.

2. Stakes: Construction grade, rough sawn, wood, 2 by 2 by 16 inches long in nominal size, with galvanized, wood, screws for anchoring edging to wood strip edging.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Planting operations shall be performed when weather and soil conditions are suitable for planting.

3.2 PREPARATION

A. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

B. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

C. Install protective barriers and/or fencing as necessary.

D. Contact and obtain Owner’s Representative, Local, State and Federal policies and procedures for regulating application of fertilizers, fungicides, insecticides, pesticides and herbicides. Contractor shall comply with all applicable policies and/or procedures for application, posting and notifications.

E. Import Planting Soil Installation:

1. Remove and dispose of stones larger than one (1) inch in any dimension, vegetation and foreign inorganic material from surface to receive import topsoil.

2. Scarify or plow the subgrade by crossripping or equivalent to a minimum depth of four (4) inches until it is loose and uncompacted to provide bonding of imported topsoil layer to subgrade.

3. Place topsoil on loosened material in six (6) inch layers. Crossrip first import topsoil layer to a depth of eight (8) inches and blend import topsoil with loose native surface soil. Roll lightly with appropriate lawn roller to consolidate topsoil and compact to 85% density.

4. Continue placement of import topsoil after blending first layer with native soil in six (6) inch layers and rolling lightly to consolidate and compact each layer of topsoil.

5. Place topsoil to the lines and grades in accordance with grading Drawings.

F. Verify installation of planting soil to minimum depth of six (6) inches and rough grading completed to proper slopes and elevations.

G. Verify lime treated soils have been removed and replaced with acceptable planting soil.

3.3 SOIL AMENDING AND FINE GRADING (Amend per Soil-Testing Laboratory recommendations. The following recommendations are given for bidding purposes only.)

A. Soil Preparation: Loosen subgrade of planting beds by crossripping or equivalent cultivation to a minimum depth of ten (10) inches. Remove stones larger than one (1) inch in any dimension and sticks, roots, rubbish, and other extraneous matter in the top six (6) inches of soil and legally dispose of them off Owner's property.

B. Soil Amending: (Amend per Soil-Testing Laboratory recommendations. The following recommendations are provided for bidding purposes only.) Add the following and thoroughly till into the top six (6) inches of planting soil at the following rates per 1,000 square feet. Till planting soil to a homogeneous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter. Float, rake and roll all planter areas to establish finished grades, maintaining drainage patterns and swales for grading and drainage plans, creating smooth, uniform surface plane.

1. 6 cubic yards nitrogen fortified organic soil amendment.

   a. In order to comply with MWELO 492.6, 3. (C). Soil Preparation, Mulch and Amendments, at a minimum, compost shall be applied at a rate of four (4) cubic yards per 1,000 square feet of permeable area incorporated to a depth of six (6) inches into the soil. Soils with greater than six percent (6%) organic matter in the top six (6) inches are exempt from adding compost.

2. 14 pounds all-purpose granular fertilizer (6-20-20).

3. 15 pounds soil sulfur.

C. Fine Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Refer to civil grading plans and conform to designed grades, drainage patterns, swales, and ridges.

1. There shall be no areas that hold water or drain toward buildings or structures, unless designed per civil grading plans.

2. In sodded turf areas, one (1) inch below adjacent paved surfaces, utility boxes, tops of curbs, etc.

D. Moisten prepared lawn areas before planting if planting soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil conditions.

E. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.4 SODDING

A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted planting soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Lay sod across angle of slopes exceeding 1:3.

2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.

3. Hold sod clear of all tree trunks and tree staking, create a circular edge 12” clear of all tree trunks.

C. Saturate sod with fine water spray within two hours of planting. During first week, water daily or more frequently as necessary to maintain moist planting soil to a minimum depth of 1-1/2 inches below sod.

3.5 SELECTIVE BROADLEAF WEED KILL

A. Refer to herbicide manufacturer recommendations. Apply selective broadleaf herbicide where indicated prior to disturbing on-site soil per manufacturer recommendations. Re-apply as necessary for complete weed kill by end of maintenance period.

3.6 MAINTENANCE SCHEDULE

A. Protection: Protect work from damage, erosion and trespass. Maintain construction fencing in proper condition. Remove temporary fencing and/or barriers prior to final completion and at end of maintenance period.

B. Water: Contractor shall be solely responsible for ensuring that all planting is sufficiently watered to promote vigorous growth. Test and inspect irrigation system on a regular basis, each week during plant establishment and monthly thereafter. Adjust and repair the irrigation system and its components as necessary for turf establishment and growth and for watering efficiency. Check and adjust any obstructions to emission devices.

C. Fertilizing (confirm with Soil and Plant Laboratory, or approved equal, recommendations): Immediately after completion of planting, fertilize landscape areas with ammonium sulfate (21-0-0) fertilizer at a rate of five (5) pounds per 1000 square feet. Fertilize with specified fertilizer after 45 days, prior to end of maintenance period. After landscape becomes well-established, fertilize in fall and spring with (16-6-8) commercial fertilizer at a rate of six (6) pounds per 1000 square feet.

D. Weed Control: Maintain turf planting areas in a weed-free condition to be performed weekly during maintenance period. Weeding may be done manually or by the use of selective herbicides. Contractor shall obtain written approval from project owner prior to application of herbicide. No herbicide shall be used without the Owner Representative's prior consent. Use only approved herbicides, use in accordance with manufacturer's recommendations and per Pest Control Advisor's recommendations. If selective herbicides are used, extreme caution shall be observed so as not to damage any other plants. Spraying shall be done only under windless conditions. Review and perform weekly during maintenance period.

E. Lawns: Maintain lawns by watering, fertilizing weeding, trimming, mowing and other operations such as rolling, re-grading and replanting as required to establish a smooth, acceptable lawn, free of weeds, bare spots and rocks. All lawn areas shall be mowed regularly when grass reaches a height of three and one-quarter (3-1/4) inches and a minimum of two (2) days prior to end of maintenance period.

F. Disease, Pest and Insect Control: Disease, pest (including moles, gophers and geese) and insect damage shall be controlled by the use of fungicides, insecticides, pesticides, poisons and/or mechanical means. Contractor shall obtain written approval from project Owner prior to application of fungicides, insecticides, poisons, pesticides and/or mechanical means and shall abide by all posting requirements prior to application. Review and perform weekly during maintenance period.

3.7 FIELD QUALITY CONTROL, SUBSTANTIAL COMPLETION AND FINAL COMPLETION

A. Contact Owner's Representative a minimum of 48 hours prior notice for review and approval of the following prior to proceeding with subsequent work:

1. Preparation: at completion of finish grading and prior to planting, grading tolerances and soil preparation shall be checked for conformance to Drawings and as specified herein.

2. Layout: Layout of all plants, headerboard and other major elements shall be directed and/or approved by the Owner's Representative.

3. Substantial Completion Review (Pre-maintenance): At substantial completion of this Section, work shall be reviewed for conformance with the Drawings. Written approval shall mark beginning of the maintenance period.

4. Final Completion Review: At the end of specified maintenance period, work shall be reviewed for conformance with Drawings including additional requirements stipulated during maintenance period shall be extended at Contractors sole cost as directed by the Owner's Representative.

5. Re-inspections required due to Contractor not being prepared or non-conformance to Drawings shall be back charged to the Contractor.

B. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.

C. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory and upon written approval of Owner.

3.8 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

C. Remove erosion-control measures after grass establishment period

END OF SECTION 32 92 00
(REVISED 05/07/2025)

SECTION 33 05 16
UTILITY STRUCTURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Manhole structures for gravity storm drain and sanitary sewer utilities.

1.02 RELATED DOCUMENTS

A. AASHTO:

1. M 199: Standard Specification for Precast Reinforced Concrete Manhole Sections.

B. ASTM:

1. A 615/A615M: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

2. C 478: Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.

3. C 1244: Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.

C. Caltrans Standard Specifications.

1. Section 51, Concrete Structures.

2. Section 75, Miscellaneous Metal.

D. California Building Code.

1. Section 1127B – Exterior Routes of Travel.

1.03 DEFINITIONS

A. AASHTO: American Association of State Highway and Transportation Officials.

B. ASTM: American Society for Testing Materials.

1.04 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.

B. Product data for the following:

1. Cleanout plugs or caps.

C. Shop drawings: Include plans, elevations, details and attachments for the following:

1. Precast concrete manholes, frames and covers.

2. Precast concrete clean out boxes and box covers.

D. Design Mix Reports and Calculations: For each class of cast-in-place concrete.

E. Field Test Reports: Indicate and interpret test results for compliance with performance.

1.05 DELIVERY, STORAGE AND HANDLING

A. Handle precast concrete manholes according to manufacturer's written instructions.

B. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.01 CLEANOUTS

A. Piping: Same as sanitary sewer line if possible.

B. Top Cap: Threaded and of same material as piping if possible.

C. Box Size: As required to provide access and allow easy removal and reinstallation of cap.

D. Box Types:

1. Landscape Areas: Portland cement concrete box and box cover (bolt-down), light duty.

2. Traffic Areas: Portland cement concrete box and box cover or steel or cast iron cover, heavy duty, both box and cover (bolt down) to be rated for AASHTO H20 loading.

E. Box Cover Markings: "S.D." for storm drain cleanouts, "S.S." for sanitary sewer cleanouts, unless otherwise specified.

F. Available Manufacturers: Subject to compliance with requirements, box manufacturers offering products that may be incorporated into the Project include, but are not limited to the following:

1. Associated Concrete Products, Inc. (Santa Ana, California) (Tel. 714-557-7470).

2. Brooks Products Inc. (El Monte, California) (Tel. 818-443-3017).

3. Christy Concrete Products, Inc. (Fremont, California) (Tel. 800-486 7070).

2.02 MANHOLES

A. General: Size, shape, configuration, depth, etc. of manhole and frame and cover shall be as indicated.

B. Portland Cement Concrete and Reinforcing:

1. Cast-In-Place Portion: Use Class A Concrete per Caltrans Standard Specification Section 90, and ASTM A615 Grade 60 reinforcing steel bars.

2. Precast Portion: ASTM C 478. Rate for AASHTO H20 loading in traffic areas.

C. Frames and Covers: As indicated and in accordance with Caltrans Standard Specification Section 75-2.

D. Steps: ASTM C 478 or AASHTO M 199. Manufacture from deformed, ½-inch steel reinforcement rod complying with ASTM A 615 and encased in polypropylene complying with ASTM D4101. Include pattern designed to prevent lateral slippage off step. Acceptable manufacturer is Hanson Concrete Products, (Milpitas, CA) (Tel 408-262-1091) or equal.

E. Force Main Piping Access Openings:

1. General: As indicated.

2.03 JOINT SEALANT FOR STRUCTURES AND MANHOLES

A. Mortar: Caltrans Standard Specification Sections 51-1.02F and 51-1.03E.

1. Use to seal around pipes at connections to structures and manholes. Also use to seal joints between precast sections of structures and manholes.

B. Gaskets: Preformed flexible rubber or plastic gasket.

1. Rubber Gaskets: ASTM C443.

2. Plastic Gaskets: Federal Specification SS-S-00210 (GSA-FSS), Type I, Rope Form; or alternate standard which may exist. Acceptable material is “Ram-Nek,” as manufactured by the K. T. Snyder Company (Houston TX), or equal.

PART 3 - EXECUTION

3.01 CLEANOUT INSTALLATION

A. General: Install as indicated.

3.02 MANHOLE INSTALLATION

A. General: Install as indicated.

3.03 TESTING OF MANHOLES ON GRAVITY LINES

A. At the option of the Contractor, either the following hydrostatic or vacuum test shall be performed.

B. Hydrostatic Test:

1. Insert inflatable plugs in all sewer inlets and outlets.

2. Fill the manhole with water to a point six inches below the base of the manhole frame.

3. Maintain the water at this point for one hour to allow time for absorption.

4. Begin one-hour test period. Measure the amount of water added in one-hour period to maintain the water level at six inches below the base of the manhole frame. Do not allow water level to drop more than 25% of the manhole depth.

5. Determine the allowable leakage by the following formula.

6. L=0.0002 x D X H 1/2

7. L = Allowable leakage, gallons per minute.

8. D = Depth of manhole from top to bottom, feet.

9. H = Head of water in feet as measured from the surface of the water in the manhole to the sewer line invert or to the prevailing ground water surface outside the manhole. The lesser height governs.

10. If the leakage exceeds the allowable, determine the cause, take remedial action and re-test the manhole. If the leakage is less than the allowable and leaks are observed, repair the leaks.

C. Vacuum Test:

1. General: Test in accordance with ASTM C 1244.

2. Test prior to backfilling around the manhole.

3. Test Preparation: Plug all lift holes and pipes entering or exiting the manhole.

4. Place test head inside the top section of the manhole's cone section and inflate in accordance with the manufacturers instructions.

5. Draw a vacuum of 10-inches of mercury and shut the pump off.

6. With the valve closed, the time for the vacuum to drop 9-inches shall be measured.

7. The manhole shall pass the test if the time is greater than 60 seconds for a 48-inch diameter manhole, 75 seconds for a 60-inch diameter manhole and 90 seconds for a 72-inch diameter manhole.

8. If the manhole fails the initial test, make necessary repairs with a non-shrink grout while the vacuum is still being drawn. Retest until a satisfactory test is obtained.

END OF SECTION

SECTION 33 40 00
STORM DRAINAGE UTILITIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Roadway and/or site storm drainage up to 5-feet of any on-site building.

1.02 RELATED DOCUMENTS

A. AASHTO:

1. M 252: Standard Specification for Corrugated Polyethylene Drainage Pipe.

2. M 294: Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.

B. ASTM:

1. A 74: Standard Specification for Cast Iron Soil Pipe and Fittings.

2. A 615/A615M: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

3. C 443: Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.

4. C 564: Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.

5. C 1173: Standard Specification for Flexible Transition Couplings for Underground Piping Systems.

6. D 1785: Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.

7. D 2235: Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.

8. D 2321: Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications.

9. D 2564: Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.

10. D 2751: Acrylontrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings.

11. D 3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.

12. D 4101: Standard Specification for Polypropylene Injection and Extrusion Materials.

13. F 477: Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

14. F 656: Standard Specification for Primers for Use in Solvent Cement Joints of Poly(Vinyl Chloride) (PVC)Plastic Pipe and Fittings.

15. F 679: Standard Specification for Poly(Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings.

16. F-1336: Standard Specification for Poly(Vinyl Chloride) (PVC) Gasket Sewer Fittings.

C. AWWA:

1. C104: Cement-Mortar Lining for Ductile Iron Pipe and Fittings.

2. C105: Polyethylene Encasement for Ductile-Iron Pipe Systems.

3. C110: Ductile-Iron and Gray-Iron Fittings.

4. C111: Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

5. C150: Thickness design of Ductile-Iron Pipe.

6. C151: Ductile-Iron Pipe, Centrifugally Cast.

7. C153: Ductile-Iron Compact Fittings.

8. M41: Ductile Iron Pipe and Fittings.

D. Caltrans Standard Specifications:

1. Section 65, Concrete Pipe.

2. Section 66, Corrugated Metal Pipe.

3. Section 70. Miscellaneous Drainage Facilities.

4. Section 72, Slope Protection.

E. Caltrans Standard Plans:

1. Plan D94A: Metal and Plastic Flared End Sections.

2. Plan D94B: Concrete Flared End Sections.

3. Plan D97A: Corrugated Metal Pipe Coupling Details No.1, Annular Coupling Band Bar and Strap and Angle Connections.

4. Plan D97B: Corrugated Metal Pipe Coupling Details No. 2, Hat Band Coupler and Flange Details.

5. Plan D97C: Corrugated Metal Pipe Coupling Details No. 3, Helical and Universal Couplers.

6. Plan D97D: Corrugated Metal Pipe Coupling Details No. 4, Hugger Coupling Bands.

7. Plan D97E: Corrugated Metal Pipe Coupling Details No. 5, Standard Joint.

8. Plan D97F: Corrugated Metal Pipe Coupling Details No. 6, Positive Joint.
9. Plan D97G: Corrugated Metal Pipe Coupling Details No. 7, Downdrain.
10. Plan D98A: Slotted Corrugated Steel Pipe Drain Details.
11. Plan D98B: Slotted Corrugated Steel Pipe Drain Details.

F. California Building Code:

G. Section 1809A.14 – Pipes and Trenches.

H. Section 1133B.7.2 – Gratings.

I. California Plumbing Code.

1.03 DEFINITIONS

A. AASHTO: American Association of State Highway and Transportation Officials.

B. ABS: Acylonitrile-butadiene-styrene.

C. ASTM: American Society for Testing Materials.

D. AWWA: American Water Works Association.

E. CMP: Corrugated metal pipe.

F. DIP: Ductile iron pipe.

G. HDPE: High-density polyethylene.

H. NPS: Nominal pipe size.

I. PE: Polyethylene.

J. PVC: Polyvinyl chloride.

K. RCP: Reinforced concrete pipe.

1.04 SUBMITTALS

A. Follow submittal procedures outlined in Section 01 33 00 – Submittal Procedures.

B. Product Data Shop Drawings, Etc.: For the following:

1. Piping materials and fittings.
2. Special pipe couplings.
3. Polymer-concrete, channel drainage systems (trench drains).
4. Joint sealants.
5. Plastic area drains.

6. Precast concrete catch basins, inlets, curb inlets, and area drains, including frames and grates.

7. Concrete, metal and plastic flared end sections.

C. Design Mix Reports and Calculations: For each class of cast in place concrete.

D. Field Test Reports: Indicate and interpret test results for compliance with performance.

1.05 DELIVERY, STORAGE AND HANDLING

A. Do not store plastic structures, pipe and fittings in direct sunlight.

B. Protect pipe, fittings, and seals from dirt and damage.

C. Handle precast concrete pipe and other precast structures according to manufacturer's written instructions.

D. Protect imported beddin

E. g and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.01 PIPING MATERIALS

A. ABS Pipe and Fittings: Smaller than 4-inch, ASTM D 2751, SDR 35. Solvent cement joints.

1. Solvent Cement: ASTM D 2235.

B. ABS Pipe and Fittings: 4-inch through 12 inch, ASTM D 2751, SDR 35. Bell and spigot joints.

1. Bell and Spigot Joint Gasket: Elastomeric seal, ASTM F 477.

C. Cast Iron Pipe and Fittings: Hub and spigot, 2-inch through 15-inch, ASTM A74, service class.

1. Gaskets: ASTM 564, rubber, compression type, thickness to match class of pipe.

D. Corrugated Metal Pipe: Caltrans Standard Specification Section 66.

1. Bituminous Coating: Caltrans Standard Specification Section 66-1.02C.

2. Bituminous Lining: Caltrans Standard Specification Section 66-1.02C.

3. Bituminous Pavings: Caltrans Standard Specification Section 66-1.02C.

4. Corrugated Aluminum Pipe: Caltrans Standard Specification Section 66-1.02F.

5. Corrugated Steel Pipe: Caltrans Standard Specification Section 66-1.02E.

6. Slotted Corrugated Steel Pipe: Caltrans Standard Specification Section 66-2.

7. Details: Caltrans Standard Plans D97A, D97B, D97C, D97D, D97E, D97F, D97G, D98A and D98B.

E. DIP: Sizes 4-inch through 48-inch.

1. Pipe: AWWA C150 and C151.

2. Pressure Class: Minimum pressure class for size indicated.

3. Fittings:

(a) Standard: AWWA C110, sizes 4-inch through 48-inch.

(b) Compact: AWWA C153, sizes 4-inch through 24-inch.

4. Pipe and Fitting Lining: Cement Mortar, AWWA C104.

5. Pipe and Fitting Coating: Asphaltic, AWWA C151 or C115.

6. Exterior Soil Corrosion Protection for Pipe and Fittings: Polyethylene encasement, AWWA C105.

7. Joints:

(a) Push-On Bell and Spigot Joint: AWWA C111.

(b) Mechanical Joint: AWWA C111.

(c) Flanged joint. AWWA C115.

F. Reinforced Concrete Pipe: Designated by Class, rubber gasketed joints.

1. Circular Reinforced Concrete Pipe: Caltrans Standard Specification Section 65-2.01D(3). Class III.

2. Oval shaped (Elliptical) Reinforced Concrete Pipe: Caltrans Standard Specification Section 65-2.01D(5)/2.02D. Class HE-III and VE-III.

3. Reinforced Concrete Pipe Arch: Caltrans Standard Specification Section 65-1.02C.

4. Rubber Gasketed Joints: Caltrans Standard Specification Section 65-2.02F.

G. PE Pipe and Fittings: 4-inch through 10-inch, AASHTO M 252 Type S, smooth interior and corrugated exterior. Bell and spigot joints.

1. Bell and Spigot Joint Gasket: Elastomeric seal, ASTM F 477.

2. Couplings: AASHTO M 252, corrugated band type. Engage a minimum of 4 corrugations, 2 on each side of pipe joint.

H. PE Pipe and Fittings: 12-inch through 48-inch, AASHTO M 294.Type S, smooth interior and corrugated exterior. Bell and spigot joints.

1. Bell and Spigot Joint Gasket: Elastomeric seal, ASTM F 477.

2. Couplings: AASHTO M 252, corrugated band type. Engage a minimum of 4 corrugations, 2 on each side of pipe joint.

I. PVC Pipe and Fittings-Smaller than 4-Inch: ASTM D1785, Schedule 40.

1. Joints: Solvent Cement, ASTM D 2564. Include primer according to ASTM F656.

J. PVC Pipe and Fittings,4-Inch and Larger

1. Pipe:

(a) 4-inch through 15-inch: ASTM D 3034, SDR 35. Bell and spigot joints.

(b) 18 inch through 36-inch: ASTM F 679, T-1 wall. Bell and spigot joints.

2. Fittings:

(a) 4-inch through 27-inch: ASTM F 1336.

(b) 30-inch through 36-inch: ASTM D 3034, SDR 35

3. Joint Gasket: Elastomeric seal, ASTM F 477.

2.02 PIPE ANCHORS

A. Section 32 05 23 – Cement and Concrete for Exterior Improvements.

2.03 SPECIAL PIPE COUPLINGS

A. Plastic, Cast Iron and Ductile Iron Pipe: ASTM C 1173, rubber or elastomeric sleeve and band assembly fabricated to match outside diameters of pipes to be joined.

B. Reinforced Concrete Pipe: Portland cement concrete collar as indicated.

C. Section 32 05 23 – Cement and Concrete for Exterior Improvements.

2.04 CURB INLETS, CATCH BASINS, DROP INLETS, AREA DRAINS, ETC.

A. General: Size, shape, configuration, depth, etc. of structure and frame, grate, or cover shall be as indicated.

B. Section 32 05 23 – Cement and Concrete for Exterior Improvements.

C. Precast Structure: Rate for AASHTO H20 loading in paved areas.

D. Steps: ASTM C 478 or AASHTO M 199. Manufacture from deformed, ½-inch steel reinforcement rod complying with ASTM A 615 and encased in polypropylene complying with ASTM D4101. Include pattern designed to prevent lateral slippage off step.

E. Frames, Grates and Covers: Caltrans Standard Specification Section 75-2, 75-3 and 75-1.02B.

1. Galvanize steel frames, grates and covers.

2. Grates and covers shall be non-rocking, bolt-down type.

3. Rate for AASHTO H20 loading in paved areas.

2.05 MANHOLES AND CLEANOUTS

A. See Section 33 05 16 – Utility Structures.

2.06 POLYMER-CONCRETE TRENCH DRAINS

A. General: Modular system of precast, polymer-concrete channel sections, grates, and appurtenances; designed so grates fit into channel recesses without rocking or rattling. Include number of units required to form total length required.

B. Include the following components:

1. Channel Sections: Interlocking-joint, precast modular units with end caps. Inside width as indicated with deep, rounded bottom, with built in slope or flat invert as indicated and outlets in number, sizes, and locations indicated. Include extension sections necessary for required depth.

2. Frame and Grate: Gray iron, ductile iron or galvanized steel as indicated. Where drain is located in traffic areas, rate for AASHTO H20 loading.

C. Locking Mechanism: Manufacturer's standard device for securing grates to channel sections.

D. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:

1. "Polydrain" by ABT Inc. (Troutman, NC) (Tel 704-528-9806).

2. "ACO Drain" by ACO Polymer Products Inc. (Chardon, OH) (Tel. 800-543-4764).

2.07 METAL, CONCRETE OR PLASTIC FLARED END SECTIONS

A. General: Caltrans Standard Specification Section 70-5.02 and Caltrans Standard Plan D94A and D94B.

2.08 SLOPE PROTECTION

A. Rock Slope Protection: Caltrans Standard Specification Section 72-2.02.

1. Class: *[Select Class applicable to the Project.]*

2. Fabric: Caltrans Standard Specification Section 72-2.02C.

B. Concrete/Shotcrete Slope Protection: Caltrans Standard Specification Section 72-5.02.

1. Bar Reinforcement: Caltrans Standard Specification Section 52-1.02B, minimum Grade 40.

2. Welded Wire Fabric: Caltrans Standard Specification Section 52-1.02C. Use 6 x 6-W1.4 xW1.4 unless otherwise indicated.

C. Concreted-Rock Slope Protection: Caltrans Standard Specification Section 72-3.02.

D. Sacked Concrete Slope Protection.

1. Concrete: Caltrans Standard Specification Section 90, Class 3.

2. Sacks: 10 ounce burlap measuring approximately 19.5-inches by 36 inches when empty and laid flat.

2.09 CONCRETE/SHOTCRETE DITCH LINING

A. General: Caltrans Standard Specification Section 72-5.02.

1. Bar Reinforcement: Caltrans Standard Specification Section 52-1.02B, minimum Grade 40.

2. Welded Wire Fabric: Caltrans Standard Specification Section 52-1.02C. Use 6 x 6-W1.4 xW1.4 unless otherwise indicated.

PART 3 - EXECUTION

3.01 PIPE INSTALLATION

A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer's instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-2.03C for reinforced concrete pipe, Caltrans Standard Specification Sections 66 for corrugated metal pipe and chapter 11.3.3 of AWWA M41 for cast iron and ductile iron pipe.

B. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.

C. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 – Trenching and Backfilling.

D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with manufacturer's recommendations.

E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout it's entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.

F. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.

G. Closure: Close open ends of pipes and appurtenance openings at the end of each days work or when work is not in progress.

3.02 INSTALLATION OF PIPE ANCHORS

A. Install at location, configuration and details shown on the Plans.

3.03 SPECIAL PIPE COUPLINGS

A. General: Use where required to join piping and no other appropriate method is specified. Do not use instead of specified joining methods.

B. Installation: Per manufacturer's instructions.

3.04 INSTALLATION OF CURB INLETS, CATCH BASINS, DROP INLETS, AREA DRAINS, ETC.

A. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 – Trenching and Backfilling.

B. Poured in Place Structures: Install as indicated and Caltrans Standard Specification Section 51.

1. Shape bottoms to convey flows as indicated.

C. Precast Structures: Install as indicated.

1. Seal all joints and pipe entrances and exits.

2. Place concrete in bottom and shape to convey flows as indicated.

3.05 POLYMER-CONCRETE TRENCH DRAIN INSTALLATION

A. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 – Trenching and Backfilling.

B. Install: As indicated and in accordance with the manufacturer’s instructions.

3.06 CONCRETE OR PLASTIC FLARED END SECTION INSTALLATION

A. Install: As indicated.

3.07 SLOPE PROTECTION PLACEMENT

A. Rock Slope Protection: Caltrans Standard Specification Section 72-2.03C and as indicated.

1. Use Method B Placement unless otherwise indicated. If Method A is used, then refer to Caltrans Standard Specification Section 72-2.03B

B. Concrete/Shotcrete Slope Protection: Caltrans Standard Specification Section 72-5.03.

C. Concreted-Rock Slope Protection: Caltrans Standard Specification Section 72-3.03A and 72-3.03E.

1. Use Method B Placement unless otherwise indicated. If Method A is used, then refer to Caltrans Standard Specification Section 72-3.03B.

D. Sacked Concrete Slope Protection.

1. Detailed configuration: As indicated.

2. Use one cubic foot of concrete per sack.

3. Locate headers and stretchers as indicated.

4. Headers: Folded end to bank.

5. Stretchers: Folded ends are not to be adjacent.

6. Place no more than four vertical courses until initial set has taken place in first course.

3.08 CONCRETE/SHOTCRETE DITCH LINING PLACEMENT

A. Concrete/Shotcrete Slope Protection: Caltrans Standard Specification Section 72-5.03.

END OF SECTION