

**24-001 / PUSD – PAEC  
RESTROOMS PORTABLE BLDG.  
PROJECT MANUAL**

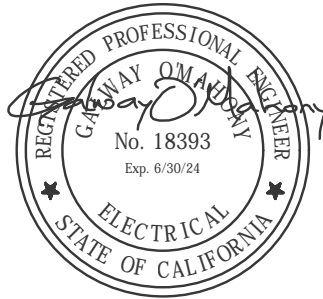
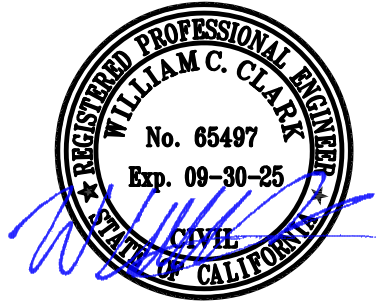
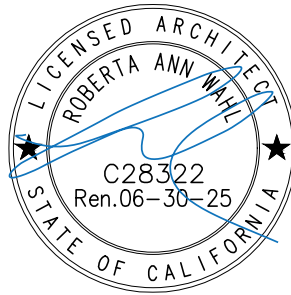
**BID NUMBER: 24-001**

**PUSD – PAEC RESTROOMS PORTABLE BLDG.  
PROJECT**

**PITTSBURG UNIFIED SCHOOL DISTRICT**

**January 15, 2024**

# Professional Signature Page



IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT

APP: 01-121299 INC:

REVIEWED FOR

SS  FLS  ACS

DATE: 2/13/2024

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NOT USED

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DOCUMENT 00 01 2025

LIST OF SCHEDULES

- 01/19/24: Submit Contract Docs. to DSA for Review & Approval
- 01/31/24: School Board presented Item on Approval to Advertise for Bid
- 02/01/24 & 02/08/24: Advertise for Bid
- 02/02/24: DSA Approval & Stamp-Out of Contract Docs.
- 02/05/24: Contract Bidding Documents Available to Bidders
- 02/08/24: Pre-Bid Conference & Walkthrough @ 3:00 PM (PDT) at the Pittsburg Adult Education Center (PAEC) at 1151 Stoneman Avenue, Pittsburg, CA 94565
- 02/23/24: Final Due Date for Pre-Bid RFI's @ 5:00 PM (PDT)
- **02/29/24: Bids Due @ 2:00 PM (PDT) at the District Site Support Services Center**
- 03/05/24: Bid Protest Period Ends @ 2:00 PM (PDT)
- 03/06/24: Bid Results & Contract Award finalized information due @ 10:00 AM (PDT) for 03/20/24 School Board Meeting
- 03/20/24: School Board Approval & Contract Award
- 03/21/24: Notice of Award & Contract Issued
- 04/01/24: Notice to Proceed Issued (tentative pending Contract turnaround time)
- 04/01/24: On-Site Construction Work Start Date
- 07/26/24: On-Site Construction Completion Date
- 08/23/24: Contract Completion Date
- 09/11/24 or 09/25/24: School Board Approval to file Notice of Completion

END OF DOCUMENT



**NOTICE TO BIDDERS**

1. Notice is hereby given that the governing board ("Board") of the Pittsburg Unified School District ("District") will receive sealed bids for the following project, Bid No. **24-001**, Bid Package **PUSD – PAEC Restrooms Portable Bldg. Project** ("Project" or "Contract"):

**PUSD – PAEC Restrooms Portable Bldg. Project**

2. The Project consists of:

Site Work construction, AC Paving work, site utilities runs and connections (domestic water, sewer, electrical, and fire alarm system) to the Portable. Portable is being purchased by the District from Enviroplex who will manufacture, transport, deliver, and set in place the Portable.

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 or B**

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. The Bidder's registration must remain active throughout the term of the Contract.
5. Contract Documents will be available on or after **Monday, February 05, 2024** for review electronically only on the PUSD Website under the Facilities Planning & Management Department tab.
6. Sealed bids will be received until **2:00 PM (PDT), Thursday, February 29, 2024**, at the **District Site Support Services Center, 3200 Loveridge Road, Pittsburg, CA 94565**, 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.
7. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.
8. A bid bond by an admitted surety insurer on the form provided by the District, cash, or a cashier's check or a certified check, drawn to the order of the Pittsburg Unified 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.

9. A mandatory pre-bid conference and site visit will be held on **Thursday, February 8, 2024 at 3:00 PM (PDT)** at the **Pittsburg Adult Education Center (PAEC) at 1151 Stoneman Avenue, Pittsburg, CA 94565**. Failure to attend or tardiness will render bid ineligible.
10. 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.
11. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.
12. 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>>.
13. 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 Contractor and all Subcontractors under the Contractor shall furnish electronic certified payroll records directly to the Labor Commissioner weekly and within ten (10) days of any request by the District or the Labor Commissioner. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.
14. 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.
15. 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

**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.

Pittsburg Unified 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"):

**PUSD – PAEC Restrooms Portable Bldg. Project**

2. A Bidder and its subcontractors must possess the appropriate State of California contractor's license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.
3. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.
  - a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number and/or bid number, and time of bid opening.
  - b. Bids must be submitted to the PUSD SSSC @ 3200 Loveridge Road, Pittsburg, CA 94565 by date and time shown in the Notice to Bidders.
  - c. Bids must contain all documents as required herein.
4. Bidders are advised that on the date that bids are opened, telephones will not be available at the District Offices for use by bidders or their representatives.
5. Bids will be opened at or after the time indicated for receipt of bids.
6. Bidders must submit bids on the documents titled Bid Form and Proposal, and must submit all other required District forms. Bids not submitted on the District's required forms shall be deemed nonresponsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible.
7. Bidders shall not modify the Bid Form and Proposal or qualify their bids. Bidders shall not submit to the District a re-formatted, re-typed, altered, modified, or otherwise recreated version of the Bid Form and Proposal or other District-provided document.
8. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.

9. Bidders must supply all information required by each Bid Document. Bids must be full and complete. District reserves the right in its sole discretion to reject any bid as 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.
  - d. Non-Collusion Declaration.
10. Bidders must submit with their bids cash, a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of amount of Base Bid, plus all additive alternates ("Bid Bond"). If Bidder chooses to provide a Bid Bond as security, Bidder must use the required form of corporate surety provided by District. The Surety on Bidder's Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed nonresponsive and will not be considered.
11. If Bidder to whom the Contract is awarded fails or neglects to enter into the Contract and submit required bonds, insurance certificates, and all other required documents, within **SEVEN (7)** calendar days after the date of the Notice of Award, District may deposit Bid Bond, cash, cashier's check, or certified check for collection, and proceeds thereof may be retained by District as liquidated damages for failure of Bidder to enter into Contract, in the sole discretion of District. It is agreed that calculation of damages District may suffer as a result of Bidder's failure to enter into the Contract would be extremely difficult and impractical to determine and that the amount of the Bidder's required bid security shall be the agreed and conclusively presumed amount of damages.
12. Bidders must submit with the bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total bid. Failure to submit this list when required by law shall result in bid being deemed nonresponsive and the bid will not be considered.
13. All of the listed subcontractors are required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
  - a. An inadvertent error in listing the California contractor license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.

- b. An inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
  - (1) The subcontractor is registered prior to the bid opening.
  - (2) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
  - (3) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
- 14. If a mandatory pre-bid conference and site visit ("Site Visit") is required as referenced in the Notice to Bidders, then Bidders must submit the Site Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
- 15. Bidders shall submit the Non-Collusion Declaration with their bids. Bids submitted without the Non-Collusion Declaration shall be deemed nonresponsive and will not be considered.
- 16. 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>.
- 17. 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 Engineering and Geologic Hazards Study, dated 05/11/15, 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.
18. 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 thirty five (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.
19. 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.
20. All questions about the meaning or intent of the Contract Documents are to be directed via email to the District to E. Keith Holtslander at [kholtslander@pittsburgusd.net](mailto:kholtslander@pittsburgusd.net). 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 [www.pittsburg.k12.ca.us](http://www.pittsburg.k12.ca.us). 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.
21. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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. Drug-Free Workplace Certification.
  - i. Tobacco-Free Environment Certification.

- j. Hazardous Materials Certification.
  - k. Lead-Based Materials Certification.
  - l. Imported Materials Certification.
  - m. Criminal Background Investigation/Fingerprinting Certification.
  - n. Buy American Certification.
  - o. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.
27. 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.
28. 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.
29. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.
30. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, color, gender, sexual orientation, political affiliation, age, ancestry, religion, marital status, national origin, medical condition or disability. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.
31. 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**

- Current Prequalified CUPCCAA Contractors' Listing

END OF DOCUMENT

**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 Pittsburg Unified 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.

### **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

**BID FORM AND PROPOSAL**

To: Governing Board of the Pittsburg Unified 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. **24-001**.

PROJECT: **PUSD – PAEC Restrooms Portable Bldg. Project**

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

_____ dollars      \$ _____
<b><i>BASE BID</i></b>
<b><i>Bidder acknowledges and agrees that the Base Bid accounts for any and all costs, and Allowances.</i></b>

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]



**Additional Detail Regarding Calculation of Base Bid**

1. **Alternates: NOT USED**
2. **Unit Prices: NOT USED**
3. **Allowances: NOT USED**
4. 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.
5. 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.
6. 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.
7. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
8. 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.
9. 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

Receipt and acceptance of the following Addenda is hereby acknowledged:

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

10. Bidder acknowledges that the license required for performance of the Work is an **A** or **B** license.
11. The undersigned 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.
12. 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, and with all requirements of the Project Stabilization Agreement.
13. The Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.
14. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.
15. Bidder expressly acknowledges that it is 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.
16. 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.

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

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_

Name of Bidder: \_\_\_\_\_

Type of Organization: \_\_\_\_\_

Signed by: \_\_\_\_\_

Title of Signer: \_\_\_\_\_

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

**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 Pittsburg Unified School District ("District") of Contra Costa 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: **PUSD – PAEC Restrooms Portable Bldg. 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 duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
By

\_\_\_\_\_  
Surety

\_\_\_\_\_  
By

\_\_\_\_\_  
Name of California Agent of Surety

\_\_\_\_\_  
Address of California Agent of Surety

\_\_\_\_\_  
Telephone Number of California Agent of Surety

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

END OF DOCUMENT

**DESIGNATED SUBCONTRACTORS LIST**  
**(Public Contact Code Sections 4100-4114)**

PROJECT: **PUSD – PAEC Restrooms Portable Bldg. 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: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

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Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_



CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**SITE VISIT CERTIFICATION**

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

PROJECT: **PUSD – PAEC Restrooms Portable Bldg. Project**

Check option that applies:

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

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

Bidder fully indemnifies the Pittsburg Unified School District, its Architect, its Engineer, 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: \_\_\_\_\_

END OF DOCUMENT

**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

**WORKERS' COMPENSATION CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the  
Pittsburg Unified School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder").

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**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the  
Pittsburg Unified School District (“District”) and \_\_\_\_\_  
\_\_\_\_\_ (“Contractor” or “Bidder”).

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

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**DRUG-FREE WORKPLACE CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the Pittsburgh Unified School District (“District”) and \_\_\_\_\_ (“Contractor” or “Bidder”).

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 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.

Date: \_\_\_\_\_  
Proper Name of Contractor: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

END OF DOCUMENT

**TOBACCO-FREE ENVIRONMENT CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the Pittsburgh Unified School District (“District”) and \_\_\_\_\_ (“Contractor” or “Bidder”).

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., 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.

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



**HAZARDOUS MATERIALS CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between  
Pittsburg Unified School District (“District”) and \_\_\_\_\_  
\_\_\_\_\_ (“Contractor” or “Bidder”).

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.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**LEAD-BASED MATERIALS CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the  
Pittsburg Unified School District (“District”) and \_\_\_\_\_  
\_\_\_\_\_ (“Contractor” or “Bidder”).

This certification provides notice to the Contractor that:

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

**1. Lead as a Health Hazard**

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

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

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

## 2. Overview of 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

**IMPORTED MATERIALS CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the  
Pittsburg Unified School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder").

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

**CRIMINAL BACKGROUND INVESTIGATION**  
**/FINGERPRINTING CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the  
Pittsburg Unified School District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder").

The undersigned does hereby certify to the governing board of the District as follows:

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 with respect to the construction Project that is the subject of the Contract (check all that apply):

- The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education Code section 45125.1(k) 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 California Department of Justice may determine that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1. No work shall commence until such determination by DOJ has been made.

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District and undertake to prepare and submit Contractor's fingerprints as if he or she was an employee of the District.

Date: \_\_\_\_\_

District Representative's Name and Title: \_\_\_\_\_

District Representative's Signature: \_\_\_\_\_

- 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 California Department of Justice has determined that none of those employees has been convicted of a felony, as that term is 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; and/or
- Pursuant to Education Code section 45125.2, 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 and District pupils at all times; and/or



- Pursuant to Education Code section 45125.2, 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 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' employees is:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

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

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District and undertake to prepare and submit Contractor's fingerprints as if he or she was an employee of the District.

Date: \_\_\_\_\_

District Representative's Name and Title: \_\_\_\_\_

District Representative's Signature: \_\_\_\_\_

- The Work on the Contract is either (i) at an unoccupied school site and no employee and/or subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) Contractor's employees or any subcontractor or supplier of any tier of the Contract will have only limited contact, if any, with District pupils and the District will take appropriate steps to protect the safety of any pupils that may come in contact with Consultant's employees, subcontractors or suppliers so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.1 shall not apply to Contractor under the Contract.*

*As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District.*

Date: \_\_\_\_\_

District Representative's Name and Title: \_\_\_\_\_

District Representative's Signature: \_\_\_\_\_

Contractor's responsibility for background clearance extends to all of its employees, Subcontractors, and employees of Subcontractors 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: \_\_\_\_\_

END OF DOCUMENT

**BUY AMERICAN CERTIFICATION**

CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** between the  
Pittsburg Unified School District (“District”) and \_\_\_\_\_  
\_\_\_\_\_ (“Contractor” or “Bidder”).

Federal regulations require that all of the iron, steel, and manufactured goods used in projects for the construction, installation, repairs, renovation, modernization, or maintenance of a public building or public work funded in part or in whole by federal stimulus funds, with the exception of projects funded by Qualified School Construction Bonds, be produced in the United States of America, unless a federal department waives this requirement because (1) it is inconsistent with the public interest, (2) the goods are not produced in sufficient quantities or of satisfactory quality in the United States, or (3) the requirement would increase the cost of the Project overall by more than twenty-five percent (25%) (“Buy American”).

Contractor shall submit this Certification with its executed agreement, identifying the steps Contractor will take to use goods produced in the United States of America in carrying out this Contract. Bidder should not submit this form with its bid.

Contractor shall retain a copy of this form and may be subject to a future audit.

**CERTIFICATION**

On behalf of Contractor, I represent and covenant that Contractor will use on the Project only iron, steel and manufactured goods produced in the United States of America except goods for which a federal department has waived this requirement.

I, \_\_\_\_\_, certify that I am the Contractor’s \_\_\_\_\_  
\_\_\_\_\_ and that the representations and covenants made herein are true and correct. 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

**REGISTERED SUBCONTRACTORS LIST**  
**(Labor Code Section 1771.1)**

PROJECT: **PUSD – PAEC Restrooms Portable Bldg. 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: \_\_\_\_\_

Date: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**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 Project Manager, prior to award of any contract by the District. The Post Bid Interview will be scheduled by the Construction Project 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 must have signatory authority on behalf of the apparent low bidder.
- C. Failure to attend the Post Bid Interview will be considered just cause for the District to reject the Bid.

**1.03 POST BID INTERVIEW PROCEDURE**

- A. The Construction Project Manager will review the Bid with the attendees.
- B. The Construction Project 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 Project Manager will document the Post Bid Interview on the form attached to this Section. Both the apparent low bidder and the Construction Project Manager are required to sign the Post Bid Interview Documentation.

*[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]*

**POST BID INTERVIEW**

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



- |    |   |     |    |
|----|---|-----|----|
| C. | Will you provide the Performance Bond and Labor and Material Bond for 100% of the Contract Price as stipulated?                                     | Yes | No |
| 1. | Cost for bond: _____%   | Yes | No |
| 2. | Is the cost of your bond in your base bid?  | Yes | No |
| 3. | Is your surety licensed to issue bonds in California?   | Yes | No |
| D. | Do you understand the 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. | Have you reviewed bid alternative(s) #1-__? (if applicable)  | Yes | No |
| F. | Are the costs for bid alternatives included in your bid?   | Yes | No |
| G. | Are the plans and specifications clear and understandable to your satisfaction?                                    | Yes | No |
| H. | Do you acknowledge that the time to submit notice of requests for substitution of specified materials has expired? | Yes | No |

VI. SCHEDULE:

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

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

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

VII. EXECUTION OF WORK

- A. Do you understand the access to the site? Yes No
- B. Do you understand the staging area restrictions? Yes No
- C. Have you included protection of [asphalt, floors, and roofs]? Yes No
- D. Do you understand that the site is occupied by students, teachers, administrators, parents, etc.? Yes No

VIII. CONTRACTOR COMMENTS/SUGGESTIONS:

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

IX. CONTRACTOR

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

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

[Company Name]

\_\_\_\_\_  
Signature \_\_\_\_\_ Title: \_\_\_\_\_

Date: \_\_\_\_\_

X. CONSTRUCTION PROJECT MANAGER

Signature \_\_\_\_\_ Title: \_\_\_\_\_

Date: \_\_\_\_\_

Title of Document: POST BID INTERVIEW

Number of Pages: \_\_\_\_\_

Date of Document: \_\_\_\_\_

END OF DOCUMENT

**NOTICE OF AWARD**

Dated: \_\_\_\_\_ 20\_\_

To: \_\_\_\_\_ (Contractor)

To: \_\_\_\_\_  
(Address)

From: Governing Board ("Board") of the Pittsburg Unified School District ("District" or "Owner")

PROJECT: **Contract No. 24-001, PUSD – PAEC Restrooms Portable Bldg. Project**, ("Project").

Contractor has been awarded the referenced Contract on \_\_\_\_\_, 20\_\_, by action of the District's Board.

The Contract Price is \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

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 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 & 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. Buy American Certification.
- p. Roofing Project Certification.
- q. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited, as well as any other rights the District may have against the Contractor.

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

**PITTSBURG UNIFIED SCHOOL DISTRICT**

BY: \_\_\_\_\_

NAME: **James Larry Scott** \_\_\_\_\_

TITLE: **Director of Facilities & IT** \_\_\_\_\_

END OF DOCUMENT

**AGREEMENT**

THIS AGREEMENT IS MADE AND ENTERED INTO THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, **2023**, by and between the Pittsburg Unified School District ("District") and \_\_\_\_\_ ("Contractor").

**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:

**Contract No.: 24-001, PUSD – PAEC Restrooms Portable Bldg. 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 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 all on site Work, under this Contract, shall be completed on or before **Friday, May 03, 2024**, and that all Work under this Contract shall be completed on or before **Friday, June 07, 2024 ("Contract Time")** as 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 **One Thousand Dollars (\$1,000.00)** per day as liquidated damages for each and every day's delay beyond the time herein prescribed in finishing 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. Insurance and Bonds:** Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance and insurance endorsements, and payment and performance bonds as evidence thereof. 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.
- 9. 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.

- 10. 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.
- 11. 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.
- 12. Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type **A or B** 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.
- 13. 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.
- 14. 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.
- 15. Labor Compliance:** 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.
- 16. 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).

- 17. 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.
- 18. 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.
- 19. 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.

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

**CONTRACTOR**

**PITTSBURG UNIFIED SCHOOL DISTRICT**

\_\_\_\_\_  
By: \_\_\_\_\_

\_\_\_\_\_  
By: **JAMES LARRY SCOTT**

Title: \_\_\_\_\_

Title: **DIRECTOR OF FACILITIES & IT**

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

**NOTICE TO PROCEED**

Dated: \_\_\_\_\_, **2024**

TO: \_\_\_\_\_  
("Contractor")

ADDRESS: \_\_\_\_\_

PROJECT: **PUSD – PAEC Restrooms Portable Bldg. Project**

CONTRACT NO.: **24-001** between the Pittsburg Unified School District and Contractor ("Contract").

You are notified that the Contract Time under the above Contract will commence to run on **Monday, April 01, 2024**. 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 of all on site Work, under this Contract, is **Friday, July 26, 2024**, and the date of completion of all Work under this Contract is **Friday, August 23, 2024** ("**Contract Time**").

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. A complete subcontractors list, including the name, address, telephone number, email address, facsimile number, California State Contractors License number, license classification, Department of Industrial Relations registration number, and monetary value of all Subcontracts.

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

PITTSBURG UNIFIED SCHOOL DISTRICT

BY: \_\_\_\_\_

NAME: **JAMES LARRY SCOTT**

TITLE: **DIRECTOR OF FACILITIES & IT**

END OF DOCUMENT

**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 Pittsburg Unified 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:

**Contract No.: 24-001, PUSD – PAEC Restrooms Portable Bldg. Project**

("Project" or "Contract") which Contract dated \_\_\_\_\_, **2024**, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

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

NOW, THEREFORE, the Principal and \_\_\_\_\_ ("Surety") are held and firmly bound unto the Board of the District in the penal sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

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

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

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

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

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

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

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

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

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

END OF DOCUMENT

**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 Pittsburg Unified 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:

**Contract No.: 24-001, PUSD – PAEC Restrooms Portable Bldg. Project**

("Project" or "Contract") which Contract dated \_\_\_\_\_, **2024**, 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

**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 PITTSBURG UNIFIED SCHOOL DISTRICT ("District") and \_\_\_\_\_ ("Contractor"), whose place of business is \_\_\_\_\_.

RECITALS:

1. District and Contractor entered into CONTRACT NO.: **24-001, PUSD – PAEC Restrooms Portable Bldg. Project** ("Contract" or "Project") in the County of Contra Costa, California.
2. 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**

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

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____
4. 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.
5. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the performance of work under the Contract, except for the claims described in Paragraph 6 and continuing obligations described in Paragraph 8. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District and all of its respective agents, employees, trustees, inspectors, assignees, consultants and transferees, except for any Disputed Claim that may be set forth in Paragraph 6 and the continuing obligations described in Paragraph 8 hereof.



6. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>	<u>Date Claim Submitted</u>
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____

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

7. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 4 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, inspectors, assignees, and transferees from any and all liability, claims, demands, actions, or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
8. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
9. To the furthest extent permitted by California law, Contractor shall defend, indemnify, and hold harmless the District, its agents, representatives, officers, consultants, employees, trustees, and volunteers (the "indemnified parties") from any and all losses, liabilities, claims, suits, and actions of any kind, nature, and description, including, but not limited to, attorneys' fees and costs, directly or indirectly arising out of, connected with, or resulting from the performance of the Contract unless caused wholly by the sole negligence or willful misconduct of the District.
10. Contractor hereby waives the provisions of California Civil Code section 1542 which provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

11. 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.
12. 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 \* \* \*

PITTSBURG UNIFIED SCHOOL DISTRICT

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

**GUARANTEE FORM**

\_\_\_\_\_ ("Contractor") hereby agrees that the **PUSD – PAEC Restrooms Portable Bldg. Project** ("Work" of Contractor) which Contractor has installed for the Pittsburg Unified School District ("District") for the following project:

PROJECT: **PUSD – PAEC Restrooms Portable Bldg. 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 **Two (2)** years from the date of completion as defined in Public Contract Code section 7107, subdivision (c), ordinary wear and tear and unusual abuse or neglect excepted. The date of completion is \_\_\_\_\_, 20\_\_\_\_.

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

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

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

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Email: \_\_\_\_\_

END OF DOCUMENT

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**GENERAL CONDITIONS**

**1. CONTRACT TERMS AND DEFINITIONS**

**1.1 Definitions**

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

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

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

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

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

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

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

**1.1.7 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.

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

**1.1.9 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.

**1.1.10 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.

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

**1.1.12 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:

- 1.1.12.1** Notice to Bidders
- 1.1.12.2** Instructions to Bidders
- 1.1.12.3** Bid Form and Proposal
- 1.1.12.4** Bid Bond
- 1.1.12.5** Designated Subcontractors List
- 1.1.12.6** Site Visit Certification (if a site visit was required)
- 1.1.12.7** Non-Collusion Declaration
- 1.1.12.8** Notice of Award
- 1.1.12.9** Notice to Proceed
- 1.1.12.10** Agreement
- 1.1.12.11** Escrow of Bid Documentation
- 1.1.12.12** Escrow Agreement for Security Deposits in Lieu of Retention (if applicable)
- 1.1.12.13** Performance Bond
- 1.1.12.14** Payment Bond (Contractor's Labor & Material Bond)
- 1.1.12.15** General Conditions
- 1.1.12.16** Special Conditions (if applicable)
- 1.1.12.17** Project Labor Agreement (if applicable)
- 1.1.12.18** Hazardous Materials Procedures and Requirements
- 1.1.12.19** Workers' Compensation Certification
- 1.1.12.20** Prevailing Wage Certification
- 1.1.12.21** Disabled Veteran Business Enterprise Participation Certification (if applicable)
- 1.1.12.22** Drug-Free Workplace Certification (if applicable)
- 1.1.12.23** Tobacco-Free Environment Certification
- 1.1.12.24** Hazardous Materials Certification (if applicable)
- 1.1.12.25** Lead-Based Materials Certification (if applicable)
- 1.1.12.26** Imported Materials Certification (if applicable)
- 1.1.12.27** Criminal Background Investigation/Fingerprinting Certification
- 1.1.12.28** Buy American Certification (if applicable)
- 1.1.12.29** Roofing Project Certification (if applicable)
- 1.1.12.30** Registered Subcontractors List
- 1.1.12.31** Iran Contracting Act Certification (if applicable)
- 1.1.12.32** Post Bid Interview
- 1.1.12.33** All Plans, Technical Specifications, and Drawings
- 1.1.12.34** Any and all addenda to any of the above documents
- 1.1.12.35** Any and all change orders or written modifications to the above documents if approved in writing by the District

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

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

**1.1.15 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.

**1.1.16 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.

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

**1.1.18 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.

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

**1.1.20 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.

**1.1.21 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,

**1.1.21.1** 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

**1.1.21.2** 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.

**1.1.22 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.

**1.1.23 DSA:** Division of the State Architect.

**1.1.24 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.

**1.1.25 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.

**1.1.26 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.

**1.1.27 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.

**1.1.28 Plans:** See **Drawings**.

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

**1.1.30 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.

**1.1.31 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.

**1.1.32 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.

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

**1.1.34 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.

**1.1.35 Project Labor Agreement (or "PLA"):** a pre-hire 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.

**1.1.36 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.

**1.1.37 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.

**1.1.38 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.

**1.1.39 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**.

**1.1.40 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.

**1.1.41 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.

**1.1.42 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").

**1.1.43 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.

**1.1.44 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.

**1.1.45 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.

**1.1.46 Site:** The Project site as shown on the Drawings.

**1.1.47 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.

**1.1.48 State:** The State of California.

**1.1.49 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.

**1.1.50 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.

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

**1.1.52 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.

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

## **1.2 Laws Concerning the Contract**

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

## **1.3 No Oral Agreements**

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

## **1.4 No Assignment**

Contractor shall not assign this Contract or any part thereof including, without limitation, any services 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 approved, 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 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 Agreement, 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.

**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 insure 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 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. Contractor shall reimburse the District for any and all laboratory costs or other testing costs for any materials found to be not in compliance with the Contract Documents. At the District's discretion, District may elect to deduct laboratory or other testing costs for noncompliant materials from the Contract Price, and such deduction shall not constitute a withholding.

## **5.3 Costs for After Hours and/or Off Site Inspections**

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

## **6. CONTRACTOR**

Contractor shall construct and complete, in a good and workmanlike manner, the Work for the Contract Price including any adjustment(s) to the Contract Price pursuant to provisions herein regarding changes to the Contract Price. Except as otherwise noted, Contractor shall provide and pay for all labor, materials, equipment, permits (excluding DSA), fees, licenses, facilities, transportation, taxes, bonds and insurance, and services necessary for the proper execution and completion of the Work, except as indicated herein.

## **6.1 Status of Contractor**

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

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

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

**6.1.4** Contractor represents that 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 Contractor and that no person having any such interest shall be employed by Contractor.

## **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, 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** 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.

#### **6.5 Field Office**

**6.5.1** Contractor shall provide a temporary office on the Work 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 Work 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 to detect errors, omissions or inconsistencies in the Contract Documents or to ascertain compliance with applicable laws, building codes 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.

**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**

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.

### **6.12 Royalties and Patents**

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

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

### **6.13 Work to Comply With Applicable Laws and Regulations**

**6.13.1** Contractor shall give all notices and comply with the following specific laws, ordinances, rules, and regulations and all other applicable laws, ordinances, rules, and regulations bearing on conduct of Work as indicated and specified, including but not limited to the appropriate statutes and administrative code sections. If Contractor observes that Drawings and Specifications are at variance therewith, or should Contractor become aware of the development of conditions not covered by Contract Documents that may result in finished Work being at variance therewith, Contractor shall promptly notify District in writing and any changes deemed necessary by District shall be made as provided in Contract for changes in Work.

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

**6.13.1.2** National Board of Fire Underwriters' Regulations

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

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

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

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

**6.13.1.7** Americans with Disabilities Act

**6.13.1.8** Education Code of the State of California

**6.13.1.9** Government Code of the State of California

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

**6.13.1.11** Public Contract Code of the State of California

**6.13.1.12** California Art Preservation Act

**6.13.1.13** U. S. Copyright Act

**6.13.1.14** U. S. Visual Artists Rights Act

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

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

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

## **6.14 Safety/Protection of Persons and Property**

**6.14.1** The Contractor will be solely and completely responsible for conditions of the Work 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 Work 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 shall be made and maintained in such a manner as to not interfere with the continuing use of same by the District during the entire progress of the Work.

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

**6.14.16** The Contractor shall protect and preserve the Work from all damage or accident, providing any temporary roofs, window and door coverings, boxings, or other construction as required by the Architect. The Contractor shall be responsible for existing structures, walks, roads, trees, landscaping, and/or improvements in working areas; and shall provide adequate protection therefore. If temporary removal is necessary of any of the above items, or damage occurs due to the Work, the Contractor shall replace same at 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 or behavior will be permitted. District may require Contractor to 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 the continuing education process. 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 will 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, or District may withhold those amounts from payment(s) to Contractor.

## **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 school operation(s) of the Premises and/or to District or any other contractor working on the Project. If simultaneous execution of any contract or school 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.

**10.1.1.2** 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 acceptance.

**10.1.1.2.2** And also divided by each of the following areas:

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

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

- 10.1.1.2.3.1** Mobilization and layout combined to equal not more than 1%;
- 10.1.1.2.3.2** Submittals, samples and shop drawings combined to equal not more than 3%;
- 10.1.1.2.3.3** Bonds and insurance combined to equal not more than 2%.

**10.1.1.2.4** Closeout documentation shall have a value in the preliminary schedule of not less than 5%.

**10.1.1.2.5** 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.

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

the preliminary schedule of values shall continue until the District has approved the entirety of the preliminary schedule of values.

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

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

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

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

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

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

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

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

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

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

**10.1.5** All submittals and 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 submittals and 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 Work 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.

## **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.

**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 visible facilities without prior written notification to the District shall be borne by the Contractor.

#### **11.10 Notification**

Contractor understands, acknowledges and agrees that the purpose 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 in the amounts and include the provisions set forth herein.

#### **13.1.1 Commercial General Liability and Automobile Liability Insurance**

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

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

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

#### **13.1.2 Excess Liability Insurance**

**13.1.2.1** 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 if Contractor's underlying policy limits are less than required.

**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 bring Contractor's primary limits to the minimum requirements herein.

**13.1.3 Subcontractor(s):** Contractor shall require its Subcontractor(s), if any, to procure and maintain Commercial General Liability Insurance, Automobile Liability Insurance, and Excess Liability Insurance (if Subcontractor elects to satisfy, in part the insurance required herein by procuring and maintaining an Excess Liability Insurance Policy) with forms of coverage and limits equal to the amounts required of the Contractor.

#### **13.1.4 Workers' Compensation and Employers' Liability Insurance**

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

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

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

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

#### **13.1.6 Pollution Liability Insurance**

**13.1.6.1** Contractor shall procure and maintain Pollution Liability Insurance that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, including natural resource damage, cleanup costs, removal, storage, disposal, and/or use of the pollutant arising from operations under this Contract, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims. Coverage shall apply to sudden and/or gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos. This coverage shall be provided in a form at least as broad as Insurance Services Offices, Inc. (ISO)

Form CG 2415, or Contractor shall procure and maintain these coverages separately.

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

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

**13.1.7 Proof of Insurance and Other Requirements: Endorsements and Certificates**

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

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

**13.1.7.2.1** A clause stating:

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

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

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

**13.1.7.3** 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, and Construction Manager stating date of the amendment, modification, cancellation or reduction, and a description of the change. Date of amendment, modification, cancellation or reduction may not be less than thirty (30) days after date of mailing notice.

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

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

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

**13.1.7.7** 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**.

**13.1.7.8** 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.

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

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### **13.1.8 Insurance Policy Limits**

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

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

### **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, or its agent, 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 **TWO (2)** 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 operations of District, 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, and the Construction Manager, their consultants and separate contractors, and their respective board

members, officers, representatives, contractors, agents, and employees, in both individual and official capacities ("Indemnitees"), against all suits, claims, damages, losses, and expenses, 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, except to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's indemnification and hold harmless obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability, and/or to any extent that would render these provisions void or unenforceable. This agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of indemnity that would otherwise exist as to any party or 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 California Department of Industrial Relations.

**14.2.2** Contractor shall also defend, at its own expense, Indemnitees against all suits, claims, allegations, damages, losses, and expenses, including but not limited to attorneys' 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, except to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's defense obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability, and/or to any extent that would render these provisions void or unenforceable. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the Indemnitees. This obligation of defense is inclusive of fees and costs. If the Indemnitees provide their 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 Indemnitees for any expenditures, including reasonable attorney's fees and costs. This agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of defense that would otherwise exist as to any party or person described herein. This 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 California Department of Industrial Relations. The Contractor shall give prompt notice to the District in the event of any injury (including death), loss, or damage included herein.

**14.2.3** Without limitation of the provisions herein, if the Contractor's agreement to indemnify and hold harmless the Indemnitees or its agreement 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 suit, claims or actions for damages or until the District, Architect and Construction Manager have received written agreement from the Contractor that they will unconditionally defend the District, Architect and Construction Manager, their officers, agents and employees, and pay any damages due by reason of settlement or judgment.

**14.2.7** The defense and indemnification obligations hereunder shall survive the completion of Work, including the warranty/guarantee period, and/or the termination of the Agreement.

## **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 and further specified in the Special Conditions;

**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

**15.2.2** 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 in the Special Conditions.

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

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

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

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

**16.2.3.2** 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 ("Schedule Analysis"). Such Schedule Analysis shall describe in detail the cause and effect of the delay and the impact on the critical dates in the Project schedule. (A portion of any delay of seven (7) days or more must be provided.)

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

## **16.3 No Additional Compensation for Delays Within Contractor's Control**

**16.3.1** Contractor is aware that governmental agencies, including, without limitation, the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies may have to approve Contractor-prepared drawings or approve a proposed installation.

Accordingly, Contractor shall include in its bid, time for possible review of its drawings and for reasonable delays and damages that may be caused by such agencies. Thus, Contractor is not entitled to make a claim for damages or delays arising from the review of Contractor's drawings.

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

**16.3.2.1** The District is responsible for the delay;

**16.3.2.2** The delay is unreasonable under the circumstances involved;

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

**16.3.2.4** Contractor timely complies with the claims procedure of the Contract Documents.

#### **16.4** Float or Slack in the Schedule

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

### **17. CHANGES IN THE WORK**

#### **17.1** No Changes Without Authorization

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

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

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

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

## **17.2 Architect Authority**

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

## **17.3 Change Orders**

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

**17.3.1.1** A description of a change in the Work;

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

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

## **17.4 Construction Change Directives**

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

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

## **17.5 Force Account Directives**

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

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

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

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

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

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

**17.5.7** In the event the Contractor and the District reach a written agreement on a set cost for the work while the work is proceeding based on a Force Account

Directive, the Contractor's signed daily force account reports shall be discontinued and all previously signed reports shall be invalid.

## **17.6 Price Request**

### **17.6.1 Definition of Price Request**

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

### **17.6.2 Scope of Price Request**

A Price Request shall contain adequate information, including any necessary Drawings and Specifications, to enable Contractor to provide the cost breakdowns required herein. The Contractor shall not be entitled to any additional compensation for preparing a response to a Price Request, whether ultimately accepted or not.

## **17.7 Proposed Change Order**

### **17.7.1 Definition of Proposed Change Order**

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

### **17.7.2 Changes in Contract Price**

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

### **17.7.3 Changes in Time**

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

### **17.7.4 Unknown and/or Unforeseen Conditions**

If there is an Allowance, then Contractor must submit a Request for Allowance Expenditure Directive, including supporting documentation as described below, to receive authorization for the release of funds from the Allowance. If cost of the unforeseen condition(s) exceed the Allowance, Contractor must submit a PCO requesting an increase in Contract Price and/or Contract Time that is based at least

partially on Contractor's assertion that Contractor has encountered unknown and/or unforeseen condition(s) on the Project, then Contractor shall base the PCO on provable information that, beyond a reasonable doubt and to the District's satisfaction, demonstrates that the unknown and/or unforeseen condition(s) were actually unknown and/or unforeseen and that the condition(s) were reasonably unknown and/or unforeseen. If not, the District shall deny the PCO as unsubstantiated, and the Contractor shall complete the Project without any increase in Contract Price and/or Contract Time based on that PCO.

**17.7.5 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.

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**17.8 Format for Proposed Change Order**

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

	<b><u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u></b>	<b><u>ADD</u></b>	<b><u>DEDUCT</u></b>
(a)	<b><u>Material</u></b> (attach suppliers’ invoice or itemized quantity and unit cost plus sales tax)		
(b)	<b><u>Add Labor</u></b> (attach itemized hours and rates, fully encumbered)		
(c)	<b><u>Add Equipment</u></b> (attach suppliers’ invoice)		
(d)	<b><u>Subtotal</u></b>		
(e)	<b><u>Add overhead and profit for any and all tiers of Subcontractor</u></b> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<b><u>Subtotal</u></b>		
(g)	<b><u>Add Overhead and Profit for Contractor</u></b> , not to exceed five percent (5%) of Item (f)		
(h)	<b><u>Subtotal</u></b>		
(i)	<b><u>Add Bond and Insurance</u></b> , not to exceed one and a half percent (1.5%) of Item (h)		
(j)	<b><u>TOTAL</u></b>		
(k)	<b><u>Time</u></b> (zero unless indicated; “TBD” not permitted)	_____	<b>Calendar Days</b>

	<b><u>WORK PERFORMED BY CONTRACTOR</u></b>	<b><u>ADD</u></b>	<b><u>DEDUCT</u></b>
(a)	<b><u>Material</u></b> (attach itemized quantity and unit cost plus sales tax)		
(b)	<b><u>Add Labor</u></b> (attach itemized hours and rates, fully encumbered)		
(c)	<b><u>Add Equipment</u></b> (attach suppliers’ invoice)		
(d)	<b><u>Subtotal</u></b>		
(e)	<b><u>Add Overhead and Profit for Contractor</u></b> , not to exceed fifteen percent (15%) of Item (d)		
(f)	<b><u>Subtotal</u></b>		
(g)	<b><u>Add Bond and Insurance</u></b> , not to exceed one and a half percent (1.5%) of Item (f)		
(h)	<b><u>TOTAL</u></b>		
(i)	<b><u>Time</u></b> (zero unless indicated; “TBD” not permitted)	_____	<b>Calendar Days</b>

**17.8.2 Labor.** Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Work. Such labor costs shall be limited to field labor for which there is a prevailing wage rate classification. Wage rates for labor shall not exceed the prevailing wage rates in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Work. 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.

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

**17.8.4 Equipment.** As a precondition 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.

**17.8.5 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, and general field and home office expenses.

## **17.9 Change Order Certification**

**17.9.1** All Change Orders and PCOs must include the following certification by the Contractor:

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

**17.9.1.2** It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. 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.

## **17.10 Determination of Change Order Cost**

**17.10.1** The amount of the increase or decrease in the Contract Price from a Change Order, if any, shall be determined in one or more of the following ways as applicable to a specific situation and at the District's discretion:

**17.10.1.1** District acceptance of a PCO;

**17.10.1.2** By unit prices contained in Contractor's original bid;

**17.10.1.3** By agreement between District and Contractor.

## **17.11 Deductive Change Orders**

All deductive Change Order(s) must be prepared pursuant to the provisions herein. Where a portion of the Work is deleted from the Contract, the reasonable value of the deducted work less the value of work performed shall be considered the appropriate deduction. The value submitted on the Schedule of Values shall be used to calculate the credit amount unless the bid documentation is being held in escrow as part of the Contract Documents. Unit Prices, if any, may be used in District's discretion in calculating reasonable value. If Contractor offers a proposed amount for a deductive Change Order(s), Contractor shall include a minimum of five percent (5%) total profit

and overhead to be deducted with the amount of the work of the Change Order(s). If Subcontractor work is involved, Subcontractors shall also include a minimum of five percent (5%) profit and overhead to be deducted with the amount of its deducted work. Any deviation from this provision shall not be allowed.

**17.12 Addition or Deletion of Alternate Bid Item(s)**

If the Bid Form and Proposal includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Alternate Bid Item(s) if not included in the Contract at the time of award. If the District elects to add or delete Alternate Bid Item(s) after Contract award, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Bid Form and Proposal unless the parties agree to a different price and the Contract Time shall be adjusted by the number of days allocated in the Contract Documents. If days are not allocated in the Contract Documents, the Contract Time shall be equitably adjusted.

**17.13 Discounts, Rebates, and Refunds**

For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to the Contractor, and the Contractor shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of the Contractor's cost in determining the actual cost of construction for purposes of any change, addition, or omission in the Work as provided herein.

**17.14 Accounting Records**

With respect to portions of the Work performed by Change Orders and Construction Change Directives, the Contractor shall keep and maintain cost-accounting records satisfactory to the District, including, without limitation, Job Cost Reports as provided in these General Conditions, which shall be available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents. Such records shall include without limitation hourly records for Labor and Equipment and itemized records of materials and Equipment used that day in connection with the performance of any Work. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect or the Project Inspector upon request. In the event that the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records, the District's reasonable good faith determination of the extent of adjustment to the Contract Price shall be final, conclusive, dispositive and binding upon Contractor.

**17.15 Notice Required**

If the Contractor desires to make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the provisions herein, including the Article on Claims and Disputes. No claim shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

**17.16 Applicability to Subcontractors**

Any requirements under this Article shall be equally applicable to Change Orders or Construction Change Directives issued to Subcontractors by the Contractor to the extent as required by the Contract Documents.

**17.17 Alteration to Change Order Language**

Contractor shall not alter Change Orders or reserve time in Change Orders. Change Orders altered in violation of this provision, if in conflict with the terms set forth herein, shall be construed in accordance with the terms set forth herein. Contractor shall execute finalized Change Orders and proceed under the provisions herein with proper notice.

**17.18 Failure of Contractor to Execute Change Order**

Contractor shall be in default of the Contract if Contractor fails to execute a Change Order when the Contractor agrees with the addition and/or deletion of the Work in that Change Order.

**18. REQUEST FOR INFORMATION**

**18.1** Any Request for Information shall reference all applicable Contract Document(s), including Specification section(s), detail(s), page number(s), drawing number(s), and sheet number(s), etc. The Contractor shall make suggestions and interpretations of the issue raised by each Request for Information. A Request for Information cannot modify the Contract Price, Contract Time, or the Contract Documents. Upon request by the District, Contractor shall provide an electronic copy of the Request for Information in addition to the hard copy.

**18.2** The Contractor shall be responsible for any costs incurred for professional services that District may deduct from any amounts owing to the Contractor, if a Request for Information requests an interpretation or decision of a matter where the information sought is equally available to the party making the request. District, at its sole discretion, shall deduct from and/or invoice Contractor for all the professional services arising herein.

**19. PAYMENTS**

**19.1 Contract Price**

The Contract Price is stated in the Agreement and, including authorized adjustments, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents.

**19.2 Applications for Progress Payments**

**19.2.1 Procedure for Applications for Progress Payments**

**19.2.1.1 Application for Progress Payment**

**19.2.1.1.1** Not before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the District and the

Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required, and supported by the following or each portion thereof unless waived by the District in writing:

**19.2.1.1.1.1** The amount paid to the date of the Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;

**19.2.1.1.1.2** The amount being requested under the Application for Payment by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;

**19.2.1.1.1.3** The balance that will be due to each of such entities after said payment is made;

**19.2.1.1.1.4** A certification that the As-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 weekly for all weeks any journeyman, apprentice, worker or other employee was employed in connection with the Work directly to the DIR, or within ten (10) days of any request by the District or the DIR, 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** Liquidated damages assessed against the Contractor.

**19.4.1.4** 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.

**19.4.1.5** Damage to the District or other contractor(s).

**19.4.1.6** Unsatisfactory prosecution of the Work by the Contractor.

**19.4.1.7** Failure to store and properly secure materials.

**19.4.1.8** 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.

**19.4.1.9** Failure of the Contractor to maintain As-Built Drawings.

**19.4.1.10** Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment.

**19.4.1.11** Unauthorized deviations from the Contract Documents.

**19.4.1.12** 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.

**19.4.1.13** 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.

**19.4.1.14** 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.

**19.4.1.15** Allowing an unregistered subcontractor, as described in Labor Code section 1725.5, to engage in the performance of any work under this Contract.

**19.4.1.16** 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.

**19.4.1.17** Failure to properly maintain or clean up the Site.

**19.4.1.18** Failure to timely indemnify, defend, or hold harmless the District.

**19.4.1.19** Any payments due to the District, including but not limited to payments for failed tests, utilities changes, or permits.

**19.4.1.20** Failure to pay Subcontractor(s) or supplier(s) as required by law and by the Contract Documents.

**19.4.1.21** Failure to pay any royalty, license or similar fees.

**19.4.1.22** Contractor is otherwise in breach, default, or in substantial violation of any provision of this Contract.

**19.4.1.23** 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 corrected sepias and diskette/CD/other data storage device acceptable to District with AutoCAD file to the District.

**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 Maintenance Manuals:** Contractor shall prepare all operation and maintenance manuals and date as indicated in the Specifications.

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

**20.2.2.5 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 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 are complete and tested, fixtures are in place, connected, and ready for tryout.
- 20.3.3.1.4** Electrical circuits scheduled in panels and disconnect switches labeled.
- 20.3.3.1.5** Painting and special finishes complete.
- 20.3.3.1.6** Doors complete with hardware, cleaned of protective film, relieved of sticking or binding, and in working order.
- 20.3.3.1.7** Tops and bottoms of doors sealed.
- 20.3.3.1.8** Floors waxed and polished as specified.
- 20.3.3.1.9** Broken glass replaced and glass cleaned.
- 20.3.3.1.10** Grounds cleared of Contractor's equipment, raked clean of debris, and trash removed from Site.
- 20.3.3.1.11** Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material replaced.
- 20.3.3.1.12** Finished and decorative work shall have marks, dirt, and superfluous labels removed.
- 20.3.3.1.13** Final cleanup, as provided herein.

#### **20.4 Costs of Multiple Inspections**

More than two (2) requests of the District to make a final inspection shall be considered an additional service of District, Architect, Construction Manager, and/or Project Inspector, and all subsequent costs will be invoiced to Contractor and if funds are available, withheld from remaining payments.

#### **20.5 Partial Occupancy or Use Prior to Completion**

##### **20.5.1 District's Rights to Occupancy**

The District may occupy or use any completed or partially completed portion of the Work at any stage, and such occupancy shall not constitute the District's Final Acceptance of any part of the Work. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein. In the event that the District occupies or uses any completed or partially completed portion of the Work, the Contractor shall remain responsible for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents unless the Contractor requests in writing, and the District agrees, to otherwise divide those responsibilities. Any

dispute as to responsibilities shall be resolved pursuant to the Claims and Disputes provisions herein, with the added provision that during the dispute process, the District shall have the right to occupy or use any portion of the Work that it needs or desires to use.

### **20.5.2 Inspection Prior to Occupancy or Use**

Immediately prior to partial occupancy or use, the District, the Contractor, and the Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

### **20.5.3 No Waiver**

Unless otherwise agreed upon, partial or entire occupancy or use of a portion or portions of the Work shall not constitute beneficial occupancy or 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 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 Two-Year Warranty Corrections**

If, within two (2) years 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 two (2) years 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 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 Right to Terminate Contractor for Cause**

**24.1.1 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:

**24.1.1.1** 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

**24.1.1.2** Contractor fails to complete said Work within the time specified or any extension thereof, or

**24.1.1.3** Contractor persistently fails or refused to perform Work or provide material of sufficient quality as to be in compliance with Contract Documents; or

**24.1.1.4** Contractor persistently or repeatedly refuses 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

**24.1.1.5** Contractor fails to make prompt payment to Subcontractors, or for material, or for labor; or

**24.1.1.6** Contractor persistently disregards laws, or ordinances, or instructions of District; or

**24.1.1.7** 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

**24.1.1.8** 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.

#### **24.1.2 Notification of Termination**

**24.1.2.1** 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 shall cease and terminate. Upon Termination, Contractor shall not be entitled to receive any further payment until the entire Work is finished.

**24.1.2.2** 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:

**24.1.2.2.1** 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

**24.1.2.2.2** Commences performance of this Contract within three (3) days from date of serving of its notice to District.

**24.1.2.3** 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.

**24.1.2.4** 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.

#### **24.1.3 Effect of Termination**

**24.1.3.1** 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.

**24.1.3.2** 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.

**24.1.3.3** 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.

**24.1.3.4** 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.

**24.1.3.5** The District shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Contractor under its subcontracts with any or all Subcontractors. In the event of an assumption or assignment by the District, no Subcontractor shall have any claim against the District or third party for Work performed by Subcontractor or other matters arising prior to termination of the Contract. The District or any third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after assumption or assignment. Should the District so elect, the Contractor shall execute and deliver all documents and take all steps, including the legal assignment of its contractual rights, as the District may require, for the purpose of fully vesting in the District the rights and benefits of its Subcontractor under Subcontracts or other obligations or commitments. All payments due the Contractor hereunder shall be subject to a right of offset by the District for expenses and damages suffered by the District as a result of any default, acts, or omissions of the Contractor. Contractor must include this assignment provision in all of its contracts with its Subcontractors.

**24.1.3.6** The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to District.

#### **24.1.4 Emergency Termination of Public Contracts Act of 1949**

**24.1.4.1** 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.

**24.1.4.1.1** 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.

**24.1.4.1.2** 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.

**24.1.4.2** 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.

#### **24.2 Termination of Contractor for Convenience**

**24.2.1** District in its sole discretion may terminate the Contract upon three (3) days' written notice to the Contractor. Under a termination for convenience, the District retains the right to all the options available to the District if there is a termination for cause. In case of a termination for convenience, the Contractor shall have no claims against the District except:

**24.2.1.1** The actual cost for labor, materials, and services performed that is unpaid and adequately documented through timesheets, invoices, receipts, or otherwise, and

**24.2.1.2** Five percent (5%) of the total cost of work performed as of the date of termination, or five percent (5%) of the value of the Work yet to be performed, whichever is less. This five percent (5%) amount shall be full compensation for all Contractor's and Subcontractor(s)' mobilization and/or demobilization costs and any anticipated loss profits resulting from termination of the Contractor for convenience.

## **24.3 Suspension of Work**

**24.3.1** 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.

**24.3.1.1** 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:

**24.3.1.1.1** That performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or

**24.3.1.1.2** That an equitable adjustment is made or denied under another provision of the Contract; or

**24.3.1.1.3** That the suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder.

**24.3.1.2** 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 Performance during Claim Process**

Contractor and its subcontractors shall continue to perform its Work under the Contract 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.

### **25.2 Definition of Claim**

**25.2.1** 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:

**25.2.1.1** A time extension, including without limitation, for relief of damages or penalties for delay assessed by the District under the Contract;

**25.2.1.2** 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

**25.2.1.3** An amount of payment disputed by the District.

## **25.3 Claims Presentation**

**25.3.1** If Contractor intends to apply for an increase in the Contract Price 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 in writing, including an itemized statement of the details and amounts of its Claim for any increase in the Contract Price of Contract Time, including a Schedule Analysis and any and all other documentation substantiating Contractor's claimed damages. Otherwise, Contractor shall have waived and relinquished its dispute against the District and Contractor's claims for compensation or an extension of time shall be forfeited and invalidated. Likewise, failure to timely submit a claim and the requisite supporting documentation shall constitute a waiver of such claim.

**25.3.2** The Claim shall identify:

**25.3.2.1** The issues, events, conditions, circumstances and/or causes giving rise to the dispute, and shall show, in detail, the cause and effect of same;

**25.3.2.2** The pertinent dates and/or durations and actual and/or anticipated effects on the Contract Price, Contract Schedule milestones and/or Contract Time adjustments;

**25.3.2.3** The line-item costs for labor, material, and/or equipment, if applicable; or

**25.3.2.4** A request by Contractor, if any, to waive the claims procedure under Public Contract Code section 9204 and proceed directly to the commencement of a civil action or binding arbitration.

**25.3.3** The Claim shall include the following certification by the Contractor:

**25.3.3.1** 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.

**25.3.3.2** 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. 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 Claim Resolution pursuant to Public Contract Code section 9204**

### **25.4.1 STEP 1:**

**25.4.1.1** Upon receipt of a Claim by registered or certified mail, return receipt requested, including the documents necessary to substantiate it, the District shall conduct a reasonable review of the Claim and, within a period **not to exceed 45 days**, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and Contractor may, **by mutual agreement, extend the time period** to provide a written statement. If the District needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of Claim sent by registered mail or certified mail, return receipt requested, the District shall have **up to three (3) days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension**, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

**25.4.1.1.1** Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

**25.4.1.2** 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.

**25.4.1.3** 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.

### **25.4.2 STEP 2:**

**25.4.2.1** If Contractor disputes the District's written response, or if the District fails to respond to a Claim within the time prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed.

**25.4.2.1.1.1** Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its

written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

**25.4.3 STEP 3:**

**25.4.3.1** Any disputed portion of the Claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the District and Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this section.

**25.4.3.1.1** 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.

**25.4.3.2** 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.

**25.4.4 STEP 4:**

**25.4.4.1** 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.

**25.5 Subcontractor Pass-Through Claims**

**25.5.1** 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.

**25.5.2** Within 45 days of receipt of this written request from a subcontractor, Contractor shall notify the subcontractor in writing as to whether the Contractor presented the Claim to the District and, if Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

**25.5.3** The Contractor shall bind all its Subcontractors to the provisions of this section and will hold the District harmless against Claims by Subcontractors.

**25.6 Government Code Claim Act Claim**

**25.6.1** If a claim, or any portion thereof, remains in dispute upon satisfaction of all applicable Claim Resolution requirements, including those pursuant to Public Contract Code section 9204, 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. For purposes of those provisions, the running of the time within which a claim must be presented to the District shall be tolled from the time Contractor submits its written Claim until the time the Claim is denied, including any time utilized by any applicable meet and confer process.

**25.7 Claim Resolution pursuant to Public Contract Code section 20104 et seq.**

**25.7.1** 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.

**25.7.1.1** Contractor shall file with the District any written Claim, including the documents necessary to substantiate it, upon the application for final payment.

**25.7.1.2** 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.

**25.7.1.2.1** If additional information is required, it shall be requested and provided by mutual agreement of the parties.

**25.7.1.2.2** 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.

**25.7.1.3** 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.

**25.7.1.3.1** If additional information is required, it shall be requested and provided upon mutual agreement of the District and the Contractor.

**25.7.1.3.2** 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.

**25.7.1.4** 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.

**25.7.1.5** 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.

**25.7.1.6** 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.

**25.7.1.7** 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.

**25.7.1.8** 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.

**25.7.2** Contractor shall bind its Subcontractors to the provisions of this Section and will hold the District harmless against disputes by Subcontractors.

**25.8 Claim Resolution Non-Applicability**

**25.8.1** The procedures for dispute and claim resolutions set forth in this Article shall not apply to the following:

- 25.8.1.1** Personal injury, wrongful death or property damage claims;
- 25.8.1.2** Latent defect or breach of warranty or guarantee to repair;
- 25.8.1.3** Stop payment notices;
- 25.8.1.4** District's rights set forth in the Article on Suspension and Termination;
- 25.8.1.5** Disputes arising out of labor compliance enforcement by the Department of Industrial Relations; or
- 25.8.1.6** 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.

**25.9 Attorney's Fees**

**25.9.1** 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. Contractor shall obtain and post a copy of these wage rates at the job site.

**26.2.2** Holiday and overtime work, when permitted by law, shall be paid for at the general prevailing rate of per diem wages for holiday and overtime work on file

with the Director of the Department of Industrial Relations, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District, but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

**26.2.3** Contractor shall pay and shall cause to be paid each worker engaged in Work on the Project the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or any Subcontractor and such workers.

**26.2.4** If during the period this bid is required to remain open, the Director of the Department of Industrial Relations determines that there has been a change in any prevailing rate of per diem wages in the locality in which the Work under the Contract is to be performed, such change shall not alter the wage rates in the Notice to Bidders or the Contract subsequently awarded.

**26.2.5** Pursuant to Labor Code section 1775, Contractor shall, as a penalty to District, forfeit the statutory amount (believed by the District to be currently up to two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates, determined by the District and/or the Director, for the work or craft in which that worker is employed for any public work done under Contract by Contractor or by any Subcontractor under it. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

**26.2.6** Any worker employed to perform Work on the Project, which Work is not covered by any classification listed in the general prevailing wage rate of per diem wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by him, and such minimum wage rate shall be retroactive to time of initial employment of such person in such classification.

**26.2.7** Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, subsistence pay, and apprenticeship or other training programs authorized by Labor Code section 3093, and similar purposes.

**26.2.8** Contractor shall post at appropriate conspicuous points on the Site of Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. In addition, Contractor shall post a sign-in log for all workers and visitors to the Site, a list of all subcontractors of any tier on the Site, and the required Equal Employment Opportunity poster(s).

### **26.3 Hours of Work**

**26.3.1** As provided in article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by Contractor or by any Subcontractor on any subcontract under this Contract upon the Work or upon

any part of the Work contemplated by this Contract shall be limited and restricted by Contractor to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

**26.3.2** Contractor shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by Contractor in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of District and to the Division of Labor Standards Enforcement of the DIR.

**26.3.3** Pursuant to Labor Code section 1813, Contractor shall as a penalty to the District forfeit the statutory amount (believed by the District to be currently twenty-five dollars (\$25)) for each worker employed in the execution of this Contract by Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code.

**26.3.4** Any Work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to the District.

## **26.4 Payroll Records**

**26.4.1** Contractor shall upload, and shall cause each Subcontractor performing any portion of the Work under this Contract to upload, an accurate and complete certified payroll record ("CPR") electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online on a weekly basis and within ten (10) days of any request by the District or Labor Commissioner at <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html> or current application and URL, showing the name, address, social security number, work classification, straight-time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work.

**26.4.1.1** The CPRs enumerated hereunder shall be filed directly with the DIR on a weekly basis or to the requesting party, whether the District or DIR, within ten (10) days after receipt of each written request. The CPRs from the Contractor and each Subcontractor for each week shall be provided on or before Wednesday of the week following the week covered by the CPRs. District may not make any payment to Contractor until:

**26.4.1.1.1** Contractor and/or its Subcontractor(s) provide CPRs acceptable to the DIR; and

**26.4.1.1.2** Any delay in Contractor and/or its Subcontractor(s) providing CPRs to the DIR in a timely manner may directly delay Contractor's payment.

**26.4.2** All CPRs shall be available for inspection at all reasonable hours at the principal office of Contractor on the following basis:

**26.4.2.1** A certified copy of an employee's CPR shall be made available for inspection or furnished to the employee or his/her authorized representative on request.

**26.4.2.2** CPRs shall be made available for inspection or furnished upon request to a representative of District, Division of Labor Standards Enforcement, Division of Apprenticeship Standards, and/or the DIR.

**26.4.2.3** CPRs shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through the District, Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested CPRs have not been provided pursuant to the provisions herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Contractor.

**26.4.3** Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by District, Division of Apprenticeship Standards, or Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Contractor awarded Contract or performing Contract shall not be marked or obliterated.

**26.4.4** Contractor shall inform District of the location of the records enumerated hereunder, including the street address, city, and county, and shall, within five (5) working days, provide a notice of change of location and address.

**26.4.5** In the event of noncompliance with the requirements of this section, Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects Contractor must comply with this section. Should noncompliance still be evident after the ten (10) day period, Contractor shall, as a penalty to District, forfeit up to one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Labor Commissioner, these penalties shall be withheld from progress payments then due.

**26.4.6** **[RESERVED]**

**26.5** **[RESERVED]**

**26.6** **Apprentices**

**26.6.1** Contractor acknowledges and agrees that, if this Contract involves a dollar amount greater than or a number of working days greater than that specified in Labor Code section 1777.5, then this Contract is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of Contractor to ensure compliance with this Article and with Labor Code section 1777.5 for all apprenticeship occupations.



**26.6.2** Apprentices of any crafts or trades may be employed and, when required by Labor Code section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

**26.6.3** Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which she/he is registered.

**26.6.4** Only apprentices, as defined in section 3077 of the Labor Code, who are in training under apprenticeship standards and written apprentice agreements under chapter 4 (commencing at section 3070), division 3, of the Labor Code, are eligible to be employed. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.

**26.6.5** Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractors employing workers in any apprenticeable craft or trade in performing any Work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving the Contractor or Subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the Work.

**26.6.6** Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractor may be required to make contributions to the apprenticeship program.

**26.6.7** If Contractor or Subcontractor willfully fails to comply with Labor Code section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:

**26.6.7.1** Be denied the right to bid on any subsequent project for one (1) year from the date of such determination;

**26.6.7.2** Forfeit as a penalty to District the full amount as stated in Labor Code section 1777.7. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council and under the authority of the Chief of the Division of Apprenticeship Standards.

**26.6.8** Contractor and all Subcontractors shall comply with Labor Code section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

**26.6.9** Contractor shall become fully acquainted with the law regarding apprentices prior to commencement of the Work. Special attention is directed to sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and title 8, California Code of Regulations, section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, 9th floor, San Francisco, California 94102.

## **26.7 Non-Discrimination**

**26.7.1** Contractor herein agrees not to discriminate in its recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed,

national origin, ancestry, sex, age, or physical handicap in the performance of this Contract and to comply with the provisions of the California Fair Employment and Housing Act as set forth in part 2.8 of division 3 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Contractor and Subcontractor.

**26.7.2** Special requirements for Federally Assisted Construction Contracts: During the performance of this Contract, Contractor agrees to incorporate in all subcontracts the provisions set forth in Chapter 60-1.4(b) of Title 41 published in Volume 33 No. 104 of the Federal Register dated May 28, 1968.

**26.8**     **Labor First Aid**

Contractor shall maintain emergency first aid treatment for Contractor's workers on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.) and the California Occupational Safety and Health Act of 1973 (Lab. Code, § 6300 et seq.; 8 Cal. Code of Regs., § 330 et seq.).

**27.**     **[RESERVED]**

**28.**     **MISCELLANEOUS**

**28.1**     **Assignment of Antitrust Actions**

**28.1.1**     Section 7103.5(b) of the Public Contract Code states:

In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, which assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

**28.1.2**     Section 4552 of the Government Code states:

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

**28.1.3**     Section 4553 of the Government Code states:

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter,

the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

**28.1.4** Section 4554 of the Government Code states:

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

**28.1.5** Under this Article, "public purchasing body" is District and "bidder" is Contractor.

## **28.2**     **Excise Taxes**

If, under Federal Excise Tax Law, any transaction hereunder constitutes a sale on which a Federal Excise Tax is imposed and the sale is exempt from such Federal Excise Tax because it is a sale to a State or Local Government for its exclusive use, District, upon request, will execute documents necessary to show (1) that District is a political subdivision of the State for the purposes of such exemption, and (2) that the sale is for the exclusive use of District. No Federal Excise Tax for such materials shall be included in any Contract Price.

## **28.3**     **Taxes**

Contract Price is to include any and all applicable sales taxes or other taxes that may be due in accordance with section 7051 et seq. of the Revenue and Taxation Code, Regulation 1521 of the State Board of Equalization or any other tax code that may be applicable.

## **28.4**     **Shipments**

All shipments must be F.O.B. destination to Site or sites, 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

**SPECIAL CONDITIONS**

**1. Mitigation Measures**

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

**2. Modernization Projects**

**2.1 Access.** Access to the school buildings and entry to buildings, classrooms, restrooms, mechanical rooms, electrical rooms, or other rooms, for construction purposes, must be coordinated with District and onsite District personnel before Work is to start. Unless agreed to otherwise in writing, only a school custodian will be allowed to unlock and lock doors in existing building(s). The custodian will be available only while school is in session. If a custodian is required to arrive before 7:00 a.m. or leave after 3:30 p.m. to accommodate Contractor's Work, the overtime wages for the custodian will be paid by the Contractor, unless at the discretion of the District, other arrangements are made in advance.

**2.2 Keys.** Upon request, the District may, at its own discretion, provide keys to the school site for the convenience of the Contractor. The Contractor agrees to pay all expenses to re-key the entire school site and all other affected District buildings if the keys are lost or stolen, or if any unauthorized party obtains a copy of the key or access to the school.

**2.3 Maintaining Services.** The Contractor is advised that Work is to be performed in spaces regularly scheduled for instruction. Interruption and/or periods of shutdown of public access, electrical service, water service, lighting, or other utilities shall be only as arranged in advance with the District. Contractor shall provide temporary services to all facilities interrupted by Contractor's Work.

**2.4 Maintaining Utilities.** The Contractor shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, and other utility service lines within working area.

**2.5 Confidentiality.** Contractor shall maintain the confidentiality of all information, documents, programs, procedures and all other items that Contractor encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes, without limitation, all student, parent, and employee disciplinary information and health information.

**2.6 Work during Instructional Time.** By submitting its bid, Contractor affirms that Work may be performed during ongoing instruction in existing facilities. If so, Contractor agrees to cooperate to the best of its ability to minimize any

disruption to school operations and any use of school facilities by the public up to, and including, rescheduling specific work activities, at no additional cost to District.

**2.7 No Work during Student Testing.** Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests.

### **3. Badge Policy for Contractors**

All Contractors doing work for the District will provide their workers with identification badges. These badges will be worn by all members of the Contractor's staff who are working in a District facility.

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

**3.1.1** Name of Contractor

**3.1.2** Name of Employee

**3.1.3** Contractor's address and phone number

**3.2** Badges are to be worn when the Contractor or his/her employees are on site and must be visible at all times. Contractors must inform their employees that they are required to allow District employees, the Architect, the Construction Manager, the Program Manager, or the Project Inspector to review the information on the badges upon request.

**3.3** Continued failure to display identification badges as required by this policy may result in the individual being removed from the Project or assessment of fines against the Contractor.

### **4. Substitution for Specified Items**

**4.1** 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.

**4.1.1** 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.

**4.1.2** 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.

**4.2** A request for a substitution shall be submitted as follows:

**4.2.1** 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.

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

**4.3** 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:

**4.3.1** 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;

**4.3.2** Available maintenance, repair or replacement services;

**4.3.3** Increases or decreases in operating, maintenance, repair, replacement, and spare parts costs;

**4.3.4** 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

**4.3.5** The time impact on any part of the Work resulting directly or indirectly from acceptance of the proposed substitute.

**4.4** 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:

**4.4.1** 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;

**4.4.2** The Contractor provides the same warranties and guarantees for the substitute that would be provided for that specified;

**4.4.3** 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;

**4.4.4** The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute; and

**4.4.5** 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.

**4.5** 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.

**4.6** 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.

**4.7** Contractor shall be responsible for any costs the District incurs for professional services, DSA fees, or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor's means and methods. District may deduct those costs from any amounts owing to the Contractor for the review of the request for substitution, even if the request for substitution is not approved. District, at its sole discretion, shall deduct from the payments due to and/or invoice Contractor for all the professional services and/or DSA fees or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor's means and methods arising herein.

**5. Weather Days**

Delays due to Adverse Weather conditions will only be permitted in compliance with the provisions in the General Conditions and only if the number of days of Adverse Weather exceeds the following parameters and Contractor can verify that the excess days of Adverse Weather caused delays:

January	<b><u>11</u></b>	July	<b><u>0</u></b>
February	<b><u>10</u></b>	August	<b><u>0</u></b>
March	<b><u>10</u></b>	September	<b><u>1</u></b>
April	<b><u>6</u></b>	October	<b><u>4</u></b>
May	<b><u>3</u></b>	November	<b><u>7</u></b>
June	<b><u>1</u></b>	December	<b><u>10</u></b>

**6. Insurance Policy Limits**

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

<b>Commercial General Liability</b>	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	<b>[E.G.]</b> Low Risk: \$1,000,000 per occurrence; \$2,000,000 aggregate
		Intermediate Risk: \$2,000,000 per occurrence; \$4,000,000 aggregate
		High Risk: \$5,000,000 per occurrence; \$10,000,000 aggregate
<b>Automobile Liability – Any Auto</b>	Combined Single Limit	<b>[E.G.]</b> Personal vehicles: \$500,000 Commercial vehicles: \$1,000,000
		Personal vehicles: \$100,000 per person/ \$300,000 per accident
<b>Workers’ Compensation</b>		Statutory limits pursuant to State law
<b>Employers’ Liability</b>		<b>[E.G. \$0]</b>
<b>Builder’s Risk (Course of Construction)</b>		Issued for the value and scope of Work indicated herein.
<b>Pollution Liability</b>		<b>[E.G. \$0]</b>

**7. Permits, Certificates, Licenses, Fees, Approvals**

**7.1** 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:

**7.1.1** 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.



**7.2 General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities**

**7.2.1** 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 (storm water requirements), without limitation:

**7.2.1.1** Municipal Separate Storm Sewer System (MS4) is 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.

**7.2.1.2** Storm Water Pollution Prevention Plan ("SWPPP") contains specific best management practices ("BMPs") and establishes numeric effluent limitations at:

**7.2.1.2.1** Sites where the District engages in maintenance (e.g., fueling, cleaning, repairing) for transportation activities.

**7.2.1.2.2** Construction sites where:

**7.2.1.2.2.1** One (1) or more acres of soil will be disturbed, or

**7.2.1.2.2.2** The project is part of a larger common plan of development that disturbs more than one (1) acre of soil.

**7.2.2** 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.

**7.2.3** At no additional cost to the District, Contractor shall provide a Qualified Storm Water Practitioner who shall be onsite and implement and monitor any and all SWPPP requirements applicable to the Project, including but not limited to:

**7.2.3.1** At least forty eight (48) hours prior to a forecasted rain event, implementing the Rain Event Action Plan (REAP) for any rain event requiring implementation of the REAP, including any erosion and sediment control measures needed to protect all exposed portions of the site; and

**7.2.3.2** Monitoring any Numeric Action Levels (NALs), if applicable.

**8. As-Builts and Record Drawings**

**8.27** 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 **PDF** plus one set of As-Built Drawings on bond copy paper.

**8.28** 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 **PDF** plus one set of Record Drawings on bond copy paper.

**9. 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, that such employee has not been convicted of a violent or serious felony, as defined in Education Code section 45122.1. Contractor shall fully complete and perform all tasks required pursuant to the Criminal Background Investigation/ Fingerprinting Certification.

**10. 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 and 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. Preliminary Schedule of Values**

The preliminary schedule of values shall include, at a minimum, the following information and the following structure:

Replace provision 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:

**10.1.2.3.1** 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]**%.

END OF DOCUMENT

**HAZARDOUS MATERIALS**  
**PROCEDURES & REQUIREMENTS**

**1. Summary**

This document includes information applicable to hazardous materials and hazardous waste abatement.

**2. Notice of Hazardous Waste or Materials**

- a. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:
  - (1) Material that Contractor believes may be a material that is hazardous waste or hazardous material, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
  - (2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.
- b. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.
- c. In response to Contractor's written notice, the District shall investigate the identified conditions.
- d. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.
- e. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

- f. If Contractor stops Work in connection with any hazardous condition and in any area affected thereby, Contractor shall immediately redeploy its workers, equipment, and materials, as necessary, to other portions of the Work to minimize delay and disruption.

### **3. Additional Warranties and Representations**

- a. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).
- b. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.
- c. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

### **4. Monitoring and Testing**

- a. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.
- b. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these

activities or tests by District in the Contract Price and the Scheduled Completion Date.

- c. Notwithstanding District's rights granted by this paragraph, Contractor may retain its own industrial hygiene consultant at Contractor's own expense and may collect samples and may perform tests including, but not limited to, pre-abatement, during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Contractor relating to the Work and Contractor shall immediately provide that documentation upon request.

## **5. Compliance with Laws**

- a. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.
- b. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:
  - (1) The protection of the public health, welfare and environment;
  - (2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;
  - (3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and
  - (4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

## **6. Disposal**

- a. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.
- b. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.

- c. Contractor shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Contractor shall not use any disposal facility to which District has objected. Contractor shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

**7. Permits**

- a. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:
  - (1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and
  - (2) are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Contractor agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Contractor shall not conduct any Work involving asbestos-containing materials or PCBs unless Contractor has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Contractor. Contractor shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Contractor observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If Contractor performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

- b. In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Contractor in securing the permit or giving the notice, but the Contractor shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

**8. Indemnification**

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 9601 *et seq.*).

**9. Termination**

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT

**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:

Site Work construction, AC Paving work, site utilities runs and connections (domestic water, sewer, electrical, and fire alarm system) to the Portable. Portable is being purchased by the District from Enviroplex who will manufacture, transport, deliver, and set in place the Portable.

**1.03 CONTRACTS**

- A. Perform the Work under a single, fixed-price Contract.

**1.04 WORK BY OTHERS**

NOT USED

**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

**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**

**NOT USED**

**PART 2 - UNIT PRICING**

**NOT USED**

END OF DOCUMENT

**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): \$\_\_\_\_\_

**PITTSBURG UNIFIED SCHOOL DISTRICT**  
PAEC Restrooms Portable Bldg. Project

**APPLICATION FOR PAYMENT AND  
CONDITIONAL AND UNCONDITIONAL  
WAIVER AND RELEASE FORMS  
DOCUMENT 01 29 00-2**

- (4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**UNCONDITIONAL WAIVER AND RELEASE  
ON PROGRESS PAYMENT  
(CIVIL CODE SECTION 8134)**

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

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

Through Date: \_\_\_\_\_

**Unconditional Waiver and Release**

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

**Exceptions**

This document does not affect any of the following:

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

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**CONDITIONAL WAIVER AND RELEASE  
ON FINAL PAYMENT  
(CIVIL CODE SECTION 8136)**

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

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

**Conditional Waiver and Release**

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

Maker of Check: \_\_\_\_\_

Amount of Check: \$ \_\_\_\_\_

Check Payable to: \_\_\_\_\_

**Exceptions**

This document does not affect any of the following: \_\_\_\_\_

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

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**UNCONDITIONAL WAIVER AND RELEASE  
ON FINAL PAYMENT  
(CIVIL CODE SECTION 8138)**

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

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

**Unconditional Waiver and Release**

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

**Exceptions**

This document does not affect any of the following: \_\_\_\_\_

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

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**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) Architect
  - (8) Engineer(s), if any and as appropriate to the agenda of the meeting.
  - (9) 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:

1. New Handrails & Guardrails

Contractor shall invite all parties to these meetings, and others whose work may affect, or be affected by, the quality of any one of these work items.

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

**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 being awarded the Contract 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 DATES**

**ON-SITE CONSTRUCTION STARTS:**

**March 04, 2024**

**ON-SITE CONSTRUCTION COMPLETION:**

**May 03, 2024**

**FINAL PROJECT COMPLETION:**

**June 07, 2024**

**1.04 QUALIFICATIONS**

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of [i.e., Primavera Project Planner]. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose.
- (1) The written statement shall identify the individual who will perform CPM scheduling.
  - (2) Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
  - (3) Required level of experience shall include at least two (2) projects of similar nature and scope with value not less than three fourths ( $\frac{3}{4}$ ) of the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. District reserves the right to approve or reject Contractor's scheduler or consultant at any time. District reserves the right to refuse replacing of Contractor's scheduler or consultant, if District believes replacement will negatively affect the scheduling of Work under this Contract.

**1.05 GENERAL**

- A. Progress Schedule shall be based on and incorporate milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in the Contract, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by District. Any such agreement shall be formalized by a Change Order.
- (1) District is not required to accept an early completion schedule, i.e., one that shows an earlier completion date than the Contract Time.
  - (2) Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier completion schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in its early completion schedule but within the Contract Time.

- (3) A schedule showing the work completed in less than the Contract Time, and that has been accepted by District, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and the Completion Date. Project Float is a resource available to both District and the Contractor.
- C. Ownership Project Float: Neither the District nor Contractor owns Project Float. The Project owns the Project Float. As such, liability for delay of the Completion Date rests with the party whose actions, last in time, actually cause delay to the Completion Date.
- (1) For example, if Party A uses some, but not all of the Project Float and Party B later uses remainder of the Project Float as well as additional time beyond the Project Float, Party B shall be liable for the time that represents a delay to the Completion Date.
  - (2) Party A would not be responsible for the time since it did not consume the entire Project Float and additional Project Float remained; therefore, the Completion Date was unaffected by Party A.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract CPM Schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. Failure of Progress Schedule to include any element of the Work, or any inaccuracy in Progress Schedule, will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. District's acceptance of schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests and shall not, in any manner, impose a duty of care upon District, or act to relieve Contractor of its responsibility for means and methods of construction.
- F. Software: Use **Primavera P6 Scheduling** software. Such software shall be compatible with Windows operating system. Contractor shall transmit contract file to District on compact disk at times requested by District.
- G. Transmit each item under the form approved by District.
- (1) Identify Project with District Contract number and name of Contractor.
  - (2) Provide space for Contractor's approval stamp and District's review stamps.
  - (3) Submittals received from sources other than Contractor will be returned to the Contractor without District's review.

## **1.06 INITIAL CPM SCHEDULE**

- A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.

- B. Indicate detailed plan for the Work to be completed in first ninety (90) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; procurement of materials and equipment. Show Work beyond ninety (90) calendar days in summary form.
- C. Initial CPM Schedule shall be time scaled.
- D. Initial CPM Schedule shall be cost and resource loaded. Accepted cost and resource loaded schedule will be used as basis for monthly progress payments until acceptance of the Original CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed ninety (90) calendar days.
- E. District and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to District.
  - (1) District's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).
  - (2) Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by District. Contractor shall resubmit Initial CPM Schedule if requested by District.
- F. If, during the first ninety (90) days after Notice to Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to District a written Time Impact Evaluation ("TIE") in accordance with Article 1.12 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

#### **1.07 ORIGINAL CPM SCHEDULE**

- A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work in conformance with requirements as specified herein.
- B. Progress Schedule shall include or comply with following requirements:
  - (1) Time scaled, cost and resource (labor and major equipment) loaded CPM schedule.
  - (2) No activity on schedule shall have duration longer than fifteen (15) work days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by District.
    - (a) Activity durations shall be total number of actual work days required to perform that activity.
  - (3) The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.

- (4) District furnished materials and equipment, if any, identified as separate activities.
- (5) Activities for maintaining Project Record Documents.
- (6) Dependencies (or relationships) between activities.
- (7) Processing/approval of submittals and shop drawings for all material and equipment required per the Contract. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.
  - (a) Include time for submittals, re-submittals and reviews by District. Coordinate with accepted schedule for submission of Shop Drawings, samples, and other submittals.
  - (b) Contractor shall be responsible for all impacts resulting from re-submittal of Shop Drawings and submittals.
- (8) Procurement of major equipment, through receipt and inspection at jobsite, identified as separate activity.
  - (a) Include time for fabrication and delivery of manufactured products for the Work.
  - (b) Show dependencies between procurement and construction.
- (9) Activity description; what Work is to be accomplished and where.
- (10) The total cost of performing each activity shall be total of labor, material, and equipment, excluding overhead and profit of Contractor. Overhead and profit of the General Contractor shall be shown as a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
- (11) Resources required (labor and major equipment) to perform each activity.
- (12) Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.
- (13) Identify the activities which constitute the controlling operations or critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to (10) days.
- (14) Twenty (20) workdays for developing punch list(s), completion of punch-list items, and final cleanup for the Work or any designated portion thereof. No other activities shall be scheduled during this period.
- (15) Interface with the work of other contractors, District, and agencies such as, but not limited to, utility companies.

- (16) Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.
  - (a) Also furnish for each Subcontractor, as determined by District, submitted on Subcontractor letterhead, a statement certifying that Subcontractor concurs with Contractor's Original CPM Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.
  - (b) Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.
  - (c) In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical, and plumbing Subcontractors, and other Subcontractors as required by District, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.
  - (d) Furnish schedule for Contractor/Subcontractor CPM schedule meetings which shall be held prior to submission of Original CPM schedule to District. District shall be permitted to attend scheduled meetings as an observer.
- (17) Activity durations shall be in Work days.
- (18) Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays. The Progress Schedule shall exclude in its Work day calendar all non-Work days on which Contractor anticipates critical Work will not be performed.
- C. Original CPM Schedule Review Meeting: Contractor shall, within sixty (60) days from the Notice to Proceed date, meet with District to review the Original CPM Schedule submittal.
  - (1) Contractor shall have its Project Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by District, in attendance. The meeting will take place over a continuous one (1) day period.
  - (2) District's review will be limited to submittal's conformance to Contract requirements including, but not limited to, coordination requirements. However, review may also include:
    - (a) Clarifications of Contract Requirements.
    - (b) Directions to include activities and information missing from submittal.
    - (c) Requests to Contractor to clarify its schedule.

- (3) Within five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by District at the Meeting.

## **1.08 ADJUSTMENTS TO CPM SCHEDULE**

- A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for District's review.
  - (1) District, within ten (10) days from date that Contractor submitted the revised schedule, will either:
    - (a) Accept schedule and cost and resource loaded activities as submitted, or
    - (b) Advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for District to monitor Project's progress, resources, and status or evaluate monthly payment request by Contractor.
  - (2) District may accept schedule with conditions that the first monthly CPM Schedule update be revised to correct deficiencies identified.
  - (3) When schedule is accepted, it shall be considered the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
  - (4) District reserves right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.
- B. Acceptance of Contractor's schedule by District will be based solely upon schedule's compliance with Contract requirements.
  - (1) By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
  - (2) Upon submittal of schedule update, updated schedule shall be considered "current" CPM Schedule.
  - (3) Submission of Contractor's schedule to District shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed Work.

- C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of Contract Documents and that Work shall be executed in sequence indicated on the schedule.
- D. Contractor shall distribute Original CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterheads to Contractor and transmitted to District for the record.

#### **1.09 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS**

- A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities.
  - (1) Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.
  - (2) Each update shall continue to show all Work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.
  - (1) At this meeting, at a minimum, the following items will be reviewed: Percent (%) complete of each activity; Time Impact Evaluations for Change Orders and Time Extension Request; actual and anticipated activity sequence changes; actual and anticipated duration changes; and actual and anticipated Contractor delays.
  - (2) These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
  - (3) Contractor shall plan on the meeting taking no less than four (4) hours.
- C. Within five (5) working days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.
- D. Within five (5) work days of receipt of above noted revised submittals, District will either accept or reject monthly schedule update submittal.
  - (1) If accepted, percent (%) complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.

- (2) If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
- E. Neither updating, changing or revising of any report, curve, schedule, or narrative submitted to District by Contractor under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying in any way the Completion Date or milestone dates or of modifying or limiting in any way Contractor's obligations under this Contract.

### **1.10 SCHEDULE REVISIONS**

- A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.
- B. To reflect revisions to the Schedule, the Contractor shall provide District with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly schedule update meeting.
- C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. District may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide District with a complete written narrative response to District's request.
- D. If the Contractor's revision is still not accepted by District, and the Contractor disagrees with District's position, the Contractor has seven (7) calendar days from receipt of District's letter rejecting the revision to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of District's written rejection of a schedule revision shall be contractually interpreted as acceptance of District's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding District's position.
- E. At District's discretion, the Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

### **1.11 RECOVERY SCHEDULE**

- A. If the Schedule Update shows a completion date twenty-one (21) calendar days beyond the Contract Completion Date, or individual milestone completion dates, the Contractor shall submit to District the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.



- B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District.
- C. If the Contractor's revisions are not accepted by District, District and the Contractor shall follow the procedures in paragraph 1.09.C, 1.09.D and 1.09.E above.
- D. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

#### **1.12 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, AND OTHER DELAYS**

- A. When Contractor is directed to proceed with changed Work, the Contractor shall prepare and submit within fourteen (14) calendar days from the Notice to Proceed a TIE which includes both a written narrative and a schedule diagram depicting how the changed Work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed Work in the schedule and how it impacts the current schedule-update critical path. The Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram must be tied to the main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path.
- B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.
- C. Contractor shall be responsible for all costs associated with the preparation of TIEs, and the process of incorporating them into the current schedule update. The Contractor shall provide District with four (4) copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Time may be extended in an amount District allows, and the Contractor may submit a claim for additional time claimed by contractor.

#### **1.13 TIME EXTENSIONS**

- A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with the General Conditions.
- B. Where an event for which District is responsible impacts the projected Completion Date, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment, and material the Contractor would expend to mitigate District-caused time impact. The Contractor shall submit its mitigation plan to District within fourteen (14)

calendar days from the date of discovery of the impact. The Contractor is responsible for the cost to prepare the mitigation plan.

- C. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- D. No time will be granted under this Contract for cumulative effect of changes.
- E. District will not be obligated to consider any time extension request unless the Contractor complies with the requirements of Contract Documents.
- F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
- G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

#### **1.14 SCHEDULE REPORTS**

- A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.
- B. Required Reports:
  - (1) Two activity listing reports: one sorted by activity number and one by total Project Float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, Project Float, responsibility code, and the logic relationship of activities.
  - (2) Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value- to date, previous payments, and amount earned for current update period.
  - (3) Schedule plots presenting time-scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
  - (4) Cash flow report calculated by early start, late start, and indicating actual progress. Provide an exhibit depicting this information in graphic form.
  - (5) Planned versus actual resource (i.e., labor) histogram calculated by early start and late start.
- C. Other Reports:

In addition to above reports, District may request, from month to month, any two of the following reports. Submit four (4) copies of all reports.

- (1) Activities by early start.
  - (2) Activities by late start.
  - (3) Activities grouped by Subcontractors or selected trades.
  - (4) Activities with scheduled early start dates in a given time frame, such as fifteen (15) or thirty (30) day outlook.
- D. Furnish District with report files on compact disks containing all schedule files for each report generated.

### **1.15 PROJECT STATUS REPORTING**

- A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.
- B. Contractor shall prepare monthly written narrative reports of status of Project for submission to District. Written status reports shall include:
- (1) Status of major Project components (percent (%) complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
  - (2) Progress made on critical activities indicated on CPM Schedule.
  - (3) Explanations for any lack of work on critical path activities planned to be performed during last month.
  - (4) Explanations for any schedule changes, including changes to logic or to activity durations.
  - (5) List of critical activities scheduled to be performed next month.
  - (6) Status of major material and equipment procurement.
  - (7) Any delays encountered during reporting period.
  - (8) Contractor shall provide printed report indicating actual versus planned resource loading for each trade and each activity. This report shall be provided on weekly and monthly basis.
    - (a) Actual resource shall be accumulated in field by Contractor, and shall be as noted on Contractor's daily reports. These reports will be basis for information provided in computer-generated monthly and weekly printed reports.
    - (b) Contractor shall explain all variances and mitigation measures.

- (9) Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by District at no additional cost.
- (10) Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

#### **1.16 WEEKLY SCHEDULE REPORT**

At the Weekly Progress Meeting, the Contractor shall provide and present a time-scaled three (3) week look-ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

#### **1.17 DAILY CONSTRUCTION REPORTS**

On a daily basis, Contractor shall submit a daily activity report to District for each workday, including weekends and holidays when worked. Contractor shall develop the daily construction reports on a computer-generated database capable of sorting daily Work, manpower, and man-hours by Contractor, Subcontractor, area, sub-area, and Change Order Work. Upon request of District, furnish computer disk of this data base. Obtain District's written approval of daily construction report data base format prior to implementation. Include in report:

- A. Project name and Project number.
- B. Contractor's name and address.
- C. Weather, temperature, and any unusual site conditions.
- D. Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.
- E. Worker quantities for its own Work force and for Subcontractors of any tier.
- F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

#### **1.18 PERIODIC VERIFIED REPORTS**

Contractor shall complete and verify construction reports on a form prescribed by the Division of the State Architect and file reports on the first day of February, May, August, and November during the preceding quarter year; at the completion of the Contract; at the completion of the Work; at the suspension of Work for a period of more than one (1) month; whenever the services of Contractor or any of Contractor's Subcontractors are terminated for any reason; and at any time a special verified report is required by the Division of the State Architect. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

**PART 2 – PRODUCTS Not Used.**

**PART 3 - EXECUTION Not Used.**

END OF DOCUMENT

**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 comply with all time frames herein and in the General Conditions and, in any case, 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. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Also certify that Contractor-furnished equipment can be installed in allocated space.
- (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
- (10) A. 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.

### **1.03 SHOP DRAWINGS:**

- A. Contractor shall submit one reproducible transparency and six (6) opaque reproductions. The District will review and return the reproducible copy and one (1) opaque reproduction to Contractor.
- B. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.
- C. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.
- D. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.
- E. District shall not review Shop Drawings for quantities of materials or number of items supplied.
- F. District's and/or Architect's review of Shop Drawing will be general. District and/or Architect review does not relieve Contractor of responsibility for dimensions, accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. The District's and/or Architect's review of Shop Drawings is not to be construed as approving departures from Contract Documents.
- G. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or utilities having jurisdiction.
- H. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.
- I. Submitted drawings and details must bear stamp of approval of Contractor:



- (1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.
  - (2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked, the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.
- J. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.
- K. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.
- L. Shop Drawings must clearly delineate the following information:
- (1) Project name and address.
  - (2) Specification number and description.
  - (3) Architect's name and project number.
  - (4) Shop Drawing title, number, date, and scale.
  - (5) Names of Contractor, Subcontractor(s) and fabricator.
  - (6) Working and erection dimensions.
  - (7) Arrangements and sectional views.
  - (8) Necessary details, including complete information for making connections with other Work.
  - (9) Kinds of materials and finishes.
  - (10) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.
- M. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.

- (1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.
- (2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

#### **1.04 PRODUCT DATA OR NON REPRODUCIBLE SUBMITTALS:**

- A. Contractor shall submit manufacturer's printed literature in original form. Any fading type of reproduction will not be accepted. Contractor must submit a minimum of six (6) each, to the District. District shall return one (1) to the Contractor, who shall reproduce whatever additional copies it requires for distribution.
- B. Contractor shall submit six (6) copies of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.
- C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.
- D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.
- E. Imported Materials Certification must be submitted at least ten (10) days before material is delivered.

#### **1.05 SAMPLES:**

- A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.
- B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.
  - (1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.

- (2) Samples must show full range of texture, color, and pattern.
- C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.
- D. Samples to be shipped prepaid or hand-delivered to the District.
- E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.
- F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.
- G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.
- H. After a material has been approved, no change in brand or make will be permitted.
- I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.
- J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.
- K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:
  - (1) Size: As Specified.
  - (2) Furnish catalog numbers and similar data, as requested.

#### **1.06 REVIEW AND RESUBMISSION REQUIREMENTS:**

- A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.
- B. One (1) copy of product or materials data will be returned to Contractor with the review status.
- C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other

Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.

- D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review. Such resubmittal shall not delay the Work.
- E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.
- F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.
- G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.
- H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.
- I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

**PART 2 – PRODUCTS Not Used.**

**PART 3 - EXECUTION Not Used.**

END OF DOCUMENT

**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

**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 most current adopted versions 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 Referenced Standards Code, Part 12, Title 24, CCR.
- (8) State Fire Marshal Regulations, Public Safety, Title 19, CCR.
- (9) 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.
- (10) 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.
- (11) 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

**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.	AAMA	American Architectural Manufacturers Association
3.	AASHTO	American Association of State Highway and Transportation Officials
4.	ABPA	Acoustical and Board Products Association
5.	ACI	American Concrete Institute
6.	AGA	American Gas Association
7.	AGC	Associated General Contractors of America
8.	AHC	Architectural Hardware Consultant
9.	AI	Asphalt Institute
10.	AIA	American Institute of Architects
11.	AIEE	American Institute of Electrical Engineers
12.	AISC	American Institute of Steel Construction
13.	AISI	American Iron and Steel Institute
14.	AMCA	Air Moving and Conditioning Association
15.	ANSI	American National Standards Institute
16.	APA	American Plywood Association
17.	ARI	Air Conditioning and Refrigeration Institute
18.	ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
19.	ASME	American Society of Mechanical Engineers
20.	ASSE	American Society of Structural Engineers
21.	ASTM	American Society of Testing and Materials
22.	AWPB	American Wood Preservers Bureau
23.	AWPI	American Wood preservers Institute
24.	AWS	American Welding Society
25.	AWSC	American Welding Society Code
26.	AWI	Architectural Woodwork Institute
27.	AWWA	American Water Works Association
28.	BIA	Brick Institute of America

29.	CCR	California Code of Regulations
30.	CLFMI	Chain Link Fence Manufacturers Institute
31.	CMG	California Masonry Guild
32.	CRA	California Redwood Association
33.	CRSI	Concrete Reinforcing Steel Institute
34.	CS	Commercial Standards
35.	CSI	Construction Specifications Institute
36.	CTI	Cooling Tower Institute
37.	FGMA	Flat Glass Manufacturer's Association
38.	FIA	Factory Insurance Association
39.	FM	Factory Mutual
40.	FS	Federal Specification
41.	FTI	Facing Title Institute
42.	GA	Gypsum Association
43.	ICC	International Code Council
44.	IEEE	Institute of Electrical and Electronic Engineers
45.	IES	Illumination Engineering Society
46.	LIA	Lead Industries Association
47.	MIA	Marble Institute of America
48.	MLMA	Metal Lath Manufacturers Association
49.	MS	Military Specifications
50.	NAAMM	National Association of Architectural Metal Manufacturers
51.	NBHA	National Builders Hardware Association
52.	NBFU	National Board of Fire Underwriters
53.	NBS	National Bureau of Standards
54.	NCMA	National Concrete Masonry Association
55.	NEC	National Electrical Code
56.	NEMA	National Electrical Manufacturers Association
57.	NFPA	National Fire Protection Association/National Forest Products Association
58.	NMWIA	National Mineral Wool Insulation Association
59.	NTMA	National Terrazzo and Mosaic Association
60.	NWMA	National Woodwork Manufacturer's Association
61.	ORS	Office of Regulatory Services (California)
62.	OSHA	Occupational Safety and Health Act
63.	PCI	Precast Concrete Institute
64.	PCA	Portland Cement Association
65.	PDCA	Painting and Decorating Contractors of America
66.	PDI	Plumbing Drainage Institute
67.	PEI	Porcelain Enamel Institute
68.	PG&E	Pacific Gas & Electric Company
69.	PS	Product Standards
70.	SDI	Steel Door Institute; Steel Deck Institute
71.	SJI	Steel Joist Institute
72.	SSPC	Steel Structures Painting Council
73.	TCA	Tile Council of America
74.	TPI	Truss Plate Institute
75.	UBC	Uniform Building Code
76.	UL	Underwriters Laboratories Code
77.	UMC	Uniform Mechanical Code
78.	USDA	United States Department of Agriculture
79.	VI	Vermiculite Institute

- |     |        |   |
|-----|--------|---|
| 80. | WCLA   | West Coast Lumberman's Association                          |
| 81. | WCLB   | West Coast Lumber Bureau                                    |
| 82. | WEUSER | Western Electric Utilities Service Engineering Requirements |
| 83. | WIC    | Woodwork Institute of California                            |
| 84. | WPOA   | Western Plumbing Officials Association                      |

**PART 2 - PRODUCTS Not Used.**

**PART 3 - EXECUTION Not Used.**

END OF DOCUMENT

**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

**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 <a href="http://www.aluminum.org">www.aluminum.org</a>	703/358-2960
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503 Washington, DC 20005 <a href="http://www.aabc.com">www.aabc.com</a>	202/737-0202
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 550 Schaumburg, IL 60173-4268 <a href="http://www.aamanet.org">www.aamanet.org</a>	847/303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 N Capitol St. NW - Suite 249 Washington, DC 20001 <a href="http://www.transportation.org">www.transportation.org</a>	202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 One Davis Drive Research Triangle Park, NC 27709 2215 <a href="http://www.aatcc.org">www.aatcc.org</a>	919/549-8141
ACA	American Coatings Association 1500 Rhode Island Ave., NW Washington DC, 20005 <a href="http://www.paint.org">www.paint.org</a>	202/462-6272

ACI	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 www.concrete.org	248/848-3700
ACPA	American Concrete Pipe Association 8445 Freeport Parkway, Suite 350 Irving, TX 75063-2595 www.concrete-pipe.org	972/506-7216
ADC	Air Duct Council 1901 N. Roselle Road, Suite 800 Schaumburg, Illinois 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 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 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

AIA	American Insurance Association (formerly the National Board of Fire Underwriters) 555 12th St, NW, Suite 550 Washington DC 20004 www.aiadc.org	202/828-7100
AISI	American Iron and Steel Institute 25 Massachusetts Ave., NW, Suite 800 Washington, DC 20001 www.steel.org	202/452.7100
AITC	American Institute of Timber Construction 7012 S. Revere Parkway Suite 140 Centennial, CO 80112 www.aitc-glulam.org	503/639.0651
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
ANLA	American Nursery & Landscape Association (now AmericanHort) 525 9 <sup>th</sup> St NW, Suite 80 Washington, DC 20004 www.americanhort.org	202/789-2900
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 Know Rd, Ste L103 Tallahassee, FL 32303 <a href="http://www.archprecast.org">www.archprecast.org</a>	850/205.5637
ARI	Air Conditioning and Refrigeration Institute (now Air-Conditioning, Heating, & Refrigeration Institute) 2111 Wilson Blvd, Suite 500 Arlington, VA 22201 <a href="http://www.ahrinet.org">www.ahrinet.org</a>	703/524-8800
ARMA	Asphalt Roofing Manufacturers Association Public Information Department 750 National Press Building 529 14th Street, NW Washington, DC 20045 <a href="http://www.asphaltroofing.org">www.asphaltroofing.org</a>	202/591-2450
ASA	The Acoustical Society of America ASA Office Manager Suite 1N01 2 Huntington Quadrangle Melville, NY 11747-4502 <a href="http://asa.aip.org">http://asa.aip.org</a>	516/576-2360
ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 <a href="http://www.asce.org">www.asce.org</a>	800/548-2723 703/295-6300
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 <a href="http://www.ashrae.org">www.ashrae.org</a>	800/527-4723 404/636-8400
ASLA	American Society of Landscape Architects 636 Eye Street, NW Washington, DC 20001-3736 <a href="http://www.asla.org">www.asla.org</a>	202/898-2444
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990 <a href="http://www.asme.org">www.asme.org</a>	800/434-2763
ASPE	American Society of Plumbing Engineers 2980 S River Rd. Des Plaines, IL 60018 <a href="http://aspe.org">http://aspe.org</a>	847/296-0002

ASQ	American Society for Quality P.O. Box 3005 Milwaukee, WI 53201-3005 or 600 North Plankinton Avenue Milwaukee, WI 53203 <a href="http://asq.org">http://asq.org</a>	800/248-1946 414/272-8575
ASSE	American Society of Sanitary Engineering 901 Canterbury, Suite A Westlake, Ohio 44145 <a href="http://www.asse-plumbing.org">www.asse-plumbing.org</a>	440/835-3040
ASTM	ASTM International 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA, 19428-2959 <a href="http://www.astm.org">www.astm.org</a>	610/832-9500
AWCI	Association of the Wall and Ceiling Industry 513 West Broad Street, Suite 210 Falls Church, VA 22046 <a href="http://www.awci.org">www.awci.org</a>	703/538-1600
AWPA	American Wood Protection Association P.O. Box 361784 Birmingham, AL 35236-1784 <a href="http://www.awpa.com">www.awpa.com</a>	205/733-4077
AWPI	American Wood Preservers Institute 2750 Prosperity Ave. Suite 550 Fairfax, VA 22031-4312 <a href="http://www.arcat.com">www.arcat.com</a>	800/356-AWPI 703/204-0500
AWS	American Welding Society 8669 Doral Boulevard, Suite 130 Doral, Florida 33166 <a href="http://www.aws.org">www.aws.org</a>	800/443-9353 305/443-9353
AWI	Architectural Woodwork Institute 46179 Westlake Drive, Suite 120 Potomac Falls, VA 20165-5874 <a href="http://www.awinet.org">www.awinet.org</a>	571/323-3636
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 <a href="http://www.awwa.org">www.awwa.org</a>	800/926-7337 303/794 7711

BHMA	Builders Hardware Manufacturers Association 355 Lexington Avenue, 15th floor New York, NY 10017 <a href="http://www.buildershardware.com">www.buildershardware.com</a>	212/297-2122
BIA	The Brick Industry Association 1850 Centennial Park Drive, Suite 301 Reston, VA 20191 <a href="http://www.gobrick.com">www.gobrick.com</a>	703/620-0010
CGA	Compressed Gas Association 14501 George Carter Way, Suite 103 Chantilly VA 20151-2923 <a href="http://www.cganet.com">www.cganet.com</a>	703/788-2700
CISCA	Ceilings & Interior Systems Construction Association 1010 Jorie Blvd, Suite 30 Oak Brook, IL 60523 <a href="http://www.cisca.org">www.cisca.org</a>	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 1064 Delaware Avenue SE Atlanta, GA 30316 <a href="http://www.cispi.org">www.cispi.org</a>	404/622-0073
CLFMI	Chain Link Fence Manufacturers Institute 10015 Old Columbia Road, Suite B-215 Columbia, MD 21046 <a href="http://www.associationsites.com/main-pub.cfm?usr=clfma">www.associationsites.com/main-pub.cfm?usr=clfma</a>	410/290-6267
CPA	Composite Panel Association 19465 Deerfield Avenue, Suite 306 Leesburg, VA 20176 <a href="http://www.compositepanel.org">www.compositepanel.org</a>	703/724-1128
CPSC	Consumer Product Safety Commission 4330 East West Highway Bethesda, MD 20814 <a href="http://www.cpsc.gov">www.cpsc.gov</a>	301/504-7923 800/638-2772
CRA	California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949 <a href="http://www.calredwood.org">www.calredwood.org</a>	415/382-0662

CRI	Carpet and Rug Institute P.O. Box 2048 Dalton, Georgia 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 110 South Union Street, Suite 100 Alexandria VA 22314 www.csinet.org	800/689-2900
CTIOA	Ceramic Tile Institute of America 12061 Jefferson Blvd. Culver City, CA 90230-6219 www.ctioa.org	310/574-7800
DHI	Door and Hardware Institute (formerly National Builders Hardware Association) 14150 Newbrook Dr. Chantilly, VA 20151 www.dhi.org	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 2000 2nd Avenue, South Suite 429 Birmingham, AL 35233 www.dipra.org	205/402-8700
DOC	U.S. Department of Commerce 1401 Constitution Ave., NW Washington, D.C. 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 7439 Millwood Drive West Bloomfield, MI 48322 www.fcica.com	248/661-5015 877/TO-FCICA
FM Global	Factory Mutual Insurance Company Amy Daley Global Practice Leader – Education, Public Entities, Health Care FM Global 270 Central Avenue Johnston, RI 02919-4949 www.fmglobal.com	401/275-3000 401/275-3029
FS	General Services Administration (GSA) Index of Federal Specifications, Standards and Commercial Item Descriptions 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407 www.gsa.gov	202/619-8925
GA	The Gypsum Association 6525 Belcrest Road, Suite 480 Hyattsville, MD 20782 www.gypsum.org	301/277-8686
GANA	Glass Association of North America 800 SW Jackson St., Suite 1500 Topeka, KS 66612-1200 www.glasswebsite.com	785/271-0208
HMA	Hardwood Manufacturers Association 665 Rodi Road, Suite 305 Pittsburgh, PA 15235 http://hmamembers.org	412/244-0440
HPVA	Hardwood Plywood & Veneer Association 1825 Michael Faraday Drive Reston, Virginia 20190 www.hpva.org	703/435-2900

IAPMO	International Association of Plumbing and Mechanical Officials (formerly the Western Plumbing Officials Association) 4755 E. Philadelphia St. Ontario, CA 91761 www.iapmo.org	909/472-4100
ICC	International Code Council 500 New Jersey Avenue, NW, 6th Floor Washington, DC 20001 www.iccsafe.org	888/422-7233
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17th Floor New York, NY 10016-5997 www.ieee.org	212/419-7900
IES	Illuminating Engineering Society 120 Wall Street, Floor 17 New York, NY 10005-4001 www.ies.org	212/248-5000
ITRK	Intertek Testing Services 3933 US Route 11 Cortland, NY 13045 www.intertek.com	607/753-6711
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850 www.mcaa.org	301/869-5800
MIA	Marble Institute of America 28901 Clemens Rd, Ste 100 Cleveland, OH 44145 www.marble-institute.com	440/250-9222
MMPA (formerly WMMPA)	Moulding & Millwork Producers Association (formerly Wood Moulding & Millwork Producers Association) 507 First Street Woodland, CA 95695 www.wmmpa.com	530/661-9591 800/550-7889

MSS	Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry 127 Park Street, NE Vienna, VA 22180-4602 <a href="http://mss-hq.org">http://mss-hq.org</a>	703/281-6613
NAAMM	National Association of Architectural Metal Manufacturers 800 Roosevelt Rd. Bldg. C, Suite 312 Glen Ellyn, IL 60137 <a href="http://www.naamm.org">www.naamm.org</a>	630/942-6591
NAIMA	North American Insulation Manufacturers Association 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314 <a href="http://www.naima.org">www.naima.org</a>	703/684-0084
NAPA	National Asphalt Pavement Association 5100 Forbes Blvd. Lanham, MD USA 20706-4407 <a href="http://www.asphaltpavement.org">www.asphaltpavement.org</a>	888/468-6499 301/731-4748
NCSPA	National Corrugated Steel Pipe Association 14070 Proton Road, Suite 100 LB9 Dallas, TX 75244 <a href="http://www.ncspa.org">www.ncspa.org</a>	972/850-1907
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive Herndon, VA 20171-4662 <a href="http://www.ncma.org">www.ncma.org</a>	703/713-1900
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 <a href="http://www.nebb.org">www.nebb.org</a>	301/977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 <a href="http://www.necanet.org">www.necanet.org</a>	301/657-3110
NEMA	National Electrical Manufacturers Association 1300 North 17th Street, Suite 1752 Rosslyn, Virginia 22209 <a href="http://www.nema.org">www.nema.org</a>	703/841-3200

NEII	National Elevator Industry, Inc. 1677 County Route 64 P.O. Box 838 Salem, New York 12865-0838 www.neii.org	518/854-3100
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, Massachusetts USA 02169-7471 www.nfpa.org	617/770-3000
NHLA	National Hardwood Lumber Association PO Box 34518 Memphis, TN 38184 www.nhla.com	901/377-1818
NIA	National Insulation Association 12100 Sunset Hills Road, Suite 330 Reston, VA 20190 www.insulation.org	703/464-6422
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 www.nrca.net	847/299-9070
NSF	NSF International P.O. Box 130140 789 N. Dixboro Road Ann Arbor, MI 48113-0140, USA www.nsf.org	800/673-6275 734/769-8010
NTMA	National Terrazzo and Mosaic Association 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, D.C. 20210 www.osha.gov	800/321-OSHA (6742)



PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 or 500 New Jersey Ave., N.W. 7 <sup>th</sup> Floor Washington, D.C. 20001 www.cement.org	847/966-6200 202/408-9494
PCI	Precast/Prestressed Concrete Institute 200 W. Adams St. #2100 Chicago, IL 60606 www.pci.org	312/786-0300
PDCA	Painting and Decorating Contractors of America 2316 Millpark Drive, Ste 220 Maryland Heights, MO 63043 www.pdca.com	800/332-PDCA (7322) 314/514-7322
PDI	Plumbing & Drainage Institute 800 Turnpike Street, Suite 300 North Andover, MA 01845 http://pdionline.org	978/557-0720 800/589-8956
PEI	Porcelain Enamel Institute, Inc. P.O. Box 920220 Norcross, GA 30010 www.porcelainenamel.com	770/676-9366
PG&E	Pacific Gas & Electric Company www.pge.com	800/743-5000
PLANET	Professional Landcare Network 950 Herndon Parkway, Suite 450 Herndon, Virginia 20170 www.landcarenetwork.org	703/736-9666 800/395-2522 703/736-9668
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 La Grange GA 30240 www.rfci.com	706/882-3833
RIS	Redwood Inspection Service 818 Grayson Road, Suite 201 Pleasant Hill, CA 94523 www.redwoodinspection.com	925/935-1499
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 www.sdi.org	847/458-4647

SDI	Steel Door Institute 30200 Detroit Road Westlake, Ohio 44145 www.steeldoor.org	440/899-0010
SJI	Steel Joist Institute 234 W. Cheves Street Florence, SC 29501 http://steeljoist.org	843/407-4091
SMA	Stucco Manufacturers Association 500 East Yale Loop Irvine, CA 92614 www.stuccomfgassoc.com	949/387.7611
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, Virginia 20151-1219 www.smacna.org	703/803-2980
SPI	SPI: The Plastics Industry Trade Association, Inc. 1667 K St., NW, Suite 1000 Washington, DC 20006 www.plasticsindustry.org	202/974-5200
SSPC	Society for Protective Coatings (formerly the Steel Structures Painting Council) 40 24th St 6th Fl Pittsburgh, PA 15222 www.sspc.org	412/281-2331 877/281-7772
TCA	The Tile Council of North America 100 Clemson Research Blvd. Anderson, SC 29625 www.tcnatile.com	864/646-8453
TPI	Truss Plate Institute 218 North Lee Street, Suite 312 Alexandria, VA 22314 www.tpinst.org	703/683-1010
TPI	Turfgrass Producers International 2 East Main Street East Dundee, IL 60118 www.turfgrassod.org	800/405-8873 847/649-5555

TCIA	Tree Care Industry Association (formerly the National Arborist Association) 136 Harvey Road, Suite 101 Londonderry, NH 03053 www.tcia.org	800/733-2622
TVI	The Vermiculite Institute c/o The Schundler Company 150 Whitman Avenue Edison, NJ. 08817 www.vermiculiteinstitute.org	732/287-2244
UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com	847/272-8800 877/854-3577
UNI	Uni-Bell PVC Pipe Association 2711 LBJ Freeway, Suite 1000 Dallas, TX 75234 www.uni-bell.org	972/243-3902
USDA	U.S. Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250 www.usda.gov	202/720-2791
WA	Wallcoverings Association 401 North Michigan Avenue Suite 2200 Chicago, IL 60611 www.wallcoverings.org	312/321-5166

WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281 or 6980 S.W. Varns Tigard, OR 97223 www.wclib.org	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Avenue 15th Floor New York, New York 10017 www.wcmanet.org	212/297-2122
WDMA	Window & Door Manufacturers Association 401 N. Michigan Avenue, Suite 2200 Chicago, IL 60611 or 2025 M Street, NW, Ste. 800 Washington, D.C. 20036-3309 www.wdma.com	312/321-6802 202/367-1157
WI	Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798 www.wicnet.org	916/372-9943
WRI	Wire Reinforcement Institute 942 Main Street Hartford, CT 06103 www.wirereinforcementinstitute.org	860/240-9545
WWCA	Western Wall & Ceiling Contractors Association 1910 N. Lime St. Orange, California 92865 www.wwcca.org	714/221-5520
WWPA	Western Wood Products Association 522 SW Fifth Ave., Suite 500 Portland, OR 97204-2122 www2.wwpa.org	503/224-3930

**PART 2 - PRODUCTS Not Used.**

**PART 3 - EXECUTION Not Used.**

END OF DOCUMENT

**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



**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 re-inspections, if required, and tests or inspections required due to Contractor error or lack of required identifications of material.
  - (2) Uncovering of work in accordance with Contract Documents.
  - (3) Testing done on weekends, holidays, and overtime will be chargeable to the Contractor for the overtime portion.
  - (4) Testing done off Site.
  
- E. Testing and inspection reports and certifications:
  - (1) If initially received by Contractor, Contractor shall provide to each of the following a copy of the agency or laboratory report of each test or inspection or certification.
    - (a) The District;
    - (b) The Construction Manager, if any;
    - (c) The Architect;
    - (d) The Consulting Engineer, if any;
    - (e) Other engineers on the Project, as appropriate;
    - (f) The Project Inspector; and
    - (g) The Contractor.
  
  - (2) When the test or inspection is one required by the CCR, a copy of the report shall also be provided to the DSA.

## **PART 2 - PRODUCTS**

### **2.01 TYPE OF TESTS AND INSPECTIONS**

- A. Testing and inspection shall be in accordance with DSA Form 103 (or current version).

## **PART 3 - EXECUTION Not Used.**

END OF DOCUMENT

**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 & high speed internet 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, high speed internet 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. Notify Local Fire Authority prior to welding.

G. Trash Removal:

- (1) Contractor shall provide trash removal on a weekly 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.
- (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.

**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

**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 fifty percent (50%) by weight (or by volume, but not a combination) of total waste generated by the Work.

#### **1.05 SUBMITTALS:**

- A. Waste Management Plan: Submit waste management plan within 30 days of date established for commencement of the Work.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit copies of report. Include the following information:
  - (1) Material category.
  - (2) Generation point of waste.
  - (3) Total quantity of waste in tons or cubic yards.
  - (4) Quantity of waste salvaged, both estimated and actual in tons or cubic yards.
  - (5) Quantity of waste recycled, both estimated and actual in tons or cubic yards.
  - (6) Total quantity of waste recovered (salvaged plus recycled) in tons or cubic yards.
  - (7) Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- C. Waste Reduction Calculations: Before request for final payment, submit copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

- H. Qualification Data: For Waste Management Coordinator.
- I. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- J. Submittal procedures and quantities are specified in Document 01 33 00.

#### **1.06 QUALITY ASSURANCE:**

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures related to waste management including, but not limited to, the following:
  - (1) Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
  - (2) Review requirements for documenting quantities of each type of waste and its disposition.
  - (3) Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - (4) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - (5) Review waste management requirements for each trade.

#### **1.07 WASTE MANAGEMENT PLAN:**

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measurement throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

- (1) Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
- (2) Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (3) Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (4) Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
- (5) Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
- (6) Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

**PART 2 - PRODUCTS Not Used.**

**PART 3 - EXECUTION**

**3.01 PLAN IMPLEMENTATION:**

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  - (1) Comply with Document 01 50 00 for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - (1) Distribute waste management plan to everyone concerned within 3 days of submittal return.

- (2) Distribute waste management plan to entities when they first begin work on site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - (1) Designate and label specific areas of Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  - (2) Comply with Document 01 50 00 for controlling dust and dirt, environmental protection, and noise control.

### **3.02 RECYCLING CONSTRUCTION WASTE:**

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
  - (1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
    - (a) Inspect containers and bins for contamination and remove contaminated materials if found.
  - (2) Stockpile processed materials on site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - (3) Stockpile materials away from construction area. Do not store within drip line of remaining trees.
  - (4) Store components off the ground and protect from the weather.
  - (5) Remove recyclable waste off District property and transport to recycling receiver or processor.
- D. Packaging:
  - (1) Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
  - (2) Polystyrene Packaging: Separate and bag material.



- (3) Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on Site, break down pallets into component wood pieces and comply with requirements for recycling wood.
- (4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- E. Site-Clearing Wastes: Chip brush, branches, and trees on site.
- F. Wood Materials:
  - (1) Clean Cut-Offs of Lumber: Grind or chip into small pieces.
  - (2) Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.
  - (1) Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

### **3.03 DISPOSAL OF WASTE:**

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - (1) Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on site.
  - (2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off District property and legally dispose of them.

END OF SECTION

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

**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

**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

**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

**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 (1) hard copy set, and one (1) electronic 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.
- C. Contractor will provide one (1) hard copy set, and one (1) electronic set, of Record Drawings to District.
- D. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

**PART 2 – PRODUCTS Not Used.**

**PART 3 – EXECUTION Not Used.**

END OF DOCUMENT



**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 Architect and District, for review, two (2) hard 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) hard copies of a complete Manual in final form prior to final Application for Payment. Copies 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) hard copies, and one (1) electronic copy, 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

**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

**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.
- 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 copy of the plans at the conclusion of the Project following review of the marked-up plans.
- 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 stub-outs, 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 plans 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. Contractor shall also provide one copy, on bond copy paper, of the set of approved marked-up plans.

### **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. Contractor shall also provide one copy, on bond copy paper, of the approved marked-up specifications.



## **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

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**SECTION 02 31 13**

**SELECTIVE SITE DEMOLITION**

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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
  - 1. Demolition and removal of selected site improvements.
  - 2. Demolition and removal of selected site elements.
  - 3. Disconnecting, capping or sealing and abandoning or removing site utilities.
  - 4. Filling below grade areas.

1.3 DEFINITIONS

- A. Remove: Remove and legally dispose of items.

1.4 MATERIALS OWNERSHIP

- A. Demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

1.5 SUBMITTALS

- A. Proposed dust-control measures.
- B. Proposed noise-control measures.
- C. Schedule of demolition activities indicating the following:
  - 1. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
  - 2. Interruption of utility services.
  - 3. Coordination for shutoff and capping of utility services.
  - 4. Detailed sequence of demolition and removal work to ensure uninterrupted progress of the Owner's on-site operations.
- D. Locations of temporary partitions and means of egress.
- E. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by demolition operations.

F. Record drawings at Project closeout.

1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.6 QUALITY ASSURANCE

A. Qualifications

1. Demolition Firm: Engage an experienced firm that has successfully completed demolition Work similar to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before starting demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Pre-demolition Conference: Conduct conference at Project site.

1.7 PROJECT CONDITIONS

A. Site improvements to be demolished will be vacated and their use discontinued before start of Work.

B. The Owner assumes no responsibility for actual condition of site improvements to be selectively demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by the Owner as far as practical.

C. Hazardous materials: It is not expected that asbestos will be encountered in the Work. If any materials suspected of containing asbestos are encountered, do not disturb the materials. Immediately notify the Architect and the Owner.

1. Hazardous materials will be removed as directed by the Owner before start of Work.

D. Storage or sale of removed items or materials on-site will not be permitted.

1.8 SCHEDULING

A. Arrange demolition schedule so as not to interfere with the Owner's on-site operations.

PART 2 - PRODUCTS Not Applicable

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of demolition required.

- C. Survey the condition of the site improvements to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during demolition.
- D. Perform surveys as the Work progresses to detect hazards resulting from demolition activities.

3.2 UTILITY SERVICES

- A. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving site improvements to be selectively demolished.
- B. Arrange to shut off, disconnect, remove and seal or cap all utilities within demolition area with utility companies.
- C. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.3 PREPARATION

- A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- B. Employ a certified, licensed exterminator to treat site improvements and to control rodents and vermin before and during demolition operations.
- C. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the City and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- D. Conduct demolition operations to prevent injury to people and damage to adjacent site improvements and facilities to remain. Ensure safe passage of people around selective demolition area.
  - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
  - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
  - 3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
- E. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of site improvements to be demolished.
  - 1. Strengthen or add new supports when required during progress of demolition.

3.4 POLLUTION CONTROLS

- A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
  - 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of demolition.

3.5 DEMOLITION

- A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations.
- B. Completely remove below-grade construction, including foundation walls, basements and footings.
- C. Filling Below-Grade Areas: Completely fill below-grade areas and voids resulting from demolition of site improvements and pavements with soil materials according to requirements specified in Section 31 20 00 "EARTH MOVING".
- D. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain, using power-driven masonry saw or hand tools; do not use power-driven impact tools. Sawcut in neat straight lines. Do not overcut.
- E. Break up and remove concrete slabs on grade, unless otherwise shown to remain.
- F. Remove air-conditioning equipment without releasing refrigerants.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off the Owner's property and legally dispose of them.

**END OF SECTION**

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**SECTION 22 00 00**

**PLUMBING**

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PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Requirements of General Conditions, Supplementary General Conditions, and Section "General Requirements" and Section 23 00 00 apply to the work of this section the same as if set forth in full herein.

1.02 SCOPE

- A. The work under this section includes everything necessary for or incidental to completing plumbing and piping work except as herein specifically excluded.
- B. Work Included: Principal items of work include, but are not limited to the following:
  - 1. New Modular Restroom Portable Building. Complete with built-in Plumbing Fixtures
  - 2. Domestic water system from point of connection with outside utilities to all plumbing fixtures and equipment requiring cold water.
  - 3. Sanitary drains, waste and vent system and building sewers to point of connect to site sewer.
  - 4. Electric Water Heater
  - 5. Flashing and counterflashing of all roof and wall penetrations.
  - 6. Identification of all piping with direction of flow.
  - 7. Identification of all valves with function and direction.
  - 8. Acoustical and noise control measures for plumbing and drain systems.
  - 9. Thorough cleaning of all plumbing fixtures and drains; removal of all debris.
  - 10. Supports and foundations for all equipment furnished under this Section.
  - 11. Thorough cleaning of all plumbing fixtures and drains; removal of all debris.
  - 12. Provide "As-Built" drawings as herein before specified.
  - 13. Testing of equipment and systems.
  - 14. All insurance, fees and taxes required and applicable.
- C. Work Not Included in This Section:
  - 1. Landscape irrigation.

2. Field installed bathroom accessories.
3. Sheet metal ductwork or fans.
4. Fire sprinklers.
5. Fire service, yard main fire hydrants, and yard hydrants.
6. Site utilities beyond connection point indicated on civil engineering drawings.

D. Related Work Specified Elsewhere Includes:

1. Painting.
2. Electrical line voltage wiring and connection to equipment.
3. Landscape irrigation system.
4. Automatic fire sprinkler system.

1.03 QUALITY ASSURANCE

- A. All work shall be in strict accordance with the Pittsburg Unified School District standards, CA AB 1953, and latest applicable 2022 California codes and ordinances.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Materials shall be clearly marked or stamped with manufacturer's stamp and rating, and shall be of domestic manufacture.
- B. All ASA and ASTM designations shall be as set forth in the hereinbefore mentioned plumbing and gas piping ordinances.

2.02 MATERIALS

- A. Valves: Nibco, Hammond
1. Ball Valves: Nibco 580 series two piece bronze. At contractors option can be used in lieu of gate valves for valves 1-1/2" and smaller.
- B. Dielectric protection: Provide insulated couplings and/or unions at points of connection between copper, steel and brass piping, EPCO or equal.
- C. Sound Control: All water piping systems and drainage piping systems, including supply, waste and drain shall be installed with vibration isolators and shall be isolated from any structural members, wall sections or other materials that could transmit sound to the occupied areas. All hangers, straps, brackets, and supports shall have acoustical components or combined neoprene and plastic from by Tech Specialties, division of Specialty Products Co. to isolate complete pipe contact area. All isolation material shall have a minimum thickness of 1/2". Install all components as per manufacturer's instructions.

2.03 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. The following piping systems shall be allowed where permitted by Local Code:
- B. Cast Iron Pipe: ASTM A 74 service weight.
  - 1. Pipe to be coated inside and out.
  - 2. Fittings: Cast iron.
  - 3. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C 564 neoprene askets or lead and oakum.
- C. CPVC and PVC piping for corrosive soil installation. All piping and fittings shall comply with CPC codes.

2.04 SANITARY SEWER PIPING, ABOVE GRADE

- A. Cast Iron Pipe: ASTM A74, service weight.
  - 1. Fittings: Cast Iron.
  - 2. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets or lead and oakum.
- B. Cast Iron Pipe: CISPI 301, hubless, service weight.
  - 1. Fittings: Cast iron.
  - 2. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies.
- C. Copper Pipe: ASTM B306, DWV.
  - 1. Fittings: ANSI/ASME B16.3, cast bronze, or ANSI/ASME B16.29, wrought copper.
  - 2. Joints: ANSI/ASTM B32, solder, Grade 50B.

2.05 VENTS

- A. Below Grade: Cast-iron, hubless.  
CPVC and PVC piping for corrosive soil installation. All piping and fittings shall comply with CPC codes.
- B. Above grade:
  - 1. 1-1/2-inches and Smaller: cast iron or DWV copper.
  - 2. 2-inches and larger: Cast-iron, hubless or DWV copper.
  - 3. Standard no-hub couplings.

2.06 WATER PIPING, BURIED WITHIN 5 FEET (1500MM) OF BUILDING

- A. Copper Tubing: ASTM B88, Type K, annealed.
  - 1. Fittings: Brazed.
  - 2. Joints: Brazed.



- B. JOINTS WILL NOT BE ALLOWED UNDER FLOOR.
  - C. C900 PVC piping for corrosive soil installation. All piping and fittings shall comply with CPC codes.
- 2.07 WATER PIPING, ABOVE GRADE
- A. Copper Tubing: ASTM B88 Type L, hard drawn.
    - 1. Fittings: ANSI/ASME B16.23, cast brass, or ANSI/ASME B16.29, wrought copper.
    - 2. Joints: ANSI/ASTM B32, solder, Grade 95TA.
- 2.08 FLANGES, UNIONS AND COUPLINGS
- A. Pipe size 2 inches (50mm) and under: 150 psig (1 034 kPa) bronze unions for copper pipe, soldered joints.
  - B. Pipe size over 2 inches (50mm): 150 psig (1 034 kPa) bronze flanges for copper piping.
  - C. Dielectric connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.
- 2.09 HANGERS AND SUPPORTS
- A. Manufacturer: Superstrut, Grinnel, or approved equal. Screws shall be used in wood construction, concrete inserts in concrete construction.
  - B. Cast iron and screwed ferrous pipe: Horizontal runs shall be supported by individually adjustable hangers, wrought straps, U-Hooks or single hooks as applicable.
  - C. Copper Tubing: Support similarly to screwed pipe except that supports and hangers shall be copper or copper plated type especially for copper tubing.
  - D. Trapeze Hangers: Steel members as required; when used with copper tubing, a layer of 15 lb. asphalt felt shall be placed between copper and ferrous material.
- 2.10 CLEANOUTS
- A. Install where required by ordinances, where shown on the drawings, and in the following locations; at ends of house drains, at all changes in directions, in all straight runs at 100 foot intervals, where horizontal mains change size, and at all ends of all branch pipes which are 5' or over in length.
  - B. Manufacturer: Smith, Zurn, Wade or Josam. Numbers cited are Smith.
  - C. Floor Cleanouts: 4023 with nickel bronze top.
  - D. Wall Cleanouts (finished areas): 4472 with stainless steel wall plates.
  - E. Grade Cleanouts: 4243, cast iron body, same size as lined served. Set flush in finish pavement or 18" square X 4" thick concrete anchor pad, flush with grade.
- 2.11 SLEEVES AND WALL PLATES

- A. Service Pipe Through Exterior Walls and Ceilings: Water-tight cast iron caulking sleeves, Smith 1720 or equal.
- B. Pipe Through Interior Walls and Ceilings: Provide with wall and ceiling plates, Crane Style BC or equal. Plates in finished rooms shall be chrome plated.
- C. Pipe Under or Through Footings: 18 gauge iron sleeves, cast in concrete, two diameters larger than the pipe and the annular space filled with mastic or plastic bituminous cement or LINK-SEAL.

2.12 PLUMBING FIXTURES

- A. Plumbing fixtures shall be complete with all accessories required for a complete installation. Fixture and trim numbers indicated represent a type and quality only. Substitution of equal or greater quality may be permitted in accordance with the requirements of the general conditions and as approved by the Architect. All plumbing shall be compliant with CA AB 1953.
- B. Selection of faucets and fittings shall avoid the type with potential for lead contamination.
- C. Install chrome-plated escutcheons on all pipes through walls, ceilings or floor.
- D. Install stop valves on, hot and cold water supplies to each fixture.
- F. Make sink/lavatory trap and waste line adaptable to adjustment with only the replacement of the drain tailpipe. Tempered, hot and cold water supply tubes shall be configured so that their length may be changed without modifying the slip joints.

2.12 CONNECTION OF EQUIPMENT FURNISHED BY OTHERS

- A. Rough-in and connect equipment furnished under this Section. Furnish and install pipes, stops, traps, and all other items required where not supplied with unit.

2.13 FLASHING

- A. All pipes passing through the roof shall be flashed and counter flashed with 22 gauge sheet metal. Flashing shall extend a minimum of 8 inches around the base and counter flashing shall be made watertight.
- B. Comply with additional requirements of Section 07 60 00, "Flashing and Sheet Metal".

2.14 ESCUTCHEONS, FLASHING AND SLEEVES

- A. Escutcheons: Grinnell or Beaton-Corbin; polished chrome plated. Provide at all exposed piping penetrations of walls, floors and ceilings. Where piping is insulated provide Escutcheons to fit insulation outside diameter. Where piping requires special Escutcheons sizes, manufacture from stainless steel.
- A. Roof Flashing: Sheet lead or galvanized sheet metal flashing mop in with roofing material and turn lead down into stack.
- B. Sleeves:
  - 1. Through Interior concrete walls and floors: "ADJUS-TO-CRETE" or equal.

2. For insulated piping, sleeve diameter shall be less than diameter of insulation.
- D. Separate piping through walls, other than concrete walls, from contact with wall construction materials with non-hardening caulking.

#### 2.15 SEISMIC FLEXIBLE CONNECTOR

- A. Metraflex Metraloop seismic flexible connector.
- B. +/- 4" of axial movement.

### PART 3 - EXECUTION

#### 3.01 SERVICES

- A. Materials, methods and locations of service mains connecting the new construction to all new and existing services shall be in strict accordance with rules, regulations, codes and requirements of all agencies having jurisdiction over this installation. Check connections to existing work in order that the extension may be done as indicated on the drawings but before starting any other work. Locate and excavate all existing buried stubs to be connected to in this contract before excavation of trenches is started. Coordinate location of water and sewer connections with other trades.
  1. Sanitary Sewer: Connect to the on-site sewer connection points as shown on civil engineering drawings.
  2. Water Service: Connect to the on-site domestic water main connection points as shown on civil engineering drawings.

#### 3.02 PLUMBING FIXTURES

- A. Contractor shall install all plumbing fixtures and trim as shown on the architectural plans and as herein specified. Rough-in for all fixtures shall be exactly to measurements furnished by fixture manufacturer. All exposed parts to be chromium plated unless specified otherwise.
- B. Caulk airtight all plumbing penetrations in sound rated walls and floor/ceilings. Seal penetrations of concrete floors with cement grout. Minimize penetrations through sound rated construction.
- C. Keep rough-in cuts within the plate lines and do not cut completely through plates in sound-rated walls. Drill or saw neat round holes for all piping. Size approximately 1/2 inch larger than the pipe diameter.
- D. Provide aeration devices on all lavatories and sink faucets.

#### 3.03 PIPING INSTALLATION

- A. Pipe lines shall be installed free from traps and air pockets and true to line and grade with suitable supports properly spaced. Piping shall be installed without undue stresses and with provision for expansion and contractions.
  1. Vertical lines shall be braced and supported at every floor level.

2. Horizontal lines shall have hangers or supports spaced as follows:
    - a. Cast iron pipe - 5' centers
    - b. Steel pipe - 10' centers
    - c. Cooper tubing - 5' centers for 1-1/2" and smaller, 10' centers for 2" and larger.
  3. Below-Grade Piping: Support on a firm bed for the entire length. Minimum depth of cover shall be 2'0" unless noted otherwise.
- B. Piping shall be new and free from foreign substances. Ream out all burrs formed in cutting pipe. Threads shall be cut accurately and not over two threads shall show beyond the fitting. Friction wrenches shall be used with plated polished, or soft metal piping.
  - C. Changes in pipe size shall be made with reducing fittings, and bushing will not be permitted.
  - D. Union connection shall be installed downstream of all valves, at all equipment connections and at other points as required.
  - E. Valves shall be accessible and shall not be installed with stems below horizontal plane. Exterior valves shall be provided with cast iron or concrete valve boxes with identification permanently marked on cover.
  - F. Cutting or boring of holes through joists or structural members shall be done only when it is impossible to route piping in another manner. If cutting or boring is necessary it shall be accomplished only by written approval from the Architect.
  - G. Exposed pipe passing through walls, floors and ceilings shall be fitted with wall plates securely held in position and large enough to cover opening around pipe. Plates in exposed areas shall be chromium plated. Pipe passing through concrete or masonry shall be provided with pipe sleeves.
  - H. Provide access doors for all concealed valves and Cleanouts.
  - I. Insulate trap, cold, hot and tempered water supply trim on all lavatories with protective devices by TrueBro.
  - J. All domestic water piping systems and all waste and drain piping must be vibration isolated from the structure.
  - K. Water supply lines 1 inch or less in diameter should be isolated from the structure using the entire system of Acousto-Plumb isolators as manufactured by Specialty Products Company. All other supply lines and all drain and waste lines should be isolated using ½ inch thick felt pads or rubber sleeves isolation hanger by Stonemane. Use ½ inch thick 40-durometer neoprene waffle pads under all riser clamps (e.g., Mason Industries).
  - L. Do not allow the piping, valves or connectors to form a rigid connection with the structure or other pipes.
  - M. Provide Josam "Absorbotron" or equal water hammer arrestors in supply lines connected to fixtures.
  - N. Install piping to allow for expansion and contraction without stressing pipe, joints or connected equipment.

- O. All valves installed by this section shall be of the same manufacturer. Valves, strainers cocks, etc., shall be the same size as the pipes in which they are installed, unless otherwise indicated.
- P. Vent all traps and run separately or combine to a point 1-foot above the roof and leave open. Fixture vents may be connected to the main vent at a point 1-foot above the highest fixture and not less than 3'-6" above the floor. While work is in progress, plug or cap all openings in plumbing work. Provide sound control on all water piping not installed in the ground. Install dielectric couplings whenever a non-ferrous pipe connects to a ferrous pipe or piece of equipment.
- Q. Floor drain located in the bathroom shall have hose bibs within the space in lieu of trap primer valve.

#### 3.04 DRAINAGE, WASTE AND VENT PIPING

- A. Interior drainage, waste, and vent lines shall be installed to a uniform grade of 1/4" per foot minimum. Vent piping shall be graded so that all condensation shall flow directly to a drainage or waste lines.
- B. Exterior soil and waste lines shall be installed to inverts or grades to suit field conditions and to ensure not less than 2 feet of cover.
- C. Test tee with clean out plugs shall be installed at the foot of waste stacks.

#### 3.05 DOMESTIC COLD WATER SYSTEMS

- A. Di-electric unions shall be installed where copper pipe is connected to galvanized steel piping or stubs.
- B. Connections from copper pipe to fixture supply fittings shall be made with copper or brass pipe nipples.

#### 3.06 EXCAVATION AND BACKFILL

- A. Provide all excavations and backfill necessary for this installation. Restore existing concrete and paved surfaces damaged or cut due to plumbing work. Such work shall be acceptable to the Architect and local authorities.
- B. Excavate trenches for pipe lines to required depth, tamp bottoms hard and grade to the required slope. Excavate holes for bells to permit pipe to rest on solid ground.

#### 3.07 STERILIZATION OF WATER PIPING

- A. The domestic water supply and distribution system within the building shall be sterilized with chlorine in solution in accordance with American Water Works Association Publication 1992.
- B. Open and close all valves several times during the period, the flush out the system until the residual chlorine content is not greater than 0.2 PPM.
- C. All work and certification of performance shall be done by approved applicators or qualified personnel with chemical and laboratory experience. Submit a certificate of sterilization.

3.08 TEST

A. Pressure test entire hot and cold piping and drainage system from capped connections, to and including vents above roof.

- 1. Furnish the necessary materials, test pumps, gauges and labor required for testing.
- 2. System shall be tested in accordance with the following schedule without pressure loss not visible leaks within four (4) hours duration:

<u>System Tested</u>	<u>Tested Pressure PSIG</u>	<u>Test With</u>
Sanitary Sewer, Drain and Vent	Fill to 10 ft. head	Water
Cold	150% of line pressure	Water
Rainwater leaders	Fill to 10 ft. head	Water

3. Any test valves shall be removed at no cost to the Owner. No test valves shall be left or any water or other lines in walls and covered.

3.09 OPERATION

- A. After completion, operate the different systems and equipment under their normal working conditions.
- B. Should any piece of apparatus or any material or work fail in any of these test, immediately remove and replace with new materials and test the portion of the work replaced.

3.10 GUARANTEE

- A. Guarantee all materials, equipment, apparatus and workmanship to be free of defective materials and faulty workmanship for period of one (1) year after completion of the work.
- B. Provide new materials, equipment, apparatus and labor to replace that determined by Architect to be defective or faulty.
- C: This guarantee also applies to services including instructions, Adjusting, Testing, Noise, Balancing, etc.

END OF SECTION

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**SECTION 23 00 00**

**BASIC MECHANICAL REQUIREMENT**

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PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. The General Conditions, Supplementary General Conditions, and Division 1 - General Conditions are hereby made a part of this Section as fully as if repeated herein.

1.02 SCOPE

- A. The work under this Section includes all labor and material necessary for the installation of complete and satisfactory operable systems of heating, ventilating and plumbing including work shown on the drawings and/or described by this Section of the Specifications. In general, the work includes but it is not limited to the following:

1. New Modular Restroom Portable Building. Complete with exhaust fans.
2. Flashing and counterflashing of all roof and wall penetrations.
3. Supports and foundations for all equipment furnished under this Section.
4. Coordination of Mechanical Work with that of other connecting or adjoining trades in order that their work properly relates with all Mechanical Work, including openings in structural beams.
5. Provide "As-Built" drawings as herein before specified.
6. Testing of equipment and systems.
7. All insurance, fees and taxes required and applicable.

- B. Work Not Included: Related work under other headings includes, but is not limited to the following:

- 1 Line voltage power wiring for materials and equipment installed under this Section.
2. Furnish installation of access panels in finished walls and ceilings.

1.03 RULES AND REGULATIONS

- A. All work and material shall be in strict accordance with the requirements of the latest 2022 California Building Code, California Plumbing Code, California Mechanical Code, California Fire Code, National Electrical Code, the California Energy Conservation Standard, the National Fire Protection Association, Pittsburg Unified School District Standards, and any applicable State laws or regulations of local utility companies. Nothing in the plans or specifications shall be construed to permit work not conforming to these rules and regulations.
- B. Should there be any direct conflict between the drawings and/or specifications and the above rules and regulations, the rules and regulations shall take precedence. However, when the

indicated material, workmanship, arrangement, or construction is of superior quality or capacity to that required by the above rules and regulations, the drawings and/or specifications shall take precedence. Rulings and interpretations of enforcing agencies shall be considered a part of the regulations.

- C. All electrical materials shall bear the label of or be listed by the U.L. unless the material is of a type for which label or listing service is not provided.
- D. No extra charge will be paid furnishing items required by the regulation, but not specified or shown on the drawings.

#### 1.04 ENERGY CONSERVATION COMPLIANCE

- A. All work shall comply with Title 20, Ch. 2, Sub Ch. 4, Article 1, Energy Building Regulation, and California Code of Regulations Title 24, Part 2, Ch. 2-53.
- B. Reference is specifically made to the following paragraphs:
  - 1. **Equipment Maintenance:** The standards require that the equipment furnished under this Division be provided with a permanent label affixed to the equipment, which will either clearly indicate the routine maintenance actions which must be performed to maintain the equipment in efficient operating condition or indicate by number which maintenance or operational manuals explain the maintenance requirements in greater detail.
  - 2. **Responsibility of Equipment Suppliers:** Suppliers of equipment shall furnish upon request by prospective purchasers, designers or contractors, the full and partial capacity and standby input(s) and output(s) of all equipment and components of applied systems, based on equipment in new condition, to enable determination of their compliance with these standards. This includes performance data under modes of operation and ambient conditions necessary to make the analysis outlined in these standards.
    - a. Performance data furnished by the equipment supplier or certification under a nationally recognized certification program, when available, satisfies this requirement when all energy input(s), output(s) and operating modes are included.
- C. **Equipment:** All equipment shall have been certified to the California Energy Commission by the manufacturer to comply with the efficiency standards for such appliances per 2-5314.,

#### 1.05 EXAMINATION OF SITE

- A. Examine the site compare with the drawings and specifications, and determine the conditions under which the work will be performed. Examine and be responsible for all conditions which affect the work. No allowance will subsequently be made for extra expense due to failure to make such an examination, or due to failure to discover conditions which affect this work.

#### 1.06 MATERIAL AND SUBSTITUTIONS

- A. Brand or trade names are used to establish minimum standards of quality and performance only. Products of other manufacturers may be substituted only with written approval of the Owner. Substitute products shall have performance and material characteristics equal to or greater than those specified and/or scheduled.



- B. Approval of a substitution does not authorize any deviation from the utility, size or function of the specified item, unless specifically pointed out and approval requested in the letter of submittal. Responsibility for conflicts due to space limitations is not relieved by approval of a substitution. If revision of wiring, piping, or arrangement of other equipment is required because of a substitution, such revisions shall be accomplished at no charge in Contract cost. Submit shop drawings of all revisions to the Architect/Owner for approval.
- C. Unless otherwise shown or specified, all material shall be new, full weight, standard, of the best quality of its kind, and satisfactory to the Architect.

#### 1.07 CUTTING AND REPAIRING

- A. All cutting, repairing and patching of ceiling and roof necessary for the installation of the work shall be included in the work specified under this section and paid for by this Contractor. No cutting shall be done except with the Owner's approval. Reimbursed other contractor for any damage done to their work due to careless cutting, leaks or overflow during construction.

#### 1.08 FURRED SPACES

- A. Spaces provided in the design of the building shall be utilized and the work shall be kept within the furring lines established on the architectural drawings.
- B. Provide all necessary sleeves, chases and openings required where ducts pass through roofs or walls.
- C. Should additional openings or spaces be found necessary during construction, the Architect/Owner shall be notified in time to prevent unnecessary cutting or furring.

#### 1.09 COORDINATION AND PROJECT CONDITIONS

- A. The plans shall be regarded as diagrammatic, establishing general requirements of the work. Exact locations, distances, levels, etc., will be governed by the building. Preparation of such shop drawings as may be necessary shall be included as part of the work and such drawings shall be submitted to the Architect/Owner for approval. All dimensions and locations of doors, partitions, etc., shall be taken from the Architectural plans, but shall be verified at the work.
- B. The Architectural and Mechanical Drawings accompanying these specifications and forming a part of this Contract are enumerated under the Architect's Schedule of Drawings. This Contractor shall verify these drawings against the structural, plumbing and electrical drawings. If any discrepancies are not reported, the Contractor shall perform all work as instructed by the Architect/Owner at no change in Contract cost.
- C. Install all equipment and material with working parts readily accessible for inspection, repair and/or replacement. The right is reserved to make reasonable changes in locations of equipment shown on the drawings prior to roughing-in with no change in Contract cost.
- D. Remove and replace as directed by the Architect/Owner all work installed without proper cooperation and coordination with other crafts.

#### 1.10 MANUFACTURER'S DIRECTIONS

- A. Follow manufacturer's directions and installation diagrams where these directions and/or diagrams cover points not included on the drawings or in the specifications.

1.11 DAMAGE

- A. Repair any damage to the building, premises and/or equipment occasioned by work under this section.

1.12 COMPLETE WORKING INSTALLATION

- A. The drawings and specifications do not undertake to list every item that will be installed. When an item is necessary for the satisfactory operation of the equipment or is required by the equipment manufacturer, law, ordinance or rule, furnish without change is Contract cost.
- B. Work called for in the specifications but not on the plans, or vice versa, shall be done as though required by both. Lack of specific mention of any work necessary for proper completion of the job in the specifications and/or plans shall not lessen the Contractor's responsibility or entail any change in Contract cost.

1.13 AS-BUILT DRAWINGS

- A. Keep up-to-date a complete "as-built" record set of blueline prints, corrected daily, showing every change from original drawings and specification, exact "as-build" locations, sizes and kind of equipment.
- B. Upon project completion, transfer "as-build" information to a reproducible copy of Contract Drawings on 5-mil matte mylar, which may be obtained from the Architect at cost. Indicate all changed conditions by drawing a "cloud" around the added information; add date and name of subcontractor. Furnish these revised drawings to the Owner in accordance with Section 01700 PROJECT CLOSEOUT.

1.14 PERMITS, FEES AND INSPECTIONS

- A. See supplementary conditions for payment of all permits, inspections fees and utility company charges.

1.15 SUBMITTALS (SHOP DRAWINGS)

- A. All HVAC equipment.
- B. Registers and grilles.
- C. Plumbing fixtures, trim, drains and appurtenances.
- D. Floor drains.
- E. Ductwork
- F. Piping and pipe insulation.

1.16 SERVICE MANUALS

- A. Service manuals shall include complete list of replacement parts, complete oiling, cleaning, servicing data and operating instructions, compiled in a clear easily understood form, in a durable binder. Show all serial numbers of every piece of equipment. Submit one (1) set to Owner for review and approval. Add information or amend when so directed.

1.17 RELATED WORK PERFORMED UNDER THIS SECTION

- A. Trenching and Backfilling:

1. Provide excavation and backfilling including sheathing, shoring and pumping required for the installation of the work. Such sheathing and shoring shall be done as may be necessary for the protection of the work and for the safety of personnel and conformance with State Industrial Safety Orders and all other codes, ordinances, laws and regulations pertaining to the safety of workmen.
  2. Provide excavation, trenching and backfilling in conformance with Section 31 20 00 EARTHWORK, of these specifications, and the Soils Report.
  3. During excavation, materials suitable for backfilling shall be piled in an orderly manner at a sufficient distance from the trench to avoid damage to the trench. All trench and excavation spoils must be collected, loaded and disposed of offsite. The cost of such work must be included as part of this work.
  4. Trenches shall not be backfilled until piping has been tested, inspected and approved.
- B. Caulking and sealing:
1. Seal exterior and below grade building penetrations related to work under this section as required, against entry of water into interior or concealed spaces of structures.
  2. Coordinate with acoustic caulking work specified in Section 07 90 00, JOINT SEALING.
  3. Include grouting as required for work under this section, except where integral with structural concrete. Work and materials shall conform to Concrete Section.
- C. Welding and Welders:
1. Include welding as required for fabrication and installation of work under this section; welding, welding procedures and qualifications of welders for structural welding shall conform to Structural Steel and Miscellaneous Metals Section.
- D. Securing of mechanical items:
1. Include all materials necessary for supports required for equipment in these specifications. Securely bolt all fixtures, bathroom accessories, piping, motors, furnaces, fans, etc., to their supports.
  2. Provide acoustic isolation as required.
- 1.18 GUARANTEE
- A. Guarantee all materials, equipment and installation to be free from all defects of workmanship and material, and replace at any time within one (1) year after installation is accepted by Owner, and all defective parts that may be found.

## PART 2 - PRODUCTS

### 2.01 MATERIALS AND EQUIPMENT

- A. Latest design of each respective manufacturer, first quality, free from blemishes or defects.

### 2.02 MATERIALS AND STANDARDS

- A. Code requirements: All work to be in full accordance with applicable requirements with all applicable federal, state and city laws, ordinances and codes.
- B. Electrical materials: Conform to the requirements of latest approved standards of NEMA, AIEE, and IEEE, and to be listed by U.L. and so labeled.
- C. Mechanical materials: Conform to requirements of latest approved standards of ASME and ANSI.
- D. Base materials: Conform to ASTM and ANSI.

#### 2.03 CONNECTIONS

- A. Connections between copper tubing and steel piping, UPC approved dielectric unions.

#### 2.04 PIPE HANGERS

- A. Clevis, split ring of J-type for individual pipes. Maintain a minimum of 12" clearance between hot water and cold water lines. Plumbers tape hangers and straps are acceptable except in parking garage. Install friction clamp pipe supports at floor penetrations. There shall be not direct contact between pipes and hanger straps or building construction for uninsulated pipe at points of contact, pipes shall be separated by not less than 1/2" thickness of hair felt. For insulated pipe, pipe hangers shall be outside of the pipe insulation. Two or more pipes shall be supported on trapeze hangers, superstrut channels or equal, with pipe clamps. Support trapeze with 1/2" hanger rods and concrete inserts.

#### 2.05 FLASHING

- A. Pipes: Provide lead pipe flashing on pipes passing through roof; completely weatherproof, in accordance with requirements described in Section 07 60 00 FLASHING AND SHEET METAL, and the recommendation of the roof manufacturer.

#### 2.06 MANUFACTURER'S IDENTIFICATION

- A. Manufacturer's nameplate, name or trademark shall be permanently affixed to all equipment and material furnished under this specification. The nameplate of Subcontractor or Distributor are not acceptable.
- B. Identify model number, size, capacity, electrical characteristics, serial number, etc.
- C. Leave nameplates clean, legible and with unobstructed view.

#### 2.07 PIPE IDENTIFICATION

- A. Identify with symbol identification and color-code all piping. Provide directional arrows on circulating systems separate from and adjacent to each identification. Identification in conformance with ANSI.1 Scheme of Identification of Piping Systems (OSHA).
- B. Submit one 8-1/2 inch by 11 inch sample of each color for review prior to installation.
- C. Plastic Markers: Brady Perma-Code or Setmark Type "SNA" self-adhesive markers. Each marker must show accepted color-coded background, proper color of legend in relation to background color, accepted legend letter size, accepted marker length.

- 1) 2 inch letter size for pipe or insulation 3 inches or larger. 1 inch letter size for pipe or insulation 2-1/2 inches or smaller.

D. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.

E. Color Coding:

Service	A.S.A. Color Background	Color Of Letter
Domestic Cold Water	Green	Black
Electric Conduit	Gray	Black
Fire Alarm Conduit	Red	White
Fire Protection Water	Red	White
Sanitary Sewer	Green	Black
Sanitary Sewer Vent	Green	Black
Rainwater Leaders	Green	Black
Storm Sewer	Green	Black

2.08 Valve identification

- A. Attach to handwheel or stem of each control and line shutoff valve installed under this Division, with heavy brass "S" hook, color-coded plastic laminate or brass identification tag. Engrave laminate tags with 1 inch high designating numbers, in accordance with typed schedule showing valve sizes, locations, service, similar to following form:

DCW - 1-1/2 inches  
 Shutoff, Office Toilets  
 First Floor  
 Column J-4

- B. Engrave identification tags with "normally open" (green) or "normally closed" (red).
- C. Brass tags with stamped letters. Tag size minimum 1-1/2 inch diameter or square with smooth corners.
- D. Identify all fire service valves with above specified tags with "FIRE MAIN - DO NOT CLOSE" with white letters on red background.

2.09 DUCTWORK IDENTIFICATION

- A. Duct markers shall be stenciled onto insulation of duct with legend and flow arrow. Letters shall be 2 inches high.

PART 3 - EXECUTION

3.01 SERVICING

- A. For all equipment installed, a manufacturer's representative and adequate maintenance facilities in the Bay Area is required to insure prompt servicing by the Subcontractor.

3.02 LOCATION

- A. Equipment, fitting, etc., shall be arranged, located or positioned for maintenance or inspection

without undue inconvenience. Where concealed, provide access panels of appropriate size and type.

3.03 PROTECTION

- A. During construction and until Owner acceptance of work, protect work from damage; replace any broken, damaged or otherwise defective material.
- B. Completely cover up to keep dirt and water from equipment during construction. Effectively cap all openings into ducts and pipes to keep foreign matter out while under construction.

3.04 CLEANING

- A. At all times keep premises free from accumulation of waste materials or rubbish caused by employees or work. At completion of work, remove all superfluous materials, equipment and debris resulting from the work done under this Division.
- B. Thoroughly clean fans, motors, etc., furnished under this Division, free from all rust, scale and all other dirt before any covering or painting is done. Lubricate equipment before start-up and before final acceptance of work. Furnish a lubrication schedule for all equipment. Upon completing work, clean all equipment.
- C. Clean ductwork before grilles are installed and before the blowers are operated.
- D. Domestic water piping: Thoroughly flush with domestic water to remove all debris.
- E. All piping systems: After piping systems are tested and proven tight, clean systems free from dirt, scale, waste and other foreign substances.

3.05 TESTS AND INSPECTIONS

- A. Pipelines shall be completed and all permanent pipe fittings installed before final tests.
- B. Work shall not be covered up or enclosed until it has been inspected, tested and approved by the plumbing inspector and other governmental authorities having jurisdiction. Should any of his work be enclosed before such inspection and tests, the Contractor shall uncover the work, and, after it has been tested, inspected and approved, restore his work and that of other Contractors to its original condition at no expense to the Owner.
  - 1. All water piping shall be hydrostatically tested and proven tight at a pressure of 150 psi.
  - 2. All drainage system and gas piping shall be tested as set forth in the local plumbing and gas piping ordinance.
  - 3. All test pressures shall be held for not less than two hours without additional pumping.
  - 4. Faucet stops, etc., shall be adjusted to their normal working condition.
  - 5. The Contractor shall furnish all labor and materials required for making the tests.
- C. HVAC Equipment and controls shall be adjusted and tested for normal operating conditions. Temperature control system shall be adjusted to maintain a temperature of  $\pm$  degree either side of the set point.

- D. After system and controls are adjusted to this operating condition, notify the Owner: and when directed, operate the system for one day of 24 hours to demonstrate acceptability. Furnish all necessary labor and materials to operate the system.
- E. Should any part of the system or any materials or workmanship fail this test, it shall be rectified, and the system made ready for a new test and inspection. The Owner shall be notified that a new inspection will be called for. The cost of rectifying the defective work and/or materials, and the second test and inspection shall be borne by the Contractor, as shall be the cost of any further tests and inspections, if required.

3.06 MAINTENANCE

- A. Contractor shall include in his bid all maintenance service for system he has installed for a period of one (1) year after date of acceptance. Service shall include all lubrication and adjustments. Filters shall be changed every 90 days. A clean set of filters shall be provided upon date of final acceptance.

3.07 SUPERVISION

- A. Keep experienced superintendent constantly in charge of work, together with all necessary personnel required.

END OF SECTION

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**SECTION 23 30 00**

**HVAC**

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PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Requirements of General Conditions, Supplementary General Conditions, Section "General Conditions", and Electrical, Division 26, shall apply to the work of this section the same as if set forth in full herein.

1.02 SCOPE OF WORK

- A. Work included: The work under this section includes all labor and material necessary for the installation of complete and satisfactory operable systems of heating, ventilating and air conditioning, including work shown on the drawings and/or described by this section of the specifications. In general, the work includes but is not limited to the following:

1. Complete Pre-Fab Modular Restroom Portable Building.
2. Exhaust Fan with min. 70 CFM per water closet fixture.
3. Flashing and counterflashing of all roof and wall penetrations
4. Supports and foundations for all equipment furnished under this Section
5. Permanent identification of all equipment installed under this Section.
6. Provide "As-build" drawings as herein before specified.
7. All insurance, fees, and taxes required and applicable.

- B. Work not included: Related work under other headings includes, but is not limited to the following:

1. Line voltage power wiring for materials and equipment installed under this Section.
2. Installation of access panels in finished walls and ceilings.
3. Painting of exposed piping and ductwork.

1.03 RULES AND REGULATIONS

- A. All work and material shall be instruct accordance with the requirement of the latest 2022 California Building Code, California Plumbing Code, California Mechanical Code, national Electrical Code, the California Energy Conservation Standard, the National Fire Protection Association, Pittsburg Unified School District Standards, and any applicable State laws or regulations of local utility companies. Nothing in the plans or specifications shall be construed to permit work not conforming to these rules and regulations.



- B. Should there be any direct conflict between the drawings and/or specifications and the above rules and regulations, the rules and regulations shall take precedence. However, when the indicated material, workmanship, arrangement or construction is of a superior quality or capacity to that required by the above rules and regulations, the drawings and/or specifications shall take precedence. Rulings and interpretation of enforcing agency shall be considered a part of the regulations.

1.04 FEES AND PERMITS

Procure and pay for all permits and licenses required.

1.05 FRAMING, CUTTING AND PATCHING

Special framing, recesses, chases, and backing for work of this sections, unless otherwise specified, is covered under other sections. Be responsible for proper placement of all pipe sleeves, hangers, and supports and location of openings for work of this section.

1.06 RECORD DRAWINGS

Upon completion of the work, and as a precedent to final payments, the subcontractor shall deliver to the Director of Construction, originals of all drawings showing the work exactly as installed.

PART 2 - PRODUCTS

2.01 GENERAL

The Heating and Ventilation system shall be installed to suite the project space in accordance to ASHRAE standards and in compliance to all code requirements. All material and equipment shall be U.L. Listed, CEC approved, and in accordance with approved submittals. Materials and equipment shall be new, unused and clearly marked with manufacturer's stamp and rating.

2.02 DUCTWORK

- A. All ductwork joints, reinforcing and supports shall conform to the latest edition of "Low Velocity Duct Construction Standards" by the Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA). Indoor duct joints and seams shall be taped with SMACNA approved duct tape. Outdoor joints and seams shall be taped and sealed with "Arabol" or "Hardcast" waterproof seal.
- B. Rectangular Duct and Plenums: Ductwork shall be fabricated of galvanized steel. Insulate inside plenums with acoustical lining except exhaust ducts. Ductwork shall have the minimum gauge per SMACNA. Provide 1' internal acoustical lining.
- C. Round Duct: Galvanized sheet metal. Flex ducts may be used in between joists and at connection to diffusers.
- D. No aluminum flex is allowed.
- E. Inside of ductwork shall be painted black extending 18" each side and around where there are louvers.

2.03 DUCTWORK SPECIALTIES

- A. Turning Vanes: Tuttle and Bailey Ducturn, Aero/Dyne Company, H.E.P., turning vanes, or equal.
- B. Duct Flexible Connections: Ventifab 3002 neoprene coated fiberglass fabric, elgen SDN-4, or equal.
- C. Fire Smoke Damper: Damper shall be State Fire Marshal approved. Entire fire smoke damper and assembly shall be Underwriter's laboratories labeled. Damper shall be Ruskin, 1bd2 style A or B, IBDT thin.
- D. Duct Access Door: Air Balance, Inc. Model FSA-100, American Warming and Ventilating, Inc., Model 385, or equal.
- E. Round Flexible Duct: Genflex, or equal; SLS-181 low pressure flexible duct, 3' long section with compressions fitting.

### PART 3 - EXECUTION

#### 3.01 SEISMIC REQUIREMENTS

- A. All HVAC equipment and machinery shall be anchored to withstand forces generated by earthquake motions. As a minimum, equipment and equipment frames shall be designed to withstand a force of 100% of the weight of the equipment and frame acting as its center of gravity. Anchorage of the equipment and/or frame to the structure shall be for a force of 100% gravity also acting at the center of gravity.
- B. Piping and ductwork shall be seismically braced per SMACNA manual "Seismic Restraints of Mechanical System and Piping System".
- C. For substituted equipment all seismic calculations shall be the responsibility of the contractor.

#### 3.02 DUCTWORK

- A. The method of construction, metal gauge, hanging and supporting of all ductwork shall be in accordance with the recommendations of the "Sheet Metal and Air Conditioning National Associations" (SMACNA) HVAC duct construction standard, to which all plate numbers, table numbers and page numbers refer.
- B. For duct reinforcement: Low velocity duct 1" S.P. shall be used (Table 1-4)
- C. Duct hangers and spacing shall be as shown on Fig. 4-1, 4-2,4-3,4-4,4-5, Tables 4-1,4-2,4-3. Hangers for ducts smaller than 31" shall be strap hangers. Support duct over 31" with trapeze hangers.
- D. Flexible Duct Support: Fig. 3-9, Fig. 3-10.
- E. Fire dampers shall be installed where shown on the drawings and where required by regulations of the State Fire Marshall.
- F. Flexible connections at fans: Fig. 2-19.

#### 3.03 ADJUSTING AND CLEANING

- A. Clean duct system with high power vacuum machines or force air at high velocity through duct to remove accumulated dust. Protect equipment which may be harmed by excessive dirt during cleaning.
- B. Provide testing and air balancing. Submit written report, showing air flows and temperature readings, for approval. Return after initial air balancing in order to adjust the system to the satisfaction of the Owner.

### 3.04 PROTECTION OF WORK

- A. Until final acceptance of the work, the HVAC contractor shall protect all materials from damage, from any cause whatsoever, and shall provide adequate and proper storage facilities. He shall replace all damaged or defective work, materials, and equipment before requesting final acceptance. Duct access panels and damper adjustment locations which impact ceiling or millwork areas must be pre-approved by Architects.
- B. The HVAC contractor shall not allow or cause any of his work to be covered up or enclosed until it has been inspected and tested by an Engineer or governmental agency having jurisdiction over the work.
- C. Should any of the work be enclosed or covered up prior to inspection and testing, the HVAC contractor shall at his own expense uncover the work, and after it has been tested, inspected, and approved, make all repairs with such materials as may be necessary to restore all work disturbed by him to its original and proper condition. This work shall be coordinated with the general contractor.
- D. The HVAC contractor shall be responsible for damage to work of other Sections caused by leaks in temporary or permanent piping systems caused by disconnected pipes or fittings, overflows of equipment or by improper installation.

### 3.05 PAINTING

- A. Touch up all scratches, etc., on factory finished items. Paint black any duct or damper visible behind air outlets, including return air openings.
- B. Refer to other sections for painting requirements.

### 3.06 MAINTENANCE AND GUARANTEE

In addition to GENERAL CONDITIONS, the following shall be provided:

- A. The HVAC contractor, by accepting these specifications and by signing the Sub-contract, shall guarantee the following:
  - 1. All equipment, material, and workmanship against all defects in material and workmanship for a period of one (1) year from substantial completion of the project. The HVAC contractor shall furnish written guarantee to replace all defective work and materials furnished under this Section at no cost to the Owner for this one (1) year period.
  - 2. That all equipment and material will produce the results specified.
- B. The Owner reserves the right to make temporary repairs as necessary to keep equipment in operating condition without voiding the guarantees or relieving

responsibility during the guarantee period.

- C. Provide, at no cost to Owner, complete service and maintenance for systems installed for a period of 365 calendar days from date of substantial completion of the project of systems by Owner including all labor, materials, parts, etc.

END OF SECTION

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**SECTION 26 05 00**

**BASIC ELECTRICAL REQUIREMENTS**

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**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. Work included in this Section: All materials, labor, equipment, services, and incidentals necessary to provide and install the Electrical Work as shown on the drawings and as specified hereinafter, including, but not limited to the following:
  - 1. Electrical and telecommunications service provisions as outlined on the drawings, including temporary power for construction.
  - 2. Main switchboard, distribution switchboards, distribution panels, panels, transformers, circuit breakers, and feeders.
  - 3. Branch circuit wiring, wiring devices and connections to all equipment requiring electrical service.
  - 4. Telecommunications system.
  - 5. Fire Alarm system.
  - 6. All required incidental work, such as roof flashing, electrical testing, title 24 acceptance testing, and temporary power.
  - 7. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the the drawings.
  - 8. It is the intent of the drawings and specifications that systems be complete and, except as otherwise noted, be ready for operation.

**1.02 RELATED WORK**

- A. Division 1 - General Requirements
- B. Division 9 - Finishes
- C. Division 23 - Mechanical
- D. Section 07270 - Firestopping

**1.03 INCORPORATED DOCUMENTS**

- A. Requirements of the General Conditions, Supplementary Conditions, and Division 1 Sections apply to all work in this Section, unless modified herein.
- B. Published specifications, standard tests or recommended methods of trade, industry or government organizations apply to work of this Section where cited by abbreviations noted below, unless modified herein.
  - 1. 2022 California Code of Regulations.
  - 2. 2022 California Building Standards Administrative Code, Part 1, Title 24, C.C.R.
  - 3. 2022 California Building Code (CBC), Part 2, Title 24, C.C.R. (Based on 2021 International Building Code with 2022 California Amendments).
  - 4. 2022 California Electrical Code (CEC), Part 3, Title 24, C.C.R. (Based on 2017 National Electrical Code with 2022 California Amendments).
  - 5. California Energy Code, Part 6, Title 24, C.C.R.
  - 6. 2022 California Fire Code (CFC), Part 9, Title 24, C.C.R. (Based on 2021 International Fire Code with 2022 California Amendments).
  - 7. 2022 California Green Building Standards (CALGreen) Code, Part 11.
  - 8. American Society of Civil Engineers 7-16 (ASCE/SEI), Minimum Design Loads for Buildings and Other Structures.
  - 9. Underwriters' Laboratories, Inc. (UL).
  - 10. Local Utility Company regulations.

C. All State and Municipal Codes and Ordinances.

**1.04 CONDITIONS AT SITE:**

- A. Visit to site is required of all bidders prior to submission of bid. All will be held to have familiarized themselves with all discernible conditions and no extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.
- B. Lines of other services that are damaged as a result of this work shall promptly be repaired at no expense to the Owner to the complete satisfaction of the Owner.

**1.05 QUALITY ASSURANCE**

- A. Conformance:
  - 1. All work shall conform to the applicable requirements of Article 1.3 above.
  - 2. The Contractor shall notify the Architect, prior to submission of bid, about any part of the design, which fails to comply with abovementioned requirements.
  - 3. If after contract is awarded, minor changes and additions are required by aforementioned authorities, even though such work is not shown on the drawings or covered in the specifications, they shall be included at Contractor's expense.
- B. Coordination:
  - 1. The Contractor shall become familiar with the conditions at the job site, and with the drawings and specifications and plan the installation of the electrical work to conform with the existing conditions and that shown and specified so as to provide the best possible assembly of the combined work of all trades.
  - 2. The Contractor shall work out in advance all "tight" conditions, involving all trades and if found necessary, supplementary drawings shall be prepared by this Contractor, for the Architect's approval, before work proceeds in these areas. No additional costs will be considered for work, which must be relocated due to conflicts with the work of other trades.
  - 3. The Contractor shall coordinate and verify all backbox, device, lighting fixture, or equipment mounting requirements with the devices or equipment to be installed, prior to rough in.

**1.06 SUBMITTALS**

- A. Product Data:
  - 1. Comply with the provisions of Section 01 33 00 - Submittals.
  - 2. Within 15 days after award of the Contract, submit:
    - a. Complete electrical, lighting, and signal systems material list of all items proposed to be furnished and installed under this Division. Provide manufacturers data sheets for all devices, raceways, fixtures, equipment, and related products to be used for the Division 26, 27, and 28 work.
    - b. Manufacturers' specifications and other data required demonstrating compliance with the specified requirements.
    - c. Manufacturers' recommended installation procedures which, when approved by the Architect, shall become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.
  - 3. Shop Drawings: Furnish shop drawings and/or equipment cuts for the following:
    - a. Main Switchboard, distribution switchboards, distribution panels, panel boards, and transformers. Panel board submittals shall include diagrams of the circuit breaker arrangements in the panels. Arrange circuit breakers in panels exactly as shown on the panel schedules in the construction documents.
    - b. Fire alarm system
    - c. Telecommunications system
    - d. Disconnect switches

- e. Clock/Speaker system if specified herein and/or indicated on the drawings.
- 4. Test Reports:
  - a. Factory Tests: As specified for specific equipment.
  - b. Field Tests: Performance tests as specified for specific equipment.
  - c. Megger Tests: As specified under TESTING.
  - d. When series rated circuit breakers are used, provide a letter from the manufacturer of the equipment confirming that U.L. series rating exists for all protective devices. State the available fault current from the Utility Company and indicate that the overcurrent devices exceed the available fault current at the respective point of protection.
  - e. Special Seismic Certification documentation as per CBC Section 1616A and ASCE/SEI 7-16 requirements for all equipment defined as 'critical' with an importance factor of 1.5 in Paragraph 1.10.M.3 of this Section.
  - f. Manufacturer's Seismic Certification or Project-Specific Design of Supports and Attachments for all other equipment and fixtures as per CBC Section 1616A and ASCE/SEI 7-16 requirements.
- 5. Maintenance and Operating Manuals:
  - a. Systems Description: Description of operating procedures.
  - b. Controls: Diagrams and description of operation of each system.
  - c. Equipment: Manufacturer's brochures, ratings, certified shop drawings, maintenance data, and parts lists with part numbers. Mark each sheet with equipment identification number and actual installed condition.
  - d. Materials and Accessories: Manufacturer's brochures, parts lists with part numbers, and maintenance data where applicable. Mark each sheet with identification number of system and location of installation.
  - e. The Maintenance and Operation Manual shall be presented in a bookmarked PDF file with tabbed sections as stated below. Provide all information in each section as stated below.
    - 1) 26 2400:
      - (a) Insert the approved submittals for the main switchboard and panelboards, and for medium voltage switchgear and transformers if specified herein and/or indicated on the drawings.
      - (b) Provide the names, addresses and telephone numbers of the manufacturer and the two closest manufacturer's representatives of the equipment.
    - 2) 27 0000:
      - (a) Insert the approved submittals for the telecommunications system.
      - (b) Provide the names, address and telephone number of the manufacturer and the closest manufacturer's representative of the equipment.
      - (c) Include the manufacturer's recommended maintenance of the equipment.
    - 3) 28 3101:
      - (a) Complete the "Record Of Completion" entirely.
      - (b) In the "Download File" indicate the exact equipment that the Monitor Modules are monitoring. i.e. fire sprinkler flow switches, tamper switches, etc..
      - (c) Simplify the Download File so that it coincides with the submitted and approved fire alarm single line diagram.
      - (d) Provide the names, address and telephone number of the manufacturer and the closest manufacturer's representative of the equipment.
      - (e) Include the manufacturer's recommended maintenance of the equipment.
      - (f) Insert an abbreviated data sheet that states how to test, reset and silence the fire alarm system.
      - (g) Insert the name and telephone number of the Central Station that receives the alarms, and the proper sequence to follow during an alarm.

- 4) 26 0800:
  - (a) Insert all systems testing results.
- 6. Record Documents: "As-builts": As specified under Paragraph 3.2 of this Section.

**1.07 DELIVERY, STORAGE AND HANDLING**

- A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all trades.
- B. Delivery and Storage: Deliver all materials to the job site in their original containers with all labels intact and legible at time of use. Store in strict accordance with approved manufacturers' recommendations.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.
- D. This Contractor shall personally, or through an authorized representative, check all materials upon receipt at jobsite for conformance with approved shop drawings and/or plans and specifications.

**1.08 SCHEDULING/SEQUENCING**

- A. Place orders for all equipment in time to prevent any delay in construction schedule or completion of project. If any materials or equipment are not ordered in time, additional charges made by equipment manufacturers to complete their equipment in time to meet the construction schedule, together with any special handling charges, shall be borne by this Contractor.
- B. The Contractor shall coordinate production and delivery schedule for all Owner-supplied equipment with the equipment suppliers to ensure that all Owner-supplied equipment is delivered to site in coordination with the construction schedule and in such a manner as to cause no delays in completion of the Contract as scheduled.

**1.09 REQUIREMENTS**

- A. The contract drawings indicate the extent and general arrangements of the conduit wiring systems, etc. If any departures from the contract drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore shall be submitted as soon as practicable, and within thirty-five (35) days after award of the electrical contract.
- B. Unless material list and data is received as a complete and all-inclusive submittal within the stipulated time all items shall be provided as specified, with no deviations permitted.
- C. Any and all additional costs incurred by the substitution of electrical material or equipment, or installation thereof, whether architectural, structural, plumbing, mechanical or electrical, shall be borne by the Contractor under this Section.
- D. Burden of proof of equality of any substitution for a specified product is the responsibility of this Contractor.
- E. Where required by Architect to ascertain equality of substitute product, Contractor may be requested to provide the specified item and the submitted substitution for comparison, at no additional cost to the Owner.

**1.10 SEISMIC CERTIFICATION AND INSTALLATION OF EQUIPMENT**

- A. See Architectural and Structural Drawings and Specifications for description of Occupancy Group and Seismic Design Category applicable to this project.
- B. Provide Special Seismic Certification per CBC Section 1616A and ASCE/SEI 7-16 for all equipment and components defined as critical with an importance factor 1.5 in Paragraph 1.10.M.3 of this Section.



- C. Special Seismic Certification shall require either certification through approved analytical method or approved shake table testing in accordance with Section 13.2.5 of ASCE/SEI 7-16 or experience data in accordance with Section 13.2.6 of ASCE/SEI 7-16.
- D. Manufacturer's Seismic Certification or Project-Specific Design of Supports and Attachments for all other equipment and fixtures as per CBC Section 1616A and ASCE/SEI 7-16 requirements.
- E. Provide seismic restraints per applicable code and as specified or indicated. Design restraints to prevent permanent displacement in any direction caused by lateral motion, overturning, or uplift.
- F. Rigidly Supported Equipment, Conduits, and Raceways.
- G. Components supported by chains or simply suspended from above are not required to meet lateral seismic force requirements and seismic relative displacement requirements provided that they cannot be damaged or cannot damage any other component when subject to seismic motion. They must have ductile or articulating connections to the structure at the point of attachment.
- H. Electrical Cabinets:
  - 1. Electrical cabinet design shall conform to National Electrical Manufacturers Association (NEMA) 250 and NEMA ICS6 standards. Cutouts in the lower shear panel that do not appear to have been made by the manufacturer and significantly reduce the strength of the cabinet are not permitted unless analysis demonstrates that the remaining strength is sufficient.
  - 2. Single freestanding cabinets shall have a minimum of four anchor bolts designed and specified with one anchor located at each corner.
  - 3. Multiple sections of cabinets or enclosures located adjacent to each other shall be bolted together. Minimum acceptable bolting is three bolts in the front and back along the adjacent vertical faces - 6 bolts total.
  - 4. Multiple cabinets bolted together to form a section or line-up shall have at a minimum two anchors specified for each cabinet, one at the front and one at the rear.
  - 5. Base anchorage shall be installed through anchor points designated by the Manufacturer. The largest bolt diameter for the anchor hole provided in the equipment shall be provided.
  - 6. A latch or fastener to prevent opening during an earthquake event and damaging the cabinet and internal components shall secure all doors.
  - 7. Slide-out components in electrical control panels, etc., shall have a latching mechanism to hold contents in place.
  - 8. Attached cabling shall have adequate slack or flexibility between the cabinets and surrounding structure supporting the conduit to preclude severing of the cabling due to differential seismic displacements.
- I. The design load shall include the effects of loading on the equipment imposed by attached utility or service lines that are also attached to separate structures.
- J. The attachment of additional external items is not permitted unless such items have either been provided by the Manufacturer, or analysis shows that their effects are supported by design.
- K. Conduit and their connections shall be constructed of ductile materials unless otherwise approved by the Architect. Conduits and their connections constructed of non-ductile materials (e.g., cast iron, no-hub pipe and plastic) shall have brace lengths reduced to one-half that allowed for ductile material.
  - 1. All trapeze assemblies supporting conduit shall be braced to resist CBC design forces considering the total weight of the elements on the trapeze.
  - 2. Seismic restraint spacing shall be in accordance with hanger spacing.
- L. Critical Equipment:

1. Design with importance factor of 1.5.
  2. Provide Special Seismic Certification for all equipment and components and their installation per CBC and ASCE/SEI requirements.
  3. Critical Equipment shall include the following:
    - a. Fire Alarm system equipment.
    - b. Telecommunications System Racks and Cabinets
- M. Seismic Design Submittals: For all Critical Equipment included in paragraph 26 05 00.1.10.M.3.
1. The Manufacturer of each item of critical equipment shall arrange for the testing or analysis by an approved agency of each component and assembly and its mounting system or anchorage.
  2. The Manufacturer shall submit a Certificate of Compliance for each item for approval by the Architect and by the Authority Having Jurisdiction.
  3. Based on Manufacturer's approved submittal, Contractor shall retain the services of a State of California registered Structural Engineer to prepare final installation details and drawings for equipment supports and attachments.
  4. Submit drawings of the equipment showing dimensions, support equipment, connections, and the proper anchorage locations.
  5. Equipment weight and weight distribution (e.g., center of gravity in elevation and plan).
  6. Thickness of sheet metal bases.
  7. Seismic Vibration Isolation Devices: Manufacturer's product information indicating class and type. Indicate load ratings as published manufacturer's data or shop drawings. Indicate proper orientation of devices on plan.
  8. Inertia bases and support frames.
  9. Specific details of restraints including anchor bolts and welds and maximum load at each location.
- N. Independent Supports: An independent means of secure support shall be provided for all wiring methods in non-fire-rated assemblies. Where independent support wires are used, they shall be distinguishable by color, tagging, or other effective means.

**1.11 DESCRIPTION OF DEMOLITION AND REPLACEMENT WORK**

- A. This project includes the demolition and replacement, modification, or enhancement of existing facilities. As such, the project scope for this contractor shall include all associated electrical, lighting, and signal system upgrades and demolition/removal work at the existing buildings(s) and/or site. The intent is that all systems will be complete and functional at the completion of this contract and that all old systems, equipment, feeders, circuits, wiring, and related devices (no longer used) be completely and neatly removed. Where discrepancies between the drawings and existing conditions are noted, the Architect or Owner shall be notified immediately for resolution.
- B. As with every renovation project, the electrical work will include (and require) exploration and other field work on a daily basis to complete the new designed equipment and connections within the constraints of the existing building and existing site conditions.
- C. The contractor shall include as part of the base bid, sufficient labor hours to provide such exploration and field work throughout the duration of the project. Change orders for miscellaneous coordination of existing conditions will not be approved unless specific and latent conditions are uncovered that warrant such additional compensation or require additional work not shown on the drawings or included in the specifications, or implied by the designed conditions.
- D. New raceways and wiring to new and renovated equipment are to be installed unless otherwise noted. Where raceways are installed in accessible concealed locations (i.e. unfinished spaces or electrical / mechanical / attic spaces), EMT with wire shall be used. Where new wiring is required to be routed through existing walls and ceilings that cannot readily be accessible for

new conduit, MC cable or flex conduit and wiring may be installed, fished through and secured in each space as required by Code. Non-metallic sheathed cable shall not be utilized on this project.

- E. All new raceways shall be installed concealed and all new equipment installed flush, unless otherwise noted on the drawings or in these specifications.

#### **1.12 GUARANTEE**

- A. This Contractor shall guarantee that all work executed under this Section will be free from defects of materials and workmanship for a period of one (1) year or as per the General Conditions of this project, whichever is longer. Dates shall be from the date of final acceptance of the building. The contractor shall further guarantee that he will, at his own expense, repair and replace all such defective work, and all other work damaged thereby, which becomes defective during the term of the guarantee. Such repair or replacement shall be guaranteed for one (1) year from the date of repair or replacement.

#### **1.13 PERMITS AND INSPECTIONS**

- A. This Contractor shall arrange for and obtain all required permits and inspections.
- B. Do not allow or cause any of the work to be covered or enclosed until it has been tested and/or inspected.

#### **1.14 IDENTIFICATION**

- A. Switchgear, switchboards, distribution panels, and feeder circuit breakers therein, panels, disconnect switches, motor starters, transformers, motor disconnect switches, cabinets, and other apparatus used for the operation of, or control of circuits, appliances or equipment, shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws. Nameplates shall have white letters with black background and be submitted to the Architect for approval. Cardholders in any form are not acceptable.
- B. Provide p-touch style labeling of circuit designations for all receptacles on the project.
- C. Each branch circuit of panel boards to have a permanently fixed number with load directory, mounted under celluloid on inside of cabinet door, showing circuit numbers and typewritten description of equipment supplied by breakers. Where changes are made to existing panelboards, newly typewritten circuit directories shall be prepared to replace existing directories.
- D. Provide label on all motors: "Caution. Automatic equipment. May start at any time."
- E. Provide silk-screened or engraved identification labels on all switch box covers identifying specific loads that are not readily apparent to the user, including electroshades, projection screens, exhaust fans, audio-visual controls, etc.. Submit proposed labels to Architect for approval prior to manufacture of labels.
- F. Provide identification of all pull boxes, junction boxes, and conduit stub-ups on the project as outlined below:
  - 1. For Power Feeders:
    - a. Stencil cover with identifying circuit number.
    - b. Lettering 1" high.
    - c. Color of lettering black.
    - d. Place lettering on cover in neat manner; run parallel to long sides of box.
  - 2. For branch circuits, grounding, communication, signal, and control systems boxes and blank conduit stub-outs:
    - a. Paint inside back of each j-box, front of each cover, and ends of each blank conduit stub-out with identifying system color as listed below:
      - 1) 277/480-volt                      Orange

- |     |                      |              |
|-----|----------------------|--------------|
| 2)  | 120/208-volt         | Blue         |
| 3)  | Telephone/Data       | Grey         |
| 4)  | Ground system        | Green        |
| 5)  | Fire Alarm           | Red          |
| 6)  | Lighting control     | Orange/White |
| 7)  | Clock/Speaker        | Brown        |
| 8)  | Audio/Visual Yellow  |              |
| 9)  | Security             | White        |
| 10) | Emergency Power 277V | Orange/Red   |
| 11) | Emergency Power 120V | Blue/Red     |

**PART 2 - PRODUCTS**

**2.01 GENERAL**

- A. Refer to applicable Division 26, 27, and 28 Sections for complete products specifications.

**2.02 MATERIALS**

- A. Materials of the same type or classification, used for the same purpose, shall be the product of the same manufacturer.

**2.03 ACCEPTABLE MANUFACTURERS**

- A. Materials shall be of make mentioned elsewhere in this specification. All materials shall be the best of their several kinds, perfectly new and approved by the Underwriters' Laboratories.
- B. Where material, equipment, apparatus or other products are specified by manufacturer, brand name, type or catalog number, such designation is to establish standards of desired quality, style and utility and shall be the basis of the bid. Materials so specified shall be furnished under the contract unless changed by written approval of the Architect. Where two or more designations are listed, choice shall be optional with this Contractor, but this Contractor must submit his choice for final approval.

**2.04 POSTED OPERATING INSTRUCTIONS**

- A. Furnish approved operating instructions for systems and equipment where indicated in the technical sections for use by operation and maintenance personnel. The operating instructions shall include wiring diagrams, control diagrams, and control sequence for each principal system and equipment. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions as directed. Attach or post operating instructions adjacent to each principal system and equipment including startup, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and other items of instruction as recommended by the manufacturer of each system or equipment. Provide weather-resistant materials or weatherproof enclosures for operating instruction exposed to the weather. Operating instruction shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

**2.05 CATALOGED PRODUCTS/SERVICE AVAILABILITY**

- A. Materials and equipment shall be current products by manufacturers regularly engaged in the production of such products. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The 2-year period shall be satisfactorily completed by a product for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures. Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6,000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished. The equipment items shall be supported by service organizations which are reasonable

convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

### **PART 3 - EXECUTION**

#### **3.01 INSPECTION**

- A. Examine the areas and conditions under which the work of this Section will be installed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

#### **3.02 PREPARATION**

- A. Drawings:
1. The general arrangement and location of wiring and equipment is shown on the electrical drawings and shall be installed in accordance therewith, except for minor changes required by conflict with the work of other trades.
  2. The Contractor shall coordinate and verify all backbox, device, lighting fixture, or equipment mounting requirements with the devices or equipment to be installed, prior to rough in.
  3. Drawings indicate the circuit and panel which supplies each device or fixture. Provide and install conduit and conductors to make all connections from panel to nearest device and from first device to additional devices on same circuit. Conduit size and fill shall satisfy NEC requirements. Two or three different phases supplied by a 3-phase panel may share a single neutral only if circuit positions are adjacent in the panel. Do not exceed 4 #12 or 3 #10 conductors in a 1/2" conduit, 7 #12 or 5 #10 in a 3/4" conduit, and 11 #12 or 9 #10 in a 1" conduit, unless otherwise noted. Provide common handle-tie on breakers for multi-wire branch circuits (with common neutral), per NEC. If more than three current carrying conductors are installed in one conduit, conductor size shall be increased as required per NEC. Do not share neutrals for branch circuit runs to electronic equipment or where noted on the drawings.
  4. Drawings indicate the location of all light switches. Where fixtures in a room are controlled by more than one switch, the same lower case letter is drawn adjacent to a switch and each fixture controlled by that switch. Where no lower case letter is adjacent to a switch, all fixtures in the room are controlled by that switch. Provide and install conduit and wire from fixture to switch and between fixtures as required to accomplish switching shown. Do not route branch circuit wiring for light fixtures through switch boxes. Where dimming controls are specified, provide required dimming control wiring in addition to power wiring from control device to all controlled light fixtures. Provide separate conduit for dimming control wiring unless otherwise indicated on the drawings.
  5. Drawings indicate location of all signal outlet boxes. Provide and install conduit system as required and complete system wiring, unless otherwise noted.
  6. Control wiring is generally not shown on the plans. Contractor shall refer to control diagrams and provide and install all wiring and raceways required to make all interconnections.
  7. All branch circuit wiring No. 12 or No. 10 as noted, all control wiring No. 14, except as noted next to "slash marks" on the drawings, or as noted under "Wire," as specified herein.
  8. All dimensions, together with locations of doors, partitions, etc. are to be taken from the Architectural Drawings, verified at site by this Contractor.
  9. Maintain "as-built" records at all times, showing the exact location of concealed conduits and feeders installed under this contract, and actual numbering of each circuit. Upon completion of work and before acceptance can be considered, this Contractor must forward to the Architect, updated CAD plans, corrected to show the electrical work as actually installed.

10. All standard 20A branch circuit conductors shall be #12 minimum for up to 75 linear circuit feet, #10 minimum for up to 150 linear circuit feet, and #8 for runs longer than 150 feet.

- B. Measurements: Before ordering any material or closing in any work, verify all measurements on the job. Any differences found between dimensions on the drawings and actual measurements shall be brought to the Architect's attention for consideration before proceeding.

### **3.03 FIELD QUALITY CONTROL**

- A. All workmanship shall be first class and carried out in a manner satisfactory to and approved by the Architect.
- B. This Contractor shall personally, or through an authorized and competent representative, constantly supervise the work and so far as possible keep the same foreman and workmen on the job throughout.

### **3.04 INSTALLATION/APPLICATION/ERECTION**

- A. All electrical raceways and devices shall be installed concealed (for raceways) and/or flush mounted (for devices), unless otherwise noted. Provide cut-in boxes and "fish" flexible MC or flex conduit and wire through existing walls to remain, unless shown otherwise on plans. Cut and patch to facilitate such installation to match adjacent and original finish.
- B. All cutting, repairing and structural reinforcing for the installation of this work shall be done by the General Contractor in conformance with the Architect's requirements.

### **3.05 TEMPORARY LIGHTING AND POWER**

- A. Provide and install temporary lighting and power systems for the duration of construction, of adequate size to accommodate the required lighting and power loads. Coordinate with other trades to insure adequate sizing.
- B. Provide distribution equipment as required to support all construction activities.

### **3.06 FIRE STOPPING AND FIRE RATED PENETRATIONS**

- A. All electrical equipment mounted in, on, or through fire rated construction shall be installed to maintain the fire rating of the construction.
- B. Provide fire rated pads (or other suitable assembly) around all electrical junction boxes in fire rated walls/ceilings/floors to maintain the fire rating.
- C. Provide fire rated construction around all recessed light fixtures and/or panel board / cabinets mounted flush in fire rated walls to maintain the fire rating. Coordinate depth of construction with other trades to avoid conflicts.
- D. Conduit sleeves shall be provided as a means of routing cables through fire-rated walls or floors. Openings in sleeves and conduits used for system cables and those which remain (empty) spare shall be sealed with an approved fireproof, removable sagging material. Sleeves which pass vertically from floor to floor shall be sealed in a similar manner using an approved re-enterable system. Additional penetrations through rated assemblies necessary for passage of tel/data wiring shall be made using an approved method and permanently sealed after installation of cables.

### **3.07 ADJUSTING AND CLEANING**

- A. All electrical equipment, including existing equipment not "finish painted" under other sections, shall be touched up where finished surface is marred or damaged.
- B. All equipment, lighting fixtures, etc., shall be left in clean condition, with all shipping and otherwise unnecessary labels removed there from.

### **3.08 SCHEDULES**

- A. Coordination: Coordinate installation of electrical items with the schedule for other work to prevent unnecessary delays in the total Work.

**3.09 WARNING SIGN MOUNTING**

- A. Provide the number of signs required to be readable from each accessible side, but space the signs a maximum of 30 feet apart.

**3.10 PAINTING OF EQUIPMENT**

- A. Factory Applied: Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance test, except equipment specified to meet requirements of ANSI C37.20 shall have a finish as specified in ANSI C37.20.
- B. Field Applied: Paint electrical equipment as required to match finish or meet safety criteria. Painting shall be as specified in the respective equipment section.

**3.11 TESTS**

- A. Testing and inspection: See Section 26 08 00 - Testing.

**END OF SECTION**

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**SECTION 26 08 00**

**TESTING**

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**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. Work Included in This Section: All materials, labor, equipment, services, and incidentals necessary to perform the testing and inspection of the electrical work, including but not limited to the general systems noted below:
1. Grounding system.
  2. Distribution system.
  3. Fire Alarm system.
  4. Telecommunications system.
  5. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.
  6. All work shall comply with Sections 26 05 00 and 26 27 00.
  7. In addition to the general system tests and inspections indicated above, the Contractor shall perform the following inspections and tests. The Contractor shall provide all material, equipment, labor, and technical supervision to perform such tests and inspections:
    - a. System Grounding.
    - b. Switchgear, Switchboards, Distribution Panels, Panelboards.
    - c. Feeders.
  8. The purpose of these tests is to assure that all tested electrical equipment is operational and within industry and manufacturer's tolerances and is installed in accordance with design specifications.

**1.02 APPLICABLE CODES, STANDARDS, AND REFERENCES**

- A. All inspections and tests shall be in accordance with the International Electrical Testing Association - Acceptance Testing Specifications ATS-2021 (referred to herein as NETA ATS-2021).

**1.03 QUALIFICATIONS**

- A. Qualifications of the Testing Firm shall be as listed in NETA ATS-2021.

**PART 2 - PRODUCTS**

**2.01 THIS ARTICLE DOES NOT APPLY TO TESTING.**

**PART 3 - EXECUTION**

**3.01 GENERAL**

- A. Final test and inspection to be conducted in presence of the Authority having Jurisdiction (AHJ) or Inspector of Record (IOR). Test shall be conducted at the expense of, and managed by, the Contractor, at a mutually agreed time. Submit written test report of all tests, with test result values and overall outcome.
- B. All portions of the electrical installation shall be inspected and tested to ensure safety to building occupants, operating personnel, conformity to code authorities and Contract Documents, and for proper system operation.

**3.02 INSPECTIONS AND TESTS**

- A. Tests: Field tests shall be performed and reports submitted, as per Section 26 05 00, Part 1.
1. Final Inspection Certificates: Prior to final payment approval, deliver to the Owner, with a copy to the Architect, signed certificates of final inspection by the appropriate local authority having jurisdiction.



2. Grounding System:
  - a. All ground connections shall be checked and the entire system shall be checked for continuity. The resistance of grounding electrodes in the system shall be measured using a 3 point fall-of-potential method. The maximum ground resistance shall be three ohms. If the measured ground resistance exceeds three ohms, install (1) additional ground rod, bonded and interconnected with the grounding electrode system.
  - b. Ground tests shall meet or exceed the requirements of the National Electric Code.
3. Power Distribution System:
  - a. Test distribution boards and panel boards, for grounds and shorts with mains disconnected from feeders, branch circuits connected and circuit breakers closed, all fixtures in place and permanently connected and grounding jumper to neutral lifted and with all wall switches closed.
  - b. Test each individual circuit at each panelboard with equipment connected for proper operation. Inspect the interior of each panel.
  - c. Check verification of color coding, tagging, numbering, and splice make-up.
  - d. Verify that all conductors associated with each circuit are in same conduit.
  - e. Demonstrate that all lights, jacks, switches, outlets, and equipment operate satisfactorily and as called for.
  - f. Perform megger tests of all new distribution system feeders prior to energizing. All Cables failing megger tests or with evidence of damage shall be removed and replaced in their entirety (no splices), at no cost to the Owner. Damaged cables may not be field repaired without specific approval of the Architect.
4. Fire Alarm System: Verify that all equipment, components, and devices function as specified. Refer to Section 28 3101 for additional testing requirements.
5. Telecommunications System: Verify that all equipment, components, and devices function as specified. Refer to Section 27 0000 for additional testing requirements.

**END OF SECTION**

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**SECTION 26 27 00**

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**BASIC ELECTRICAL MATERIALS AND METHODS**

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**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. Work included in this Section: All materials, labor, equipment, services, and incidentals necessary to install the electrical work as shown on the drawings and as specified hereinafter, including but not limited to the work listed below:
  - 1. Raceways, feeders, branch circuit wiring, wiring devices, safety switches and connections to all equipment requiring electric service.
- B. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.
- C. All work shall comply with Section 26 05 00.

**1.02 RELATED WORK**

- A. Division 09 - Finishes
- B. Division 23 - Motors and Mechanical Equipment Installation

**1.03 SUBMITTALS**

- A. Comply with the provisions of Section 26 05 00.

**PART 2 - PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS**

- A. Refer to Section 26 05 00, Basic Electrical Requirements, Part 2 - Products.
- B. List of Equipment Manufacturers:
- C. Conduit and Conduit Fittings
  - 1. Allied Tube and Conduit, Wester Tube and Conduit, LTV Steel Tubular, National Electric Products, AFC, Republic Steel Corporation, Rome Cable Corporation, United States Steel Corporation, Killark Electric Manufacturing Company, Raco, VAW Aluminum Company, Bridgeport, Steel City, Thomas & Betts, Carlon, O.Z. Gedney, Appleton, Regal.
- D. Wire and Cable (600V)
  - 1. American Wire Company, General Wire and Cable Corporation, Okonite Company, Rome Cable Corporation, Cerrowire, American Insulated Wire, AFC Cable Systems, Essex, Simplex Wire and Cable Company, Southwire.
- E. Solderless Lugs and Grounding Connections
  - 1. Burndy Engineering Company Inc, O.Z. Gedney Company Inc, Penn Union Electric Corporation, Thomas and Betts Company Inc.
- F. Pull Boxes, Gutters, Special Cabinets
  - 1. Schneider-Square D Company, Columbia Electric Manufacturing Company, General Electric Company, Eaton Inc.
- G. Outlet Boxes
  - 1. Appleton Electric Company, Killark Electric Manufacturing Company, Lew Electric Fittings Company, National Electric Products Corporation, Raco, Steel City Electric Company, Carlon, Bowers.
- H. Wiring Devices
  - 1. Leviton, Arrow-Hart, Cooper, Hubbell, Lutron, Bryant.
- I. Conduit Racks, Hangers

1. General Electric Company, Killark Electric Manufacturing Company, Caddy, National Electric Products Corporation, Republic Steel Corporation, Rome Cable Corporation, United States Steel Corporation, VAW Aluminum Company, Superstrut, B-Line.
- J. Safety Switches (Disconnect and Fusible)
  1. Schneider-Square D Company, Eaton-Cutler Hammer Inc, General Electric Company.
- K. Fuses
  1. Bussman Manufacturing Company, Chase-Shawmut Company.
- L. Firestopping
  1. 3M, Nelson.

## 2.02 MATERIALS

- A. Raceways: Only the raceways specified below shall be utilized on this project. Substitutions shall be pre-approved in writing. All bare conduit ends (stub-ups or stub-outs) shall be provided with bushed ends or manufactured insulated throat connectors:
  1. Rigid Type - hot dip galvanized or sherardized steel, use on all exterior locations, below grade or in concrete slab, and to 18" on either side of structural expansion joints in floor slabs, with completely watertight, threaded fittings throughout. Compression fittings are not acceptable.
    - a. All rigid steel conduit couplings and elbows in soil or concrete or under membrane to be ½ lap wrapped with Scotch #50 tape and threaded ends coated with T&B #S.C.40 rust inhibitor prior to installation of couplings.
    - b. ½ lap wrap all rigid steel conduit stub-ups from slab or grade to 6" above finished grade level with Scotch #50 tape.
  2. In lieu of rigid steel conduit for power and control raceways and branch circuit conduits in soil or concrete slabs, "Schedule 40" PVC with Schedule 80 PVC conduit elbows and stub-ups may be used with code size (minimum No. 12) ground wire. A "stub-up" is considered to terminate 6" above the finished surface.
    - a. Schedule 80 PVC conduit shall be used in all concrete footings or foundations and to 18" of either side of footings or foundation walls.
    - b. Schedule 80 PVC conduit shall be used in all concrete masonry unit (CMU) walls or columns.
    - c. All conduit runs in concrete floor slabs (where allowed) shall be installed to comply with all applicable CBC and structural codes to maintain the structural integrity of the floor slab. Where conflicts occur, alternate routing shall be provided at no additional cost to the Owner.
    - d. Where schedule 80 PVC is coupled to schedule 40 or other raceways with differing interior dimensions, each end shall be reamed with a reaming tool to reduce the edge profile for protection of the passing conductors during the pull.
  3. Intermediate metal conduit may be used in all exposed interior locations, except that electrical metallic tubing may be used in some locations as noted below. Utilize steel compression type fittings for all exposed conduit runs, unless otherwise noted. Die-cast zinc fittings are unacceptable.
  4. Electrical metallic tubing shall be used exposed in interior electrical and mechanical rooms, in interior unfinished spaces, and in interior concealed and furred spaces, made up with steel watertight or steel set screw type fittings and couplings. EMT shall not be used in under-building crawl spaces or other areas subject to moisture. Set screws shall have hardened points. Die-cast zinc fittings are unacceptable.
  5. Surface mounted rectangular steel raceways and boxes: use for all surface mounted installations, unless otherwise noted (all catalog numbers listed are Wiremold - equals allowed) - color Ivory, unless otherwise noted;

- a. #V500 for branch power runs on ceilings and walls (used with V500 series straps, elbows, connectors and V5000 series low profile boxes and covers).
  - b. #2000 or 2400 low profile for larger power run requirements on ceiling or walls (used with V2000 series straps, elbows, connectors and low profile boxes and covers).
  - c. #2400D for dual service power and tel/data run requirements (used with divided V2400 boxes and covers).
6. Surface mounted rectangular non-metallic dual service raceways; Wiremold #5400 (Ivory) or equal with all required compatible activation covers, bezels, inserts, and blank plates for a complete installation. Refer to drawings for outlet quantities in raceway and feed points. All raceway fed flush from rear with horizontal j-boxes, unless otherwise noted.
  7. Use flexible conduit for all motor, transformer and recessed fixture connections, minimum ½"; "Seal tite" type used outdoors and in all wet locations, provide with code size (minimum No. 12) bare ground wire in all flexible conduit.
  8. All conduit cuts (factory or field cut) shall be perfectly square to the length of the conduit and cut ends shall be reamed with a reaming tool to provide a smooth edge to the passing conductors and to remove all burs and scrapes. Use of a hand file is not acceptable.
  9. All electrical raceways shall be installed concealed, unless otherwise noted. Cut and patch to facilitate such installation to match adjacent and original finish. All exposed conduits, where required, shall be installed parallel to building members.
  10. All emergency source circuits shall be installed in separate raceways (from normal power), per 2017 NEC 700.10(B), or the applicable code at the time of permitting.
  11. Where existing conditions preclude the installation of EMT in existing walls to remain, provide and install cut-in type boxes and "fish" flexible MC or flex conduit and wire through existing walls to remain, unless shown otherwise on plans.
  12. Fasten conduits securely to boxes with locknuts and bushings to provide good electrical continuity.
  13. Provide chrome escutcheon plates at all exposed wall, ceiling and floor conduit penetrations.
  14. Support individual suspended conduits with heavy malleable strap or rod hangers; supports for ½ inch or ¾ inch conduit placed on maximum 7-foot centers; maximum 10-foot centers on conduits 1 inch or larger.
  15. Support multiple conduit runs from Kindorf B907 channels with C-105 and C-106 straps.
  16. Conduit bends - long radius.
  17. Flash conduits through roof, using approved roof jack; coordinate with General Contractor.
  18. To facilitate pulling of feeder conductors, install junction boxes as shown or required.
  19. All empty conduits on the project shall be provided with a nylon pull rope to allow pulling of future conductors intended for the specific raceway. Provide plastic wire-tie style nameplate tags on each end of pull rope with printed identification of conduit use and the location of the opposite end of the rope. Pull ropes for telecommunications service conduits shall meet the utility company requirements.
  20. Where conduits pass through structural expansion joints in floor slab, rigid galvanized conduit shall be used 18" on either side of joint, complete with Appleton expansion couplings and bonding jumpers, or equal. All above grade expansion joint crossings shall also utilize expansion joint couplings or flex conduit transitions as required for each particular installation. Installed condition shall allow for a minimum deflection of raceway and wire (in any direction) equal to the structural expansion joint dimension (building to building). No solid conduits shall be allowed to cross expansion joints without proper provisions for building and seismic movement.
  21. Minimum cover of conduits in ground outside of building - 36 inches, unless otherwise noted.
  22. Provide and install exterior wall conduit seals and cable seals in the locations listed below. Coordinate installation and scheduling with other trades:

- a. Conduit seals through exterior wall or slab (below grade): O.Z. Gedney series "FSK" in new cast in concrete locations, series "CSM" in cored locations.
  - b. Conduit seals through exterior wall or slab (above grade): O.Z. Gedney series "CSMI."
  - c. Cable seals at first interior conduit termination after entry through exterior wall or slab: O.Z. Gedney series "CSBI." Coordinate quantity of conductors at each location.
- B. Outlet Boxes and Junction Boxes. Verify all backbox requirements with devices to be installed prior to rough-in.
- 1. One piece steel knockout type drawn boxes, unless otherwise noted, sized as required for conditions at each outlet or as noted.
  - 2. Flush-mounted boxes equipped with galvanized steel raised covers for device mounting flush with finished surface. Provide extension rings as required on all acoustical or additional wall treatment areas to bring top of cover flush with finished surface (coordinate with architectural drawings). Devices shall be capable of being tightly mounted to boxes without distorting or bending device or mounting hardware.
  - 3. Boxes for fixture outlets: 4-inch octagon or larger as required, or as noted.
  - 4. Switch and receptacle outlets - not smaller than 4-inch-square in furred walls, with raised cover for single device; ganged where required.
  - 5. Outlet and switch boxes for wet locations, cast aluminum FS or FD type with cast aluminum gasketed spring lid cover. Weatherproof "Bell" type boxes are not acceptable.
  - 6. All connectors from conduit to junction or outlet boxes shall have insulated throats. Connectors shall be manufactured with insulated throats as integral part. Insertable insulated throats are unacceptable.
  - 7. Outlet boxes for telecommunications, 4" square or larger as required or noted, multi-ganged for voice, data, and other services where indicated on the drawings.
  - 8. Conduit Bodies: Malleable iron type, with lubricated spring steel clips over edge of conduit body, O-Z/Gedney type EW, or equal.
  - 9. Floor Boxes:
    - a. Classification and Use: Floor boxes shall have been examined and tested by Underwriters Laboratories Inc. to meet UL514A and Canadian Standard C22.2 and shall bear the appropriate label. Floor boxes shall conform to the standard set in the National Electrical Code. Multi-compartment boxes shall have been evaluated by UL to meet the applicable U.S. and Canadian safety standards for scrub water exclusion when used on tile, terrazzo, wood, and carpet covered floors.
    - b. Floor boxes shall provide flush or recessed device outlets that will not obstruct the floor area. Refer to Drawings for size and types. This specification covers concrete and wood frame floor applications with Wiremold 800, 860 and 880 and RFB Series boxes.
    - c. Cast-Iron Boxes: Box interior and exterior shall be painted. Boxes shall be available in 1,2, and 3 gang configurations. Boxes shall also be available in deep and shallow versions. Box shall provide 1-3/4 inches of pre-pour adjustment and 1/2 inch of post-pour adjustment.
    - d. Steel Boxes: Boxes shall be manufactured from stamped steel and formed. Boxes shall be available in 1,2, and 3 gang configurations. Boxes shall also be available in deep and shallow versions. All stamped steel versions shall provide 1-3/4 inches of pre-pour adjustment and 1/2 inch of post-pour adjustment.
    - e. Nonmetallic Multi-service Floor Boxes: Boxes shall be manufactured through the use of injection molded Geon M3900 PVC material. The box shall be rectangular in shape. Boxes shall allow for ganging of boxes together through a dovetail interlocking mechanism. Knockouts shall be provided on the side walls of each box to provide for pass-through capability between each gang. Boxes shall also have concrete depth

markings on the exterior of the box to indicate box depth at the time of the pour. Boxes shall also provide graduated cubic inch markings on the interior of the box to indicate volume capacity at the appropriate box depth. Box shall accommodate concrete depths from 3-1/2 inches minimum to 6 inches maximum.

- 1) Floor boxes shall provide (2) 1-1/4 inch conduit openings to feed cabling to the box. Boxes shall provide the means to reduce this opening to fit 1 inch, 3/4 inch and 1/2 inch conduit sizes. Box shall be equipped with a high impact mudcap to protect the box from damage and prevent concrete entry during the pour and debris entry after the pour. Box shall also provide ratchet teeth along interior box walls to attach cover. Box shall include internal spacer to prevent deformation of the box sidewalls when high temperature additives are used in the concrete pour.
  - 2) Adjusting rings shall be used to attach flanges and covers to the floor box body. Adjusting ring shall have ratchet teeth to align with the teeth on box wall to connect box body without the use of adhesive or mechanical fasteners. Adjusting ring shall provide for 10 degrees of adjustment after concrete pour to adjust to various concrete conditions and floor finishes. Provide brass inserts to mount finish flanges to box body. Adjusting ring shall also provide for grounding locations using brass inserts.
  - 3) Adjusting ring shall provide the ability to accept a modular connectivity system. Modular communication inserts shall snap directly into the adjusting ring openings. Adjusting ring shall provide a fiber storage loop to maintain proper fiber optic bend radius control and excess fiber storage. Each adjusting ring shall except up to six connectivity activation locations. Adjusting ring shall allow modular connectivity inserts to be mounted recessed and protected when not in use.
- f. Covers and Flanges:
- 1) Floor box options shall accept aluminum, brass and nonmetallic cover plates and flanges.
  - 2) Flanges shall be available in one-, two-, and three-gang applications. Each flange shall provide 1/2 inches of adjustment to accommodate various floor coverings and concrete depths.
  - 3) Flanges shall accommodate connectivity outlets and modular inserts.
  - 4) Modular inserts shall snap directly into each flange using a mounting bezel.
- g. Multi-Compartment Boxes:
- 1) Boxes shall be fully adjustable, providing a maximum of 1-7/8 (RFB4) 2" (RFB9/RFB11) inch pre-pour adjustment, and a maximum of 3/4 inch post-pour adjustment.
  - 2) Boxes shall provide a series of device mounting plates that will accept both duplex power devices, as well as plates that will accommodate connectivity and AV outlets with modular inserts.
  - 3) The box shall provide 3/4", 1" and 1 1/4" conduit size openings with 2" KO for larger size boxes.
  - 4) Cover shall be cast aluminum. Lid shall be offered with solid, flush surface for tile, wood or terrazzo and an insert option for carpet inlay.
  - 5) Cover options shall support loads from 390LBS to 3000LBS
  - 6) Use cast iron boxes for on-grade applications (RFB4-CI-1). Stamped steel allowed for above grade applications (RFB-4 and RFB-4DB).
10. Pull boxes: All site pull boxes shall be flush in-ground concrete, with engraved covers identifying service use (i.e. electrical, communications, etc.). Boxes shall be Nema 250, Type 6, outside flanged, with recessed cover for flush mounting, by Christy or equal, with required depth to provide box and conduit depths shown or required.

- a. Provide concrete covers for all boxes in planted or paved areas (up to available concrete cover size).
  - b. Provide galvanized steel covers for all larger boxes (when concrete is not available), or in traffic areas. No cast iron covers.
  - c. Provide bolted covers and slab bottoms (with grouted perimeter) or vault type boxes for all electrical distribution and signal system pull boxes used for site distribution, to prevent rodent entry. No collar type boxes with dirt or gravel bottoms
  - d. Provide drain hole at bottom of all vault type boxes, with loose aggregate base below, for proper drainage.
  - e. All covers to be completely flush with finished adjacent surfaces.
  - f. Provide galvanized steel H20 rated covers and installation of box rated for H20 in all traffic areas.
  - g. Provide pullboxes per utility company specifications for all electrical primary and secondary services and for telecommunications service runs. Verify exact size and type prior to order with each utility company.
- C. Wire and Cable (line voltage and signal systems):
1. 600-volt class where used for or run with line voltage power wiring, insulation color coded, minimum No. 12 AWG for power branch circuits, No. 14 for power control circuits, and wiring size and type as directed by signal system manufacturer for each signal system.
  2. All conductors shall be copper.
  3. Size and insulation type:
    - a. Standard locations: #12 to #1 AWG: THWN for wet locations and THHN for dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW (65 Mils). All wire sizes used shall be based on a 75 degree insulation rating, unless specifically used with 90 degree rated breakers and devices.
    - b. All wiring (power and signal) installed underground between buildings, or in wet or damp locations, shall be outside listed and rated for wet locations.
    - c. High temperature and non-standard locations: Provide wire type and insulation category suitable for area of use as defined in NEC table 310-13.
  4. Conductors No. 8 and larger and as otherwise noted on drawings shall be stranded. Power conductors No. 12 and No. 10 shall be solid or stranded. Power conductors No. 14 or smaller shall be solid.
  5. Provide signal system wiring for each system to meet the system manufacturers requirements and recommendations for each device or equipment type. Signal wiring systems shall be provided with shielding and/or insulation type and cable quantities as directed by the manufacturer, and meet all NEC requirements for locations used.
  6. Install all wiring branch circuits and feeders (low voltage and line voltage) in conduit unless noted otherwise on the drawings. Contractor shall mandrel all feeders and pass a "sock" (or utilize other suitable means) through each raceway prior to pull to remove all water and construction debris. All raceways shall be completely clear of any obstructions or debris and all cut ends shall be reamed, prior to pull. Utilize pulling compound on all runs to insure minimum friction and pulling tension.
  7. Megger test all feeders prior to energizing. See section 26 08 00 for additional information.
  8. Approximately balance branch circuits about the neutral conductors in panels.
  9. Connections to devices from "thru-feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.
  10. Neutral conductor identified by white outer braid, with different tracers of "EZ" numbering tags used where more than one neutral conductor is contained in a single raceway.
  11. Neatly arrange and "marlin" wires in panels and distribution panelboards with "T and B Ty-rap" or approved equal plastic type strapping.

12. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages; wire color-coded as follows:
 

a. Voltage	Phasing	A	B	C	N
b. 120/208	3PH4W	Black	Red	Blue	White
c. 2083PH	3W	Black	Red	Blue	--
d. 277/480	3PH4W	Brown	Orange	Yellow	White
e. 4803PH	3W	Brown	Orange	Yellow	--
f. 120/240	3PH4W	Black	Red	Blue	White
g. 2403PH	3W	Black	Red	Blue	--
  13. The equipment grounding conductor shall be insulated copper; where it is insulated, the insulation shall be colored green.
  14. Label each wire of each electrical system in each pull box, junction box, outlet box, terminal cabinet, and panelboard in which it appears with "EZ" numbering tags indicating the connected circuit numbers.
  15. Properly identify the "high leg" of 4-wire delta connected systems (in each accessible location) as required by NEC 110.15 and 230-56.
  16. Provide permanently affixed adhesive labels with machine printed lettering (min. 1/8" high) at junction boxes serving fixtures that are supplied by (2) electrical sources (i.e. normal and emergency lighting). Label to read "CAUTION - This light fixture is powered by (2) separate sources. The normal power source breaker and the emergency power source breaker must be turned off before servicing this light fixture."
  17. Install feeder cables in one continuous section unless splices are approved by Architect. Exercise care in pulling to avoid damage or disarrangement of conductors, using approved grips. No cable shall be bent to smaller radius than the spool on which it was delivered from the manufacturer. Color code feeder cables at terminals. Provide identifying linen tags in each pullbox.
- D. Switches: Model numbers are Hubbell, color to be selected by architect, unless otherwise noted. All switches to utilize screw terminals for wire connections - no plug-in terminations:
1. Single Pole - No. HBL1221
  2. Two Pole - No. HBL1222
  3. Three Way - No. HBL1223
  4. Momentary contact - No. HBL1557
  5. Momentary contact Keyed - No. HBL1556L
  6. Keyed, - No. HBL1221L
  7. Pilot Light (on with load on) - Hubbell No. 1221-PLC
  8. Motor Rated Double Pole (30A) - Hubbell No. 7832
  9. Motor Rated Three Pole (30A) - Hubbell No. 7810.
  10. Low voltage Data line switches - Refer to lighting control system (for compatibility)
- E. Receptacles: Mounting straps and contacts shall be one piece design, constructed of minimum .050" solid brass. Base shall be high strength, heat resistant, glass reinforced nylon. Device shall accept up to #10 wire, side or back wired with screw terminals - no plug-in terminations. Hubbell, Leviton, Pass & Seymore, or equal. Color to be selected by architect, unless otherwise noted. Numbers listed below are Hubbell:
1. 15A 3PG 125 volt duplex - No. HBL5262
  2. 20A 3PG 125 volt duplex - No. HBL5362
  3. 20A 3PG 125 volt ground fault interrupter receptacle; GFI receptacles shall conform to the 2006 UL requirements to a) interrupt power to the unit in the event of internal failure, or b) provide an audible or visual indication of internal failure of the GFI; No. GF20 or equal. Through wiring to down stream GFI designated receptacles is not acceptable.
  4. 15A 3PG 125 volt half controlled duplex receptacle - No. BR15C1(color), with permanent "controlled" marking, factory applied.



5. 20A 3PG 125 volt half controlled duplex receptacle - No. BR20C1(color), with permanent "controlled" marking, factory applied.
  6. 15A 3PG 125 volt full controlled duplex receptacle - No. BR15C2(color), with permanent "controlled" marking, factory applied.
  7. 20A 3PG 125 volt full controlled duplex receptacle - No. BR20C2(color), with permanent "controlled" marking, factory applied.
  8. GFI Module (blank face), no indicator light, 20A - No. GFBF20 or equal.
  9. All receptacles located in exterior or wet locations shall be corrosion resistant with UV stabilized body.
  10. All receptacles in locations identified in NEC 406.12 (i.e. dwelling units, hotel/motel guest rooms, child care, preschool, K-12 schools, business office common areas, clinics, medical, and outpatient facilities, assembly area common areas, dormitory units, and assisted living units) shall be tamper resistant.
- F. Plates: Leviton, or equal, except as noted:
1. The color of all faceplates shall match the color of the devices installed under/in the faceplate, except as specifically noted otherwise.
  2. For flush outlet boxes, for switches, and receptacles: nylon, color to be selected by architect, unless otherwise noted.
  3. Plates for surface-mounted outlets: galvanized steel unless otherwise noted.
  4. Weatherproof duplex receptacle plates for exterior locations with ground fault interrupter receptacles in type FS or FD boxes - Hubbell #WPFS26 or compatible equal. Verify cover compatibility with box type and device installed.
  5. Weatherproof "in-use" cover, vertical or horizontal mount, for exterior with GFCI receptacles. Die-cast metal alloy, TayMac MX series or equal with openings to match installed devices.
  6. Locking plates for duplex receptacles where noted; Pass & Seymour #WP26-L (non-weather proof).
  7. Locking plates for duplex exterior GFCI receptacles (or in wet or damp locations); Heavy duty cast aluminum flush cover with locking latch and key, Pass & Seymour #4600 with appropriate mounting plate for type of device installed. Coordinate backbox requirements and finished wall trim-out with wall installer prior to rough-in to insure an adequate and neat trim appearance upon completion.
  8. Plates for flush tele/data boxes: white nylon or as otherwise directed - provide and install at each tele/data outlet plate to match duplex power outlet plate, for jack installation under Section 27 00 00. Where the power and tele/data outlet boxes are shared the plate shall be continuous in multi-gang locations. See drawings.
- G. Equipment Disconnects: All disconnects shall be located to allow proper code required clearance in each area. Locations shown on drawings are diagrammatic only. The contractor shall coordinate exact locations in the field (with other trades) prior to rough-in to insure proper clearances.
1. Motor Disconnect Switches and Safety Switches: General Electric Company Heavy Duty Type "THD", cover interlocked with operating handle so that cover cannot be opened with switch in closed position and switch cannot be closed with cover in open position. 240V or 480V rating, single or multi-pole as required or as noted on drawings, in Nema 1 enclosure indoors or Nema 3R enclosure outdoors unless otherwise noted. Provide dual element motor circuit fuses sized as recommended by equipment manufacturer (for final equipment actually installed).
  2. Code required disconnects: Provide a local disconnect in addition to the branch circuit protection device for all equipment as required by code (whether shown or not). Disconnects shall consist of a motor rated switch (or disconnect) for all motor loads less

than 3/4HP or other suitable disconnect sized to match branch circuit conductors and load current of equipment, with number of poles as required.

- H. Lugs and Connectors: Thomas and Betts "lock-tite", for No. 4 and larger wire; 3M "Scotchlock" fixed spring screw-on type wire connectors with insulator for No. 6 and smaller wire.
  - 1. All splices shall be made up with screw-on type connectors - no plug-in or push-in style connectors acceptable. Wires shall be solidly twisted together with electricians pliers before screw-on connector is installed to ensure a proper connection in the event of wire nut failure. No exceptions.
  - 2. Connectors listed or labeled for "no wire twisting required" are not an acceptable substitute for actual wire twisting.
  - 3. Utilize porcelain type connectors in all high temperature environments (above 105 degrees Celsius).
- I. Splice Insulation: "Scotch" electrical tape with vinyl plastic backing or rubber tape with protective friction tape for interior work.
  - 1. Splices in electrical cables of 600 volt insulation class in underground system duct shall be made only in accessible locations such as pullboxes, light pole handholes, etc., using a compression connector on the conductor and by insulating and waterproofing (for exterior and underground locations) by one of the following methods:
    - a. Cast type splice insulation shall be provided by means of a molded casting process employing a thermosetting epoxy resin insulating material which shall be applied by a gravity poured method or by a pressure injected method. The component materials of the resin insulation shall be in a packaged form ready for convenient mixing after removing from the package. Do not allow the cables to be removed until after the splicing material has completely set.
    - b. Gravity poured method shall employ materials and equipment contained in an approved commercial splicing kit which includes a mold suitable for the cables to be applied. When the mold is in place around the joined conductors, the resin mix shall be prepared and poured into the mold. Do not allow cables to be moved until after the splicing materials have completely set.
- J. Identification: Refer to Section 26 05 00.
- K. Firestopping: as manufactured by 3M Fire Protection Products or equal.
  - 1. Fire-rated and smoke barrier construction: Maintain barrier and structural floor fire and smoke resistance ratings including resistance to cold smoke at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound vibration absorption, and at other construction gaps.
  - 2. Systems or devices listed in the UL Fire Resistance Directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetration type, annular space requirements and fire rating involved in each separate instance, and that the system be symmetrical for wall penetrations. Systems or devices must be asbestos free.

**PART 3 - EXECUTION**

**3.01 REFER TO BASIC ELECTRICAL REQUIREMENTS - SECTION 26 05 00 FOR WORK UNDER THIS SECTION.**

**3.02 TESTS**

- A. Testing and Inspection: See Section 26 08 00 - Testing.

**END OF SECTION**

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**SECTION 28 31 00**

**FIRE ALARM SYSTEM**

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**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. This project shall include the furnishing, installation, connection, programming, commissioning, and testing of new fire alarm equipment required to form a complete coordinated system ready for operation at the project. Equipment shall be networked if indicated on the drawings. The fire alarm system shall include, but not be limited to, alarm initiating devices, alarm notification appliances, voice evacuation system, control panel (with multiple panels at different buildings networked together where indicated on the drawings, auxiliary control devices, annunciators at each building, power supply extender panels (as required), amplifiers, and all associated wiring (fiber optic network and copper system cabling).
- B. The system shall generally consist of a standalone fire alarm control panel with power supply extender panels and amplifiers at each building, or if indicated on the drawings a networked system with fire alarm control panels at each building, to control and operate all initiation and notification appliances at each building. The standalone fire alarm control panel shall include a digital dialer with off-site monitoring connection in order to identify the specific location of the control panel to the Fire Department. If a networked system is indicated on the drawings, each fire alarm control panel shall be identified for the specific building it controls and shall include a digital dialer with off-site monitoring connection in order to identify the specific building to the Fire Department. All panels at the facility shall be networked together in order to allow the central main fire alarm control panel (main FACP) to monitor each building on the site. Each building shall include a local LCD style annunciator. .
- C. Alarms/troubles at each building shall activate the local notification devices (or report troubles) at the respective building panel only and report the alarms/troubles to the main fire alarm control panel, but shall not activate other building notification devices.
- D. The work shall include all required programming to allow proper sequence and operation as required by code. Final programming shall be done based on the actual physical room names and numbers used on site, if different from the room names or numbers on the approved plans.
- E. Provide CBC 2019 compliant seismic installation. See Section 26 0500 for all certification and submittal requirements.
- F. All work shall comply with Sections 26 0500 and 26 2700.

**1.02 SCOPE OF WORK**

- A. This specification outlines the requirements for a microprocessor based, addressable (intelligent) automatic fire detection and alarm system. The system and components shall be supplied by one manufacturer of established reputation and experience who shall have produced similar apparatus for a period of at least five (5) years and who shall be able to refer to similar installations in public buildings rendering satisfactory service.
- B. The work described in this specification consists of all labor, materials, equipment and services necessary and required to complete and program and test the automatic fire detection and alarm system. Any material not specifically mentioned in this specification or not shown on drawings but required for proper performance and operation shall be furnished, installed, and connected complete.
- C. Where a networked system is indicated on the drawings, the work shall include all required programming to allow network operation between each control panel, for central monitoring from the Main FACP.

- D. Final system programming (or re-programming for existing systems) shall be done based on the actual physical room names and numbers used on site, if different from the room names or numbers on the approved plans.
- E. The contractor shall contact the local fire department and/or emergency communications authority to obtain local testing and acceptance criteria for emergency radio responder criteria.
  - 1. Contractor is to provide testing of the facility to ensure the entire structure meets approved radio coverage for emergency responders within the building. Coverage shall be in accordance with California Fire Code (CFC) section 510. Testing shall be coordinated with, and witnessed by, the local Fire Department, and shall be performed by a certified qualified technician as defined in section 510.5.2 of the California Fire Code. Testing shall be performed at a time when the building structure, including ceilings and walls, is judged adequately complete by the Fire Department.
  - 2. The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95% of all areas on each floor of the building meet signal strength requirements in sections 510 4.1.1 and 510 4.1.2 of the California Fire Code. Areas designated as vital, as determined by the Fire Department, shall have 99% coverage at signal strength required. Signal strength shall be measured on frequencies defined in section 510.4.2.2 of the CFC and as required by the Fire Department. Minimum signal strength of -95 dBm shall be receivable within the building and received by the agency's radio system outside the building, when transmitted from within the building.
  - 3. For passing tests, document the results of the test and submit with project close-out documentation.
  - 4. If the building/structure cannot support the required radio coverage, the Owner and the Architect shall be immediately notified, and a plan of action shall be put in place by the Owner and the design / construction team, for implementation of an augmented amplification system as required by section 510.4.2 of the California Fire Code.

### **1.03 REQUIREMENTS**

- A. This installation shall be made in accordance with the drawings, specification and the following:
  - 1. National Electrical Code Article 760
  - 2. NFPA Standard 72
  - 3. Local Codes and Authorities Having Jurisdiction
  - 4. ADA requirements and regulations.
- B. Fire Watch:
  - 1. Provide an AHJ approved Fire Watch plan and Fire Watch for any portion of the fire alarm system that is left inoperative in a normally occupied building.
  - 2. At no time during the project shall a normally occupied building, or portion thereof that remains occupied, be left without a functioning fire alarm system, unless an approved Fire Watch is provided.
  - 3. Include all required planning and labor for a Fire Watch, where required.

### **1.04 RELATED WORK**

- A. Division 26: Basic materials and methods
- B. Division 21: Fire protection systems
- C. Division 23: HVAC systems
- D. Division 23: Fire Smoke Dampers

### **1.05 FIRE ALARM SYSTEM DESCRIPTION**

- A. The system shall be a supervised, non-coded, 24 volt DC, power limited system, networked if indicated on the drawings, and shall be capable of having all addressable initiation devices on the system in alarm at one time. Notification device circuits shall be wired Class B. Initiation

device circuits shall also be wired Class B. A single ground or open on any initiating device circuit or notification appliance circuit shall not cause system malfunction, loss of operating power, or the ability to report an alarm.

- B. Provide initiation, notification and other devices as per specifications and indicated on drawings.
- C. Indicate alarms, supervisory, and trouble signals on the main fire alarm control panel and annunciator at each building and at the building fire alarm control panel in a networked system.
- D. Initiate signals to control (shut-off) HVAC system units and FSD's as per drawings and as required by code.
- E. Transmit alarm signals to off-site reporting agency via a digital communicator at each fire alarm control panel, with specific building address ID.
- F. For buildings with elevators:
  - 1. Each elevator machine shall be provided with a smoke detector to facilitate elevator recall as outlined below.
  - 2. Each elevator machine room and the top of each elevator shaft shall be provided with a heat detector mounted within 2 feet of any sprinkler head (when sprinklers are provided), to facilitate elevator power shunt trip as outlined below.
  - 3. Each elevator landing shall be provided with a smoke detector to facilitate elevator recall as outlined below.
  - 4. Control modules shall be provided at the elevator machine room to initiate recall and alternate recall functions as outlined below.
  - 5. Control modules shall be provided at any elevator smoke doors to initiate smoke door release upon local landing smoke detector alarm.
  - 6. Activation of any machine room, elevator shaft, or elevator landing smoke detector shall initiate elevator recall functions to the main floor, via a signal to the associated control module. Exception; the main floor elevator landing or machine room detector shall initiate elevator recall to the alternate floor via a signal to the associated control module.
  - 7. Activation of any machine room or shaft heat detector shall initiate elevator main power shunt trip for disconnection of power prior to application of any water onto or into the elevator equipment or shaft, from the sprinkler system.
- G. The fire alarm system shall function as follows when any smoke or duct detector, waterflow switch, manual station or other initiating device operates:
  - 1. Operate required audible/visual and visual devices indicated on the drawings.
  - 2. Automatically notify off-site reporting agency.
  - 3. Indicate at the control panel alphanumeric display the number and location of the alarmed device.
  - 4. Light an indicating lamp on the smoke detector initiating the alarm.
  - 5. Light an indicating lamp on the remote annunciator indicating the location alarmed as well as the type of device alarmed (area smoke detector, duct detector, manual pull station, waterflow switch, kitchen fire suppression system panel, valve supervisory switch, etc.).
- H. Provide additional system features and capacities as indicated in Part 2 of this Section of the Specifications.

**1.06 GUARANTEE**

- A. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance.

**1.07 SUBMITTALS**

- A. Submit fire alarm shop drawings and product data sheets in accordance with Division 1 and Section 26 05 00.
- B. This Contractor shall submit the completed Fire Alarm Shop Drawings, with associated equipment cut sheets and CSFM listings, to the local Fire Department and submit for a separate Fire Alarm System Permit as required by the local authority. Final Fire Alarm System approval (by the AHJ) and Permit shall be based on the shop drawings submitted and completed by the Contractor. The design drawings are for overall system requirements and layout only.
- C. Shop Drawings shall indicate the following: building floor plan, location and type of devices, conduit and wire quantities, power requirements, complete wiring point-to-point diagrams, details, and locations of fire alarm and remote annunciator panels. Submittal shall include a system 1-line riser diagram with all devices and equipment and interconnections shown.
- D. Submit manufacturer's installation instructions including back-box requirements for each piece of equipment.
- E. Submit manufacturer's operating instructions and maintenance data.
- F. Submit voltage drop and battery calculations.

**1.08 APPLICABLE PUBLICATIONS**

The publications listed below form a part of this specification.

- A. National Fire Protection Association (NFPA) - USA:
  - No. 70 National Electrical Code (NEC)
  - No. 72 National Fire Alarm Code
  - No. 101 Life Safety Code
- B. Underwriters Laboratories Inc. (UL) - USA:
  - No. 268 Smoke Detectors for Fire Protective Signaling Systems
  - No. 864 Control Units for Fire Protective Signaling Systems
  - No. 268A Smoke Detectors for Duct Applications
  - No. 521 Heat Detectors for Fire Protective Signaling Systems
  - No. 464 Audible Signaling Appliances
  - No. 1971 Visual Signaling Appliances
  - No. 38 Manually Actuated Signaling Boxes
  - No. 346 Waterflow Indicators for Fire Protective Signaling Systems
- C. Local and State Building Codes.
- D. All requirements of the Authority Having Jurisdiction (AHJ).

### 1.09 APPROVALS

- A. Fire alarm control panels and all peripherals shall have proper listing and/or approval from Underwriters Laboratory (UL) and be California State Fire Marshall listed and approved.

## PART 2 - PRODUCTS

### 2.01 EQUIPMENT AND MATERIAL, GENERAL

- A. All equipment and components shall be new, and the manufacturer's current model.
- B. The system shall be UL 864 (9th Edition) listed.
- C. Acceptable System Manufacturers:
  - 1. Existing Systems; to match existing at facility.
- D. All equipment and components shall be installed in strict compliance with manufacturers' recommendations.
- E. All Equipment shall be attached to and ceiling/floor assemblies and shall be held firmly in place. (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

### 2.02 CONDUIT, BOXES, AND WIRE

- A. All conduit and wire shall comply with section 26 27 00 of these specifications.
- B. Conduit:
  - 1. Conduit shall be in accordance with The National Electrical Code (NEC), local and state requirements.
  - 2. Conduit fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single conduit.
  - 3. Cable must be separated from any open conductors of Power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, as per NEC Article 760-29.
  - 4. Conduit shall be 3/4 inch minimum.
- C. Wire:
  - 1. All fire alarm system wiring shall be new and installed in conduit. All wiring shall be in conformance with fire alarm system manufacturer's requirements.
  - 2. Wiring shall be in accordance with local, state and national codes (e.g., NEC Article 760). Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 16 AWG for initiating device circuits and signaling line circuits, and 12 AWG for Notification device circuits.
  - 3. All field wiring shall be completely supervised, Class B for initiation loops, and Class B also for notification loops with end-of-line devices located as shown on the riser diagram.
  - 4. If indicated on the drawings, Class A loops shall be used for initiation circuits, and shall always include a return cable to the fire alarm panel terminals, per Class A and manufacturer's wiring requirements.
  - 5. All cable used in conduit outdoors or underground shall be Outside Plant Rated.
  - 6. Network communications loop shall be a 50/125 multi-mode fiber optic outside plant cable installed in inner-duct in the fire alarm site conduit and shall link all control panels if networked system is indicated on the drawings.
- D. Terminal Boxes, Junction Boxes and Cabinets:
  - 1. All boxes and cabinets shall be UL listed for their use and purpose.
  - 2. Outlet boxes for surface mounting shall be fire alarm listed use boxes with exactly the same size of the device. Standard galvanized outlet or j-boxes are not acceptable.
- E. Each Fire Alarm Control Panel and expander panel shall be connected to a separate dedicated branch circuit, maximum 20 amperes. This circuit shall be labeled at the power panel as FIRE

ALARM and include a breaker handle lock for the dedicated breaker. Fire alarm control panel primary power wiring shall be #12 AWG. The control panel cabinet shall be properly grounded.

- F. For buildings with elevators, the elevator shunt-trip circuit shall be a dedicated 20 amperes branch circuit. This circuit shall also be labeled at the power panel as FIRE ALARM ELEVATOR SHUNT TRIP and include a breaker handle lock for the dedicated breaker.

**2.03 INITIATION DEVICES**

- A. A monitor module interface device shall be provided for required interface points such as water flow devices and tamper switches, or any contact type devices as indicated on drawings. This interface device shall have one or two Class B (Style 4) circuits as required.

**2.04 BATTERIES**

- A. Batteries shall be 12 volt, sealed type, with combined Amp-Hour ratings as required by Code.
- B. Battery shall have a minimum sufficient capacity to power the fire alarm system for not less than twenty-four hours in standby mode, plus 15 minutes of full system alarm upon a normal AC power failure.
- C. The batteries are to be completely maintenance free, no liquids required. Fluid level checks, refilling, spills and leakage control shall not be required.

**2.05 CONTROL DEVICES**

- A. Control modules shall be provided as indicated on the drawings for fire alarm output functions. These devices shall be connected to the Network Communications Lines, and be field programmable for one of the following options; Remote Relay (form C 1amp 24vdc, 200ma 120vac) with supervised relay operation; Remote Supervised Indicating Appliance Circuit ( fused at 1 amp). There shall be an LED on the device that shall flash to indicate the unit is being monitored and a steady LED to indicate the unit has been activated. Secondary relays with control power connections shall be provided as required where contact ratings (voltage & amps) so dictate.

**PART 3 - EXECUTION**

**3.01 INSTALLATION**

- A. Installation, programming and testing shall be performed by current factory-authorized contractor of the specified system.
- B. Installation shall be in accordance with the NEC, NFPA 72, local and state codes, as shown on the drawings, and as recommended by the major equipment manufacturer.
- C. All conduit, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas. Smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.
- D. All fire detection and alarm system devices, control panels and remote annunciators shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas.
- E. Provide identification labeling on all initiation and notification devices to identify loop and device number/address. Labeling shall consist of min. 3/8" black lettering on white background P-Touch style adhesive labels with machine printing, Helvetica font or similar.
- F. At the final inspection a factory trained representative of the manufacturer of the major equipment shall perform the tests in Section 3.3 TESTING.
- G. Wiring:
  - 1. See Part 1 of this Section of the Specification and the drawings for wiring requirements.



2. When (3) or more visual notification devices are located within the same field of view and are less than 55 feet apart (within the field of view), all devices within that field of view shall be synchronized to provide the same flash rate and frequency. Provide all required sync modules and compatible strobe devices to provide a synchronized output.

### **3.02 PROGRAMMING**

- A. Provide system programming as required by code to provide a fully functional system. Final programming shall be done based on the actual physical room names and numbers on site, if different from the room names or numbers on the approved plans.
- B. Include changes to existing system programming (if existing), to accommodate the new devices and equipment, as well as any sequence of operation changes.
- C. When the device address(es) shown on plan is already programmed to an existing device, use another available address and show any changes or revisions on the as-built drawings during the project closeout.

### **3.03 TESTING**

- A. Refer to Scope of Work in Part 1 of this section for required emergency radio responder system testing requirements and documentation.
- B. Provide the service of a competent, factory trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system. Each building shall be separately tested as completed and where a networked system is indicated on the drawings, the entire networked system tested just prior to project completion. Include contractor pre-test for each building prior to the final AHJ testing to insure a suitable final test result.
  1. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
  2. Close each sprinkler system flow valve and verify proper supervisory alarm at the respective FACP and/or annunciator.
  3. Verify activation of all flow switches.
  4. Open initiating device circuits and verify that the trouble signal actuates at the respective FACP and/or annunciator.
  5. Open and short all notification appliance circuits and verify that trouble signals actuate at the respective FACP and/or annunciator.
  6. Ground circuits and verify response of trouble signals at the respective FACP and/or annunciator.
  7. Check presence and audibility of tone at all alarm notification devices.
  8. Check installation, supervision, and operation.
  9. Verify that each initiating device alarm is properly received and processed by the respective FACP and annunciator (Walk Test).
  10. Conduct tests from each FACP to verify trouble indications for common mode failures, such as alternating current power failure.
- C. Test reports shall include, but not be limited to:
  1. A complete list of equipment installed indicating proper operations as listed above.
  2. Point print of all devices connected to all the FACP's.

### **3.04 FINAL INSPECTION**

- A. Final acceptance will require the contractor to deliver to the Owner the following;
  1. A single bookmarked PDF file of the operating instructions and system maintenance manuals.
  2. A single bookmarked PDF file of record drawings.
  3. A single bookmarked PDF file of the final test reports.

4. A single bookmarked PDF file indicating the name and phone number of person to contact in the event of equipment failure, and date when system warranty will be terminate.
  5. A single bookmarked PDF file of data sheets for each piece of equipment supplied.
- B. The fire alarm system notification audibility and intelligibility shall be tested and approved prior to final acceptance. Verify that all occupied spaces in the buildings are provided with adequate audibility and intelligibility of the temporal 3 alarm tone and voice evacuation recorded message. Test to be conducted in the presence of the IOR, who will provide acceptance of test outcome. Provide, install, and test additional alarm devices as required, if any deficiencies are noted.

**3.05 GUARANTEE**

- A. See Part 1 of this Section of the Specifications.

**3.06 INSTRUCTION**

- A. Provide complete instruction manuals and training to the building personnel. "Hands-on" demonstrations of the operation of all system components and the entire system shall be provided.

**END OF SECTION**



www.firelite.com

January 28, 2005

DF-51276 • A1-100

# MS-9200(C/E) Addressable Fire Alarm Control Panel

Section: Addressable

## GENERAL

The **Fire•Lite MS-9200** is a compact, cost-effective, addressable fire alarm control panel with a capacity of 198 **Fire•Lite 300 Series** devices. A single Signaling Line Circuit (SLC) loop supports up to 99 smoke detectors and 99 control or monitor modules. The panel uses surface-mount technology and is designed for ease of installation and programming. It features the latest in fire protection technology, including maintenance alert and automatic detector test. Its new, larger enclosure is capable of housing 12.0 AH batteries.

The MS-9200 includes on the motherboard (rev. PC-D) built-in interfaces for a printer and remote annunciators (on panels manufactured after September 1, 2001).

## FEATURES

### SLC Loop

- SLC can be configured for NFPA Style 4, 6, or 7 operation.
- SLC supports up to 198 addressable devices [99 detectors and 99 monitor or control modules], including new addressable dual monitor module.
- SLC loop maximum length 10,000 ft. (3,048 m) @ 12 AWG (3.1 mm<sup>2</sup>).

### Notification Appliance Circuits (NACs)

- Dual Integral NACs, Style Y or Z (Class B or A).
- Silence Inhibit and Auto Silence timer options.
- Alarm, trouble and supervisory relays, standard.
- May be programmed for Steady, March Time, Temporal or California code (*requires software P/N 73750 or greater*).
- 3.0 amp NAC power, expandable to 6.0 amps.

### Programming and Software

- Autoprogram and Walk Test features identify two or more devices set to same address.
- Keypad programmable on panel, with two user-defined passwords, plus an Autoprogram feature.
- Custom English labels per point may be manually entered or selected from an internal library file.
- Remote Acknowledge, Silence, Reset and Drill via MMF-300 modules and LCD-40 remote annunciators.

### User Interface

- Integral 40-character LCD display with backlighting.
- Real-time clock/calendar.
- History file with 500-event capacity.

### Advanced Fire Technology

- Maintenance alert warns when smoke detector dust accumulation is excessive.
- Battery charger for up to 60 hours of standby power.
- Waterflow or supervisory selection per monitor point.
- System alarm verification selection, smoke only.



California  
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Marshal  
7165-0075:158  
(MS-9200)



MS9200.tif

- Fuseless, power-limited technology meets UL power-limiting requirements.
- Detector sensitivity printout (requires v2.1 software).
- Presignal delay option per NFPA 72.
- Rapid poll algorithm for manual stations. Responds to alarm/activation in less than two seconds.
- Operates with untwisted, unshielded wire (up to 1,000 ft./304.8 m) for retrofit applications (U.S. Patent 5,210,523).
- 300 Series addressable devices feature decimal address selection. Address of each device can be easily set in the field by use of a screwdriver.
- UDACT-F Digital Alarm Communicator reports 56 zones or 198 points to a Central Station.
- Built-in printer interface — UL listed for permanent attachment.
- LCD-40 Series alphanumeric, 40-character, backlit remote serial annunciators operate over built-in high-speed EIA-485 port. Up to 32 may be supported on the MS-9200 (*requires software P/N 73750 or greater*).

**Fire•Lite® Alarms** is a Honeywell company.

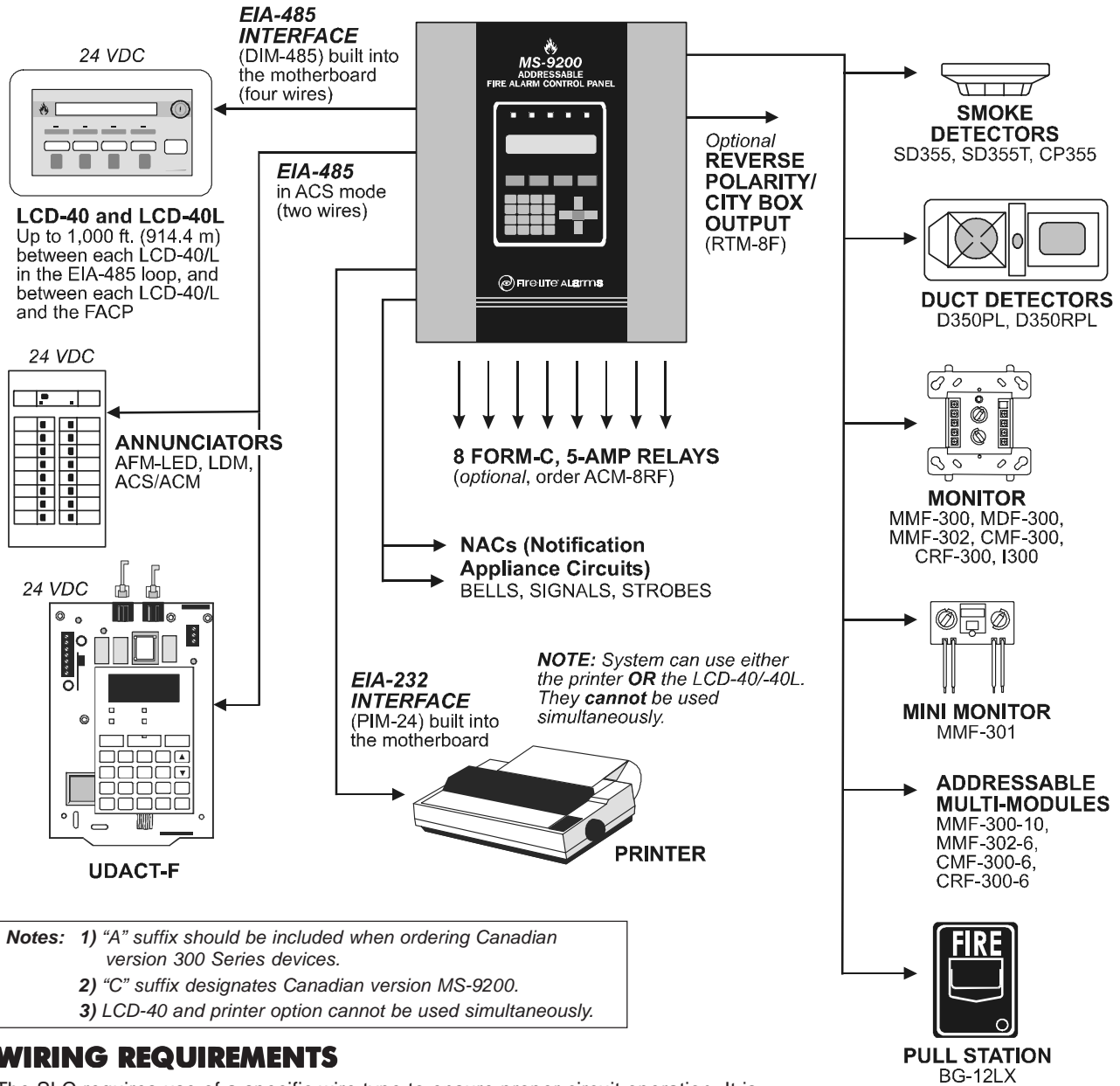
This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information, contact Fire•Lite Alarms, One Fire-Lite Place, Northford, Connecticut 06472. Phone: (800) 627-3473, Toll-Free FAX: (877) 699-4105.



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# SYSTEM PERIPHERALS AND WIRING



## WIRING REQUIREMENTS

The SLC requires use of a specific wire type to ensure proper circuit operation. It is recommended that all SLC wiring be twisted-pair shielded to minimize the effects of electrical interference. Wire size should be no smaller than 18 AWG (0.78 mm<sup>2</sup>) and no larger than 12 AWG (3.1 mm<sup>2</sup>) wire.

The wire size depends on the length of the SLC circuit. Use the table below to determine the specific wiring requirements for the SLC.

Wire Requirements	Distance in Feet (m)	Typical Wire Size
Twisted-pair, shielded	10,000 feet (3,048 m)	12 AWG (3.1 mm <sup>2</sup> ): Belden 9583, Genesis 4410, Signal 98230, WPW D999.
Twisted-pair, shielded	8,000 feet (2,438 m)	14 AWG (2.00 mm <sup>2</sup> ): Belden 9581, Genesis 4408, Signal 98430, WPW D995.
Twisted-pair, shielded	4,875 feet (1,486 m)	16 AWG (1.3 mm <sup>2</sup> ): Belden 9575, Genesis 4406 and 4606, Signal 98630, WPW D991.
Twisted-pair, shielded	3,225 feet (983 m)	18 AWG (0.78 mm <sup>2</sup> ): Belden 9574, Genesis 4402 and 4602, Signal 98300, WPW D975.
Unwisted, unshielded	1,000 feet (305 m)	12 – 18 AWG (3.1 – 0.78 mm <sup>2</sup> ).

## COMPATIBLE ADDRESSABLE DEVICES

All feature a polling LED and rotary address switches.

**CP355:** Addressable ionization smoke detector.

**SD355/SD355T:** Addressable photoelectric smoke detector (T = with thermal sensor).

**D350PL/D350RPL:** Addressable duct detector (R = with relay).

**MMF-300:** Addressable monitor module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4" (10.16 cm) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) initiating device circuit.

**MDF-300:** Dual monitor module. Same as MMF-300 except it operates in Style B (Class B) only. Provides two Class B circuits.

**MMF-301:** Miniature version of MMF-300. Excludes LED and Style D option. Connects with wire pigtailed. May mount in device backbox.

**MMF-302:** Similar to MMF-300, but may monitor up to 20 conventional two-wire detectors. Requires external 24 VDC power. Consult factory for compatible smoke detectors.

**CMF-300:** Addressable control module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4" (10.16 cm) electrical box. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

**CRF-300:** Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4" (10.16 cm) box, surface mount using the SMB500.

**MMF-300-10:** Ten-input monitor module. Mount one or two modules in a BB-2F cabinet (*optional*). Mount up to six modules on a CHS-6 chassis in a BB-6F.

**MMF-302-6:** Six-zone interface module. Mount one or two modules in a BB-2F cabinet (*optional*). Mount up to six modules on a CHS-6 chassis in a BB-6F.

**CMF-300-6:** Six-circuit supervised control module. Mount one or two modules in a BB-2F cabinet (*optional*). Mount up to six modules on a CHS-6 chassis in a BB-6F.

**CRF-300-6:** Six Form-C relay control module. Mount one or two modules in a BB-2F cabinet (*optional*). Mount up to six modules on a CHS-6 chassis in a BB-6F.

**I300:** This module isolates the SLC loop from short circuit conditions (*required for Style 7 operation*).

**BG-12LX:** Addressable manual pull station with interface module mounted inside.

**Compatible with legacy Fire•Lite 300 Series devices.** Please consult factory for further information on all the previous 300 Series devices: CP300/CP350, SD300(T)/SD350(T), D350P/D350RP, C304, M300, M301, M302, C304, and BG-10LX. **NOTES:** 1) "A" suffix should be included only when ordering ULC listed units (e.g. SD350A, MMF-300A). 2) For more on MS-9200 **Compatible Addressable Devices**, please see the following data sheets (document numbers): **SD355/SD355T** (DF-52384), **CP355** (DF-52383), **DH350PL/DH350RPL** (DF-52176), **MMF-300 Series/MDF-300 Monitor Modules** (DF-52121), **MMF-300-10** (DF-52347), **MMF-302-6** (DF-52356), **CMF-300-6** (DF-52365), **CRF-300-6** (DF-52374), **I300** (DF-52389), and **BG-12LX** (DF-52013).

## EIA-232 PORT

**PIM-24:** Printer/PC interface module, cable, DB9F connector and 9-pin male to 25-pin female adapter.

**DIM-485:** LCD-40 display interface module.

**NOTE:** PIM-24 and DIM-485 options are not available simultaneously. Neither the PIM-24 or DIM485 is needed with the MS-9200 motherboard Rev. PC-D.

## COMPATIBLE ANNUNCIATORS/DEVICES USING EIA-485 PORT

**LCD-40 Series:** 40-character, backlit LCD-type fire annunciators capable of displaying English-language text (requires one DIM-485 per MS-9200 panel to interface with up to 32 LCD-40 annunciators). Requires software P/N 73750 or greater — contact Fire•Lite Technical Services about software compatibility questions.

**AFM/AFM-X Series:** LED-type fire annunciators capable of providing up to 56 software zones of annunciation. Available in increments of 16 or 32 with expandable (AFM-X Series) and non-expandable (AFM Series) configurations to meet a variety of applications.

**LDM Series:** Lamp Driver Module series for use with custom graphic annunciators.

**UDACT-F:** Digital Alarm Communicator Transmitter.

**NOTE:** For more on MS-9200 **Compatible Annunciators and Compatible EIA-485 Port Devices**, please see the following data sheets (document numbers): **LCD-40** (DF-51474), **AFM/AFM-X** (DF-51465), **LDM Series** (DF-51384), and **UDACT-F** (DF-51294).

## FIELD-PROGRAMMING FEATURES

**Off-Line Programming:** Create entire program in your office using a Windows®-based PC computer (order programming kit PK-9200W separately). Upload/Download system programming locally to the MS-9200 in less than one minute.

**Auto-Programming:** Command the MS-9200 to program itself (takes less than 30 seconds). In the Auto-Program mode, the MS-9200 scans for all possible devices at all addresses, stores the device types, and addresses found, and then loads default values for all options (General Alarm). It also checks for two or more devices set to the same address.

**On-Line Edit:** While still providing fire protection, the MS-9200 may be programmed from the front panel. Simple menu trees displayed on the LCD allow the trained user to perform all functions without referring back to the programming manual.

**English Label Library:** Quickly select labels from a standard library of more than 50 adjectives/nouns, such as "FLR 3 HALLWAY," or enter custom labels letter-by-letter. Use recall function to repeat previously used label.

**Program Check:** Automatically catch common errors, such as relays not linked to any zone or point.

## MAINTENANCE ALERT

The MS-9200 continually monitors each smoke detector and responds to a reading of 80% of the detectors alarm threshold. If the detector continually reports an 80% threshold reading (8/10 of what is required to be an alarm condition) for 24 hours, a trouble condition is created. This reduces the risk of false alarms due to dust and dirt by alerting a trouble (maintenance) condition rather than initiating a false alarm.

## AUTOMATIC TEST OPERATION

The MS-9200 performs an automatic test of each detector every two hours. Failure to meet the test limits causes an AUTO TEST FAIL trouble type. System Reset clears this trouble.

## NFPA STANDARDS

The MS-9200 complies with the following NFPA 72 Fire Alarm Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow, and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual, and Waterflow) (*requires RTM-8F*).
- **REMOTE STATION** (Automatic, Manual, and Waterflow) (*requires RTM-8F or UDACT-F*).
- **PROPRIETARY** (Automatic, Manual, and Waterflow).
- **CENTRAL STATION** (Automatic, Manual, and Waterflow) (*requires UDACT-F*).

## CABINET SPECIFICATIONS

**Door:** 17.11" (43.46 cm) high x 14.71" (37.36 cm) wide x 0.375" (0.95 cm) deep. **Backbox:** 16.90" (42.93 cm) high x 14.50" (36.83 cm) wide x 4.50" (11.43 cm) deep. **Trim Ring (part # TR-4-R):** 20.02" (50.85 cm) high x 17.62" (44.75 cm) wide.

## SPECIFICATIONS

- **Primary input power for MS-9200 and MS-9200C:** 120 VAC, 50/60 Hz, 2.3 Amps. **Primary input power for MS-9200E:** 220/240 VAC, 50 Hz.
- **Total 24 V system power:** 3.6 A (expandable to 6.6 A).
- **Standard Notification Circuits:** 2 (Style Y or Z).
- **Expansion Notification Circuits:** up to 99 (using CMF300 module).
- **Notification Appliance Power:** 3.0 A (expandable to 6.0A with XRM-24).
- **Four-wire detector power:** 300 mA.\*
- **Non-resettable regulated power:** 300 mA.\*
- **Non-regulated power:** 2.5 Amps maximum.\*
- \*NOTE: Subtract from total 24 VDC source.
- **Battery charger range:** 7 AH – 18 AH (BB-17F battery cabinet for 18 AH batteries).
- **Remote charger (panel charger disabled, requires MS-9200 circuit board #71741, available June 1, 1998):** 25-120 AH (use CHG-120F).
- **Charge float rate:** 27.6 V.
- **Charger current:** limited to 0.8 A.
- **Control panel Alarm, Trouble, Supervisory Relay contact ratings:** 2.0 A @ 30 VDC.

## CONTROLS AND INDICATORS

### LED INDICATORS

1. AC POWER (green).
2. FIRE ALARM (red).
3. SUPERVISORY (yellow).
4. ALARM SILENCE (yellow).
5. SYSTEM TROUBLE (yellow).

### MEMBRANE SWITCH CONTROLS

1. ACKNOWLEDGE/STEP
2. ALARM SILENCE
3. DRILL
4. SYSTEM RESET (lamp test)
- 5 — 16. 12-key pad with full alphabet
- 17 — 20. 4 cursor keys
21. ENTER

### LCD DISPLAY

40 characters (2 x 20) with long-life LCD display, backlit.

## PRODUCT LINE INFORMATION

- MS-9200** Addressable fire alarm control panel. Includes LCD display, single printed circuit board and cabinet.
- MS-9200C** Same as above with ULC listing and DP-1-R dead-front panel.
- 9200RBV2.0** Replacement motherboard.
- MS-9200E** Same as MS-9200 with 220/240 VAC, 50 Hz transformer (UL listed).
- RTM-8F** Plug-in relay transmitter option module. Provides eight Form-C relays, plus municipal box and remote station connections.
- DP-1-R** Full-length internal dress panel (*required for FM applications; included when ordering MS-9200C*).
- UDACT-F** Digital alarm communicator transmitter.
- XRM-24** 120 VAC, 100 VA transformer. Expands system power supply. Expands notification appliance power from 3.0 amps to 6.0 amps.
- PIM-24** Printer interface module required to connect a 40- or 80-column printer.\*\*
- DIM-485** LCD-40 display interface module required to convert EIA-232 to EIA-485 for use with the LCD-40 Series annunciators.\*\*
- PK-CD** Programming Kit for Windows®-based PC computer (*requires PIM-24 and associated hardware*).
- TR-4-R** Trim ring for semi-flush mounting.
- BB-17F** Battery box, required to mount PS-12180 batteries.
- BB-55F** Battery box, required to house two BAT-12250 batteries and one CHG-120F battery charger. *For batteries greater than 25AH, consult factory for housing/mounting arrangements.*
- CHG-120F** Remote battery charging system. *Required for charging 25 to 120 AH batteries (can only be used in conjunction with MS-9200 circuit board #71741).*
- BAT-1270** Battery, 12 volt, 7.0 AH, (*two required*).
- BAT-12120** Battery, 12 volt, 12.0 AH, (*two required*).
- BAT-12180** Battery, 12 volt, 18.0 AH, (*two required*).
- BAT-12250** Battery, 12 volt, 25 AH, (*two required; requires CHG-120F*).
- BAT-12550** Battery, 12 volt, 55 AH, (*two required; requires CHG-120F*).
- FCPS-24F** Remote power supply expands NAC outputs by 6.0 amps or total system power by 4.0 amps.
- FCPS-24FS6** Remote power supply expands NAC outputs by 6.0 amps. Integral battery charger capable of 18 AH.
- FCPS-24FS8** Remote power supply expands NAC outputs by 8.0 amps.
- \*\*NOTE: PIM-24 and DIM-485 options are not available simultaneously. Neither the PIM-24 or DIM485 is needed with the MS-9200 motherboard Rev. PC-D.

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# FCPS-24FS6(C/E)

## 6 Amp, 24 Volt Remote Power Supply



### Power Supplies

The Fire-Lite FCPS-24FS6(C/E) is a compact, cost-effective, 6-amp remote power supplies with battery charger. The FCPS-24FS6(C/E) may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may stand-alone. Primary applications include notification appliance (bell) circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS provides *regulated and filtered* 24 VDC power to four notification appliance circuits configured as either two Class B (Style Y) and Class A (Style Z, with ZNAC-4 option module) or four class B only. Alternately, the four outputs may be configured as any combination of resettable/non-resettable power outputs (optimal for powering four-wire smoke detectors). The FCPS-24FS6(C/E) also contains a battery charger capable of charging up to 7.0 AH batteries. The FCPS-24FS6C is ULC-listed.

**NOTE:** Unless otherwise specified, the term FCPS-24FS6 used in this document refers to the FCPS-24FS6, FCPS-24FS6C, and FCPS-24FS6E.

### Features

- UL-Listed Notification Appliance Circuit (NAC) synchronization using System Sensor®, Wheelock®, or Gentex® “Commander2” appliances
- Operates as a “sync-follower” or as a “sync-generator” (default) See note on page 2.
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently “ON” (stand-alone mode)
- Two Class B (Style Y) or Class A (Style Z, with ZNAC-4 module) NACs (circuits 1 & 3)
- 6-amp full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864)
- 4-amp continuous output in stand-alone mode (UL 1481)
- Compatible with coded inputs; signals passed through
- Optional power-supervision relay (EOLR-1)
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power
- Power-limiting technology meets UL power-limiting requirements
- Form-C normally-closed trouble relay
- Fully supervised power supply, battery, and NACs
- Selectable earth fault detection
- AC trouble report selectable for immediate 2-hour delay
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated bell power)
- Requires input trigger voltage of 9 - 32 VDC
- Self-contained in compact, locking cabinet - 15”H x 14.5”W x 2.75”D (cm: 38.1H x 36.83W x 6.985D)
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries
- Battery charger may be disabled via DIP switch for applications requiring larger batteries
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm<sup>2</sup>) wire



### Specifications

#### Primary (AC) Power:

- FCPS-24FS6/C: 120 VAC, 60 Hz, 3.2A maximum
- FCPS-24FS6E: 240 VAC, 50 Hz, 1.6A maximum
- Wire Size: minimum #14 AWG (2.0mm<sup>2</sup>) with 600 V insulation

#### Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V)

#### Trouble Contact Rating: 5 A at 24 VDC

**Auxiliary Power Output:** Special application power 500 mA maximum

#### Output Circuits:

- +24 VDC filtered, regulated
- 3.0 A maximum for any one circuit
- Total continuous current for all outputs (stand-alone mode): 4.0 A maximum
- Total short-term current for all outputs (NAC expander mode): 6.0 A maximum

#### Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only
- Float-charge voltage: 27.6 VDC
- Maximum current charge: 250 mA
- Maximum battery capacity: 7.0 AH

## Applications

**Example 1:** Expand notification appliance power an additional 6.0 A. Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

**Example 2:** Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A. Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

**Example 3:** Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances\* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

**\*NOTE:** Addressable FACP's are capable of locating control and monitor modules at distances of up to 10,000 feet (3,046 meters).

## Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24FS6 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24FS6 is configured (via DIP switch settings) as a "sync follower," the FCPS' NAC outputs track the strobe synchronization pulses present at the FCPS' sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24FS6 is configured (via DIP switch settings) as a "sync generator," the FCPS' sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS' NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

## Standards and Codes

The FCPS-24FS6 complies with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

## Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S2424, S1287
- **ULC Listed:** S2424
- **CSFM Approved:** 7315-0075:0206
- **MEA:** 387-94E
- **FM Approved**

## Ordering Information

**FCPS-24FS6:** 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions

**FCPS-24FS6C:** Same as FCPS-24FS6, ULC-listed

**FCPS-24FS6E:** 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions

**ZNAC-4:** Class A (Style Y) NAC option module

**EOLR-1:** 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power

**BAT-1270:** Battery, 12-volt, 7.0 AH (two required)

**PS-1270:** Battery, 12-volt, 7.0 AH (two required)

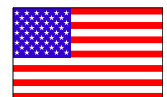
**90286:** Optional module mounting kit, is required to install an addressable module on the power supply main circuit board

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We try to keep our product information up-to-date and accurate.  
We cannot cover all specific applications or anticipate all requirements.  
All specifications are subject to change without notice.

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.  
www.firelite.com



Country of Origin: USA



# MMF-300(A) Series, MDF-300

## Addressable Monitor Modules



Addressable Devices

### General

Four different monitor modules are available for Fire•Lite's intelligent control panels to suit a variety of applications. Monitor modules are used to supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (MMF-302(A)).

**MMF-300(A)** is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

**MMF-301(A)** is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the MMF-301(A) to be mounted in a single-gang box behind the device it monitors.

**MMF-302(A)** is a standard-sized module used to monitor and supervise compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

**MDF-300(A)** is a standard-sized dual monitor module used to monitor and supervise two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

LiteSpeed™ is a communication protocol developed by Fire•Lite Engineering that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

### MMF-300(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation and latches on steady to indicate alarm.

The MMF-300(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The MMF-300(A) can be used to replace M300(A) modules in existing systems.

#### MMF-300(A) APPLICATIONS

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special



MMF-300(A) (Type H)

supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

#### MMF-300(A) OPERATION

Each MMF-300(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

#### MMF-300(A) SPECIFICATIONS

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.0 mA (LED on).

**Average operating current:** 375  $\mu$ A (LED flashing), 1 communication every 5 seconds, 47k EOL.

**Maximum IDC wiring resistance:** 1500 Ohms.

**Maximum IDC Voltage:** 11 Volts.

**EOL resistance:** 47K Ohms.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

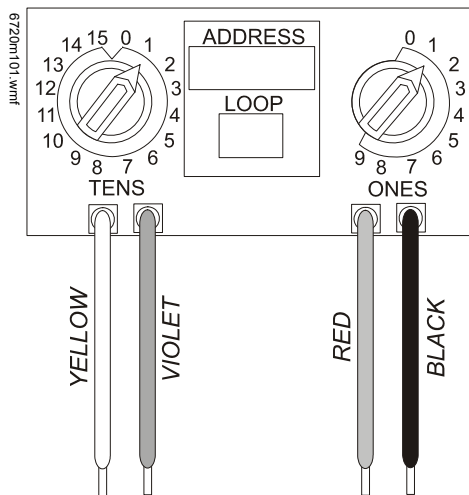
**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

#### MMF-301(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.

- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems



The MMF-301(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The MMF-301(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm devices. The MMF-301(A) can be used to replace M301(A) modules in existing systems.

#### MMF-301(A) APPLICATIONS

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

#### MMF-301(A) OPERATION

Each MMF-301(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

#### MMF-301(A) SPECIFICATIONS

**Nominal operating voltage:** 15 to 32 VDC.

**Average operating current:** 350  $\mu$ A, 1 communication every 5 seconds, 47k EOL; 600  $\mu$ A Max. (Communicating, IDC Shorted).

**Maximum IDC wiring resistance:** 1500 Ohms.

**Maximum IDC Voltage:** 11 Volts.

**Maximum IDC Current:** 450  $\mu$ A.

**EOL resistance:** 47K Ohms.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

**Wire length:** 6" (15.24 cm) minimum.

### MMF-302(A) Interface Module

- Supports compatible two-wire smoke detectors.

- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation.
- LED latches steady to indicate alarm on command from control panel.

The MMF-302(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The MMF-302(A) can be used to replace M302(A) modules in existing systems.

#### MMF-302 (A) APPLICATIONS

Use the MMF-302(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

#### MMF-302(A) OPERATION

Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

#### MMF-302(A) SPECIFICATIONS

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.1 mA (LED on).

**Maximum IDC wiring resistance:** 25 Ohms.

**Average operating current:** 270  $\mu$ A, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

**EOL resistance:** 3.9K Ohms.

**External supply voltage (between Terminals T10 and T11):**

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

### MDF-300(A) Dual Monitor Module

The MDF-300(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices. The module has a single panel-controlled LED.

**NOTE:** The MDF-300(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.

#### **MDF-300(A) SPECIFICATIONS**

**Normal operating voltage range:** 15 to 32 VDC.

**Maximum current draw:** 6.4 mA (LED on).

**Average operating current:** 750  $\mu$ A (LED flashing).

**Maximum IDC wiring resistance:** 1,500 Ohms.

**Maximum IDC Voltage:** 11 Volts.

**Maximum IDC Current:** 240  $\mu$ A

**EOL resistance:** 47K Ohms.

**Temperature range:** 32° to 120°F (0° to 49°C).

**Humidity range:** 10% to 93% (non-condensing).

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

#### **MDF-300(A) AUTOMATIC ADDRESSING**

The MDF-300(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the MDF-300(A) is set to address "26", then it will automatically assign itself to addresses "26" and "27".

**NOTE:** "Ones" addresses on the MDF-300(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.

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#### **CAUTION:**

Avoid duplicating addresses on the system.

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**MDF-300(A):** Monitor module, dual, two independent Class B circuits.

**SMB500:** Optional surface-mount backbox.

**NOTE:** See installation instructions and refer to the SLC Wiring Manual, PN 51309.

### **Architects'/Engineers' Specifications**

Specifications of these devices and all FireLite products are available from FireLite.

## **Installation**

MMF-300(A), MMF-302(A), and MDF-300(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The MMF-301(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

## **Agency Listings and Approvals**

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S2424.
- **ULC:** S2424.
- **FM Approved.**
- **CSFM:** 7300-0075:0185.
- **MEA:** 72-01-E.

## **Product Line Information**

**NOTE:** "A" suffix indicates ULC-listed model.

**MMF-300(A):** Monitor module.

**MMF-301(A):** Monitor module, miniature.

**MMF-302(A):** Monitor module, two-wire detectors.

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[www.firelite.com](http://www.firelite.com)



**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
OFFICE OF THE STATE FIRE MARSHAL  
FIRE ENGINEERING & INVESTIGATIONS DIVISION  
BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**

<b>LISTING No.:</b>	7300-0075:0185
<b>CATEGORY:</b>	7300 - FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES
<b>LISTEE:</b>	FIRE-LITE ALARMS INC. One Fire-Lite Place, Northford, CT, 06472 Contact: Brant, Lisa (203) 484-6105 Email: lisa.brant@honeywell.com
<b>DESIGN:</b>	Models MDF-300, MMF-301, MMF-300, MMF-302, MCF-300 monitor modules; Models CRF-300 and CMF-300 control modules; and MMF-302-6 six zone interface signaling device module. Refer to listee's data sheet for additional detailed product description and operational considerations.
<b>RATING:</b>	15-32 VDC
<b>INSTALLATION:</b>	In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
<b>MARKING:</b>	Listee's name, model designation, electrical rating, and UL label.
<b>APPROVAL:</b>	Listed as control unit accessories for use with listee's separately listed electrically compatible fire alarm control units.
<b>NOTES:</b>	

\*Rev. 05-06-05  
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This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

**Date Issued: 05/05/2023**

**Listing Expires: 06/30/2024**

Authorized By: **Damon Lam**, Program Coordinator  
Fire Engineering & Investigations Division

## 100 Series™

### Low-Profile Plug-In Photoelectric Smoke Detectors



#### Conventional Initiating Devices

#### General

100 Series Plug-in Smoke Detectors offer superb performance and reliability in a profile which is just 2" (5.1 cm) deep. Model 2151 (photoelectric sensor) and model 2151T (photoelectric sensor with thermal) can be used with a variety of different adapter bases in several wiring configurations and voltages. Other features include: low current draw, stable performance in high air velocities, built-in tamper resistant base design, remote LED option, removable cover, and built-in test switch.

The 100 Series is designed to meet the performance criteria designated by UL. Its sensing chambers are sealed against back pressure air flow, dirt, and insects. This chamber is protected by a fine mesh screen which can be cleaned or replaced. Additional key features include a variety of mounting bases and a full line of accessories.

All 100 Series photoelectric smoke detectors contain a unique optical sensing chamber designed to sense smoke particles produced by a wide range of combustion sources. A custom integrated circuit incorporates signal processing to reduce false alarms.

**Model 2151(A)** photoelectric detector's unique optical sensing chamber is engineered to sense smoke by a wide range of combustion sources. Dual electronic thermistors add 135°F fixed temperature thermal sensing on model 2151T.

#### Specifications

**Operating Voltage/Alarm Current:** See Adapter Base Selection Guide (*see page 2*).

**Standby Current:** 120µA Standby.

**Sensitivity:** 1 - 3.18%/ft.

**Height:** 2.0" in B401.

**Diameter:** 4.1" installed in B401; 6.2" installed in B110LP.

**Shipping Weight:** 5.2 oz.

**Construction:** Flame retardant thermoplastic.

**Temperature:**

– Photo: 32°F to 120°F (0°C to 49°C).

– Photo/Thermal: 32°F to 100°F (0° to 38°C).

**UL Listed Velocity Range:** Photo: 0–3000 fpm (0–15.2 m/s).

**Humidity Range:** 10%–93% RH non-condensing.

**Smoke Detector Spacing:** On smooth ceilings (as defined in NFPA 72), spacing of 30 feet (900 sq. ft.) may be used as a guide. Other spacing may be used depending on ceiling height, high air movements, and other conditions or response requirements.

#### Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications



may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S911.
- **ULC Listed:** CS308.
- **CSFM:** 7272-1653:0122.
- **FM Approved.**
- **MEA Approved:** 205-94-E.
- **Maryland State Fire Marshal:** #2180.

#### Product Line Information

**2151(A):** Low-profile photoelectric detector. Must be mounted to one of the B100 Series or B400 Series bases listed in the Adapter Base Selection Guide.

**2151T:** Low-profile photoelectric detector with thermal. Must be mounted to one of the B100 Series or B400 Series bases listed in the Adapter Base Selection Guide.

**F110:** Retrofit replacement flange for B400 Series flanged bases.

**RA100Z:** Remote annunciator for 2 or 4 wire systems, 3-32V. Fits standard single gang electrical box.

**SENS-RDR:** Hand-held sensitivity reader.

**SMK400E:** Surface mounting kit provides for entry of surface wiring conduit. For use with B401 or B401R mounting bases only.

**EOLR-1:** End of line relay for power supervision, 12/24 VDC systems.

**M02-04-00:** Test magnet.

**M02-09-00:** Test magnet with 32" telescoping handle.

**XR2B:** Detector removal tool. Allows installation and/or removal of 100 Series detector heads from base in high ceiling installations when used with XP-4.

**XP-4:** Extension pole for XR2B. Comes in three 5 ft. sections.

**C58-227-01:** Replacement dust cover for 100 Series smoke detectors.

**RMK400:** Recessed mounting kit (B401 sold separately).

## Adapter Base Selection Guide

Base Model Number	Loop Type	Current Limit Resistor	Contact Type	Nominal Voltage	Current Draw on Alarm (mA)
B110LP	2-wire*	No	—	12/24 VDC	10-130**
B110RLP/B401BR†	2-wire*	Yes	—	24 VDC	10-62
B112LP/B402†	4-wire	Yes	Form A & C	24 VDC	17-36
B114LP/B404†	4-wire	Yes	Form A & C + A Supervisory	120 VAC	75 mA AC maximum
B116LP/B406†	2-wire*	No	Form C	24 VDC	20-100**
B401†	2-wire*	No	—	12/24 VDC	10-130**

\* Functionality contingent on panel compatibility.

\*\* Must be limited by control panel.

† Flangeless base.

Relay Contact Ratings: Resistive or inductive (60% power factor) load.

Form A: 2.0 A at 30 VAC/DC

Form C: 0.6 A at 110VDC, 2.0 A at 30 VDC

1.0 A at 125VAC, 2.0 A at 30 VAC

## Junction Box Selection Guide\*

Base Model Number	Single Gang	3-1/2" Octagon	4" Octagon	4" Square	50 mm	60 mm	75 mm
B401	No	No	No	No	Yes	Yes	No
B110LP/RLP	Yes	Yes	Yes	Yes	No	No	No
B112LP/B116LP	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B114LP	No	No	Yes	Yes	No	No	No

\* Box depth contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations.

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[www.firelite.com](http://www.firelite.com)



**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
OFFICE OF THE STATE FIRE MARSHAL  
FIRE ENGINEERING & INVESTIGATIONS DIVISION  
BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**

<b>LISTING No.:</b>	7272-1653:0122
<b>CATEGORY:</b>	7272 - SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC
<b>LISTEE:</b>	System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL, 60174 Contact: Brant, Lisa (203) 484-6105 Email: lisa.brant@honeywell.com
<b>DESIGN:</b>	Model 2100, 2100T, 2112TL, 2112/24, 2112/24B, 2112/24D, 2112/24T, 2112/24TB, 2112/24TD, 2112/24TSR, 2112/24TSRB, 2100D, 2100TD, 2151 and *2151T photoelectric smoke detectors. Models 2100, 2100T, 2100D, 2100TD, 2151 and *2151T are 2-wire and Models 2112TL, 2112/24D, 2112/24TD, 2112/24, 2112/24B, 2112/24T, 2112/24TB, 2112/24TSR and 2112/24TSRB are 4-wire. Model with suffix -T employs a 135°F fixed temperature supplemental thermistor type heat sensor. This thermal circuitry is NOT approved for use in lieu of required heat detectors. Refer to listee's data sheet for additional detailed product description and operational considerations.
<b>RATING:</b>	Electrical: 8.5 to 32 VDC
<b>INSTALLATION:</b>	In accordance with listee's printed installation instructions and applicable codes and ordinances. Suitable in open areas with air velocities between 0-3000 ft/min.
<b>MARKING:</b>	Listee's name, model number, electrical rating and UL label.
<b>APPROVAL:</b>	Listed as photoelectric smoke detectors when used in conjunction with separately listed compatible fire alarm control units and bases. For wall and ceiling mount. Refer to listee's Installation Instruction Manual for details.
<b>NOTES:</b>	1. Model 2151 and *2151T is also suitable for use inside ducts when used with listed Models B114LP and B114LPBT (7300-1653:109) detector bases.  2. Formerly 7272-1209:159

\*Rev 03-13-2006  
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**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
OFFICE OF THE STATE FIRE MARSHAL  
FIRE ENGINEERING & INVESTIGATIONS DIVISION  
BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**

<b>LISTING No.:</b>	7300-1653:0109
<b>CATEGORY:</b>	7300 - FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES
<b>LISTEE:</b>	System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL, 60174 Contact: Brant, Lisa (203) 484-6105 Email: lisa.brant@honeywell.com
<b>DESIGN:</b>	Models B401, B401B, B401R, B401BR, B401BR-750, B401R-750, B402B, B404B, B404BT, B406B, B501, B501B, 14506587-002, B501BH, B501BHT, B401BH, B110LP, B110RLP, B110RLP750, B112LP, B114LP, B114LPBT, B116LP, B210LP, B501-BL, B501-IV, *B501-WHITE, B300-6, B300-6-IV, B300-6-IS detector bases. Refer to listee's data sheet for detailed product description and operational considerations.
<b>RATING:</b>	
<b>INSTALLATION:</b>	In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
<b>MARKING:</b>	Listee's name, *model number, *electrical rating and UL label.
<b>APPROVAL:</b>	Listed as detector bases for use with separately listed compatible detectors. *Refer to Manufacturers Installation Instruction Manual for details.
<b>NOTES:</b>	Formerly 7300-1209:128

\*Rev 04-03-18 gt



This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

**Date Issued: 04/21/2023**

**Listing Expires: 06/30/2024**

Authorized By: **Damon Lam**, Program Coordinator  
Fire Engineering & Investigations Division

# Exceder Strobe, Horn Strobe, and Horn Notification Appliances



## Description

The Wheelock Exceder Series of notification appliances feature a sleek modern design that will please building owners with reduced total cost of ownership. Installers will benefit from its comprehensive feature list, including the most candela options in one appliance, low current draw, no tools needed for setting changes, voltage test points, 12/24 VDC operation, universal mounting base and multiple mounting options for both new and retrofit construction.

The Wheelock Exceder Series incorporates high reliability and high efficiency optics to minimize current draw allowing for a greater number of appliances on the notification appliance circuit. All strobe models feature an industry first of 8 candela settings on a single appliance. Models with an audible feature 3 sound settings (90, 95, 99 dB). All switches to change settings, can be set without the use of a tool and are located behind the appliance to prevent tampering. Wall models feature voltage test points to take readings with a voltage meter for troubleshooting and AHJ inspection.

The Wheelock Exceder Series of wall and ceiling notification appliances feature a Universal Mounting Base (UMB) designed to simplify the installation and testing of horns, strobes, and combination horn strobes. The separate universal mounting base can be pre-wired to allow full testing of circuit wiring before the appliance is installed and the surface is finished. It comes complete with a Contact Cover for protection against dirt, dust, paint and damage to the contacts. The Contact Cover also acts as a shunting device to allow pre-wire testing for common wiring issues. The Contact Cover is polarized to prevent it from being installed incorrectly and prevents the appliance from being installed while it is on the UMB. When the Contact Cover is removed the circuit will show an open until the appliance is installed. The UMB allows for consistent installation and easy replacement of appliances if required. Wall models provide an optional locking screw for extra secure installation, while the ceiling models provide a captivated screw to prevent the screw from falling during installation.



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## Features

- Sleek modern aesthetics
- Finger slide switches
- Voltage test points
- Multiple voltages
- 3 Audible settings
  - 90, 95, 99 dB
- Industry leading—8 candela settings on 1 device
  - Wall: 15/1575/30/75/95/110/135/185
  - Ceiling: 15/30/60/75/95/115/150/177



- Universal mounting base
  - Ceiling and wall
  - Mounts to 5 backbox types: 1 gang, 2 gang, 4" square, 3.5" octal. & 4" octal. (100mm for international customers)

### Universal mounting base

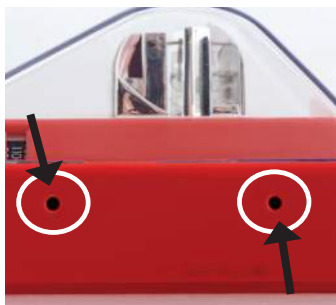


### Contact cover



Common base for wall and ceiling with 5 mounting options

- Voltage test points for quick troubleshooting and easy spot checking (wall models only)



- Environmentally friendly
  - Low current draw
- Up to 9 models now in 1 appliance draw<sup>①</sup>
- 12/24VDC on a single appliance
- Easy to remember model numbers

<sup>①</sup> Patented

**Note:** Please read these specifications and associated installation instructions, before using, specifying, or installing this product. Visit [Eaton.com/massnotification](http://Eaton.com/massnotification) for current installation instructions.

## General Notes

- Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range".
- All candela ratings represent minimum effective strobe intensity based on UL Standard 1971.
- Series Exceder Strobe products are Listed under UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%) UL 464 (85% UL 1971).
- Series Exceder horns are under UL Standard 464 for audible signal appliances (Indoor use only).

## Compatibility and requirements

- Synchronize using the Wheelock® Sync Modules or panels with built-in Wheelock® Patented Sync Protocol
- Compatible with UL "Regulated Voltage" using filtered VDC or unfiltered VRMS input voltage
- Strobes produce 1 flash per second over the "Regulated Voltage" range

## Compliance

- UL 1971, UL 464, ULC, CSFM, FM
- ADA/NFPA/ANSI/OSHA
- RoHS

**Table 1. Strobe Ratings per UL Standard 1971**

Model	Regulated Voltage Range VDC	UL Max Current <sup>①</sup>												12 VDC	
		24 VDC / 24 FWR												15	15/75
		15	15/75	30	60	75	95	110	115	135	150	177	185		
ST	8.0-33.0	0.057	0.070	0.085	—	0.135	0.163	0.182	—	0.205	—	—	0.253	0.110	0.140
STC	8.0-33.0	0.061	—	0.085	0.103	0.135	0.163	—	0.182	—	0.205	0.253	—	0.110	—

**Table 2. Horn Strobe Ratings per UL 1971 & Anechoic at 24 VDC**

Model	Regulated Voltage Range VDC	UL Max Current <sup>①</sup> at Anechoic 99 dBA												12 VDC	
		24 VDC												15	15/75
		15	15/75	30	60	75	95	110	115	135	150	177	185		
HS	8.0-33.0	0.082	0.095	0.102	—	0.148	0.176	0.197	—	0.242	—	—	0.282	0.125	0.159
HSC	8.0-33.0	0.082	—	0.102	0.141	0.148	0.176	—	0.197	—	0.242	0.282	—	0.125	—

Model	Regulated Voltage Range VDC	UL Max Current <sup>①</sup> at Anechoic 95 dBA												12 VDC	
		24 VDC												15	15/75
		15	15/75	30	60	75	95	110	115	135	150	177	185		
HS	8.0-33.0	0.073	0.083	0.087	—	0.139	0.163	0.186	—	0.230	—	—	0.282	0.122	0.153
HSC	8.0-33.0	0.073	—	0.087	0.128	0.139	0.163	—	0.186	—	0.230	0.272	—	0.122	—

Model	Regulated Voltage Range VDC	UL Max Current <sup>①</sup> at Anechoic 90 dBA												12 VDC	
		24 VDC												15	15/75
		15	15/75	30	60	75	95	110	115	135	150	177	185		
HS	8.0-33.0	0.065	0.075	0.084	—	0.136	0.157	0.184	—	0.226	—	—	0.267	0.120	0.148
HSC	8.0-33.0	0.065	—	0.084	0.120	0.136	0.157	—	0.184	—	0.226	0.267	—	0.120	—

① UL max current rating is the maximum RMS current within the listed voltage range (16-33 VDC for 24 VDC units). For strobes the UL max current is usually at the minimum listed voltage (16 VDC for 24 VDC units). For audibles the max current is usually at the maximum listed voltage (33 VDC for 24 VDC units). For unfiltered ratings, see installation instructions.

**Table 3. Horn Ratings per UL Anechoic**

Model	Regulated Voltage Range VDC	99 dB	95 dB	90 dB
HN	16-33.0	0.064	0.044	0.022
HNC	16-33.0	0.084	0.044	0.022
HN	8.0-17.5	0.047	0.026	0.017
HNC	8.0-17.5	0.047	0.026	0.017

**Table 4. Specification & Ordering Information**

Model	Strobe Candela	Sync w/ Wheelock Power Supplies	12/24 VDC <sup>①</sup>	Mounting Options
<b>Horn Strobes</b>				
HSR	15/1575/30/75/95/110/135/185	X	X	UMB <sup>②</sup>
HSW	15/1575/30/75/95/110/135/185	X	X	UMB <sup>②</sup>
HSRC	15/30/60/75/95/115/150/177	X	X	UMB <sup>②</sup>
HSWC	15/30/60/75/95/115/150/177	X	X	UMB <sup>②</sup>
<b>Strobes</b>				
STR	15/1575/30/75/95/110/135/185	X	X	UMB <sup>②</sup>
STW	15/1575/30/75/95/110/135/185	X	X	UMB <sup>②</sup>
STRC	15/30/60/75/95/115/150/177	X	X	UMB <sup>②</sup>
STWC	15/30/60/75/95/115/150/177	X	X	UMB <sup>②</sup>
<b>Horn</b>				
HNR		X	X	UMB <sup>②</sup>
HNW		X	X	UMB <sup>②</sup>
HNRC		X	X	UMB <sup>②</sup>
HNWC		X	X	UMB <sup>②</sup>

① 12 VDC models feature 15 & 15/75 settings

② UMB = Universal Mounting Base

**Model Legend**

HN	= Horn	R	= Red
ST	= Strobe	A	= Agent Lettering (strobes only)
HS	= Horn Strobe	AL	= Alert Lettering (strobes only)
C	= Ceiling Mount	N	= No Lettering (strobes only)
W	= White		

Example 1: STRC = Strobe, Red, Ceiling Mount  
 Example 2: HSR = Horn Strobe, Red, Wall Mount  
 Example 3: HSW = Horn Strobe, White, Wall Mount  
 Example 4: STW-AL = Strobe, White, Wall Mount, Alert Lettering



Example: HSR



Example: HSWC

## Architects and Engineers Specifications

The notification appliances shall be Wheelock Exceder Series HS Audible Strobe appliances, Series ST Visual Strobe appliances and Series HN Audible appliances or approved equals. The Series HS and ST Strobes shall be listed for UL Standard 1971 (Emergency Devices for the Hearing-Impaired) for Indoor Fire Protection Service. The Series HS and HN Audibles shall be UL Listed under Standard 464 (Fire Protective Signaling). All Series shall meet the requirements of FCC Part 15 Class B. All inputs shall be compatible with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP) with the ability to operate from 8 to 33 VDC. Indoor wall models shall incorporate voltage test points for easy voltage inspection.

The Series HS Audible Strobe and ST Strobe appliances shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens. The Series shall be of low current design. Where multi-candela appliances are specified, the strobe intensity shall have 8 field selectable settings at 15, 15/75, 30, 75, 95, 110, 135, 185 candela for wall mount and 15, 30, 60, 75, 95, 115, 150, 177 candela for ceiling mount. The selector switch for selecting the candela shall be tamper resistant. The 15/75 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required (e.g., ADA compliance). Appliances with candela settings shall show the candela selection in a visible location at all times when installed.

The audible shall have a minimum of three (3) field selectable settings for dBA levels and shall have a choice of continuous or temporal (Code 3) audible outputs.

The Series HS Audible Strobe, ST Strobe and Series HN Audible shall incorporate a patented Universal Mounting Base that shall allow mounting to a single-gang, double-gang, 4-inch square, 3.5-inch octal, 4-inch octal or 100mm European type back boxes. Two wire appliance wiring shall be capable of directly connecting to the mounting base. Continuity checking of the entire NAC circuit prior to attaching any notification appliances shall be allowed. Product shall come with Contact Cover to protect contact springs. Removal of an appliance shall result in a supervision fault condition by the Fire Alarm Control Panel (FACP). The mounting base shall be the same base among all horn, strobe, horn strobe, wall and ceiling models. All notification appliances shall be backwards compatible.

The Series HS and ST wall models shall have a low profile measuring 5.24" H x 4.58" W x 2.19" D. Series HN wall shall measure 5.24" H x 4.58" W x 1.6" D. The Series HSC and STC shall be round and have a low profile with a diameter of 6.68" x 2.63" D. Series HNC ceiling shall have a diameter of 6.68" x 1.50" D.

When synchronization is required, the appliance shall be compatible with Wheelock's DSM Sync Modules, Wheelock Power Supplies or other manufacturer's panels with built-in Wheelock Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync protocol fails to operate, the strobe shall revert to a non-synchronized flash-rate and still maintain (1) flash per second over its Regulated Voltage Range. The appliance shall also be designed so that the audible signal may be silenced while maintaining strobe activation when used with Wheelock synchronization protocol.

**Wall Appliances:** UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), ULC, FM, RoHS

**Ceiling Appliances:** UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), ULC, FM, RoHS

**Note:** Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Eaton standard terms and conditions.



WE ENCOURAGE AND SUPPORT NICET CERTIFICATION  
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Printed in USA  
Publication No. TD450049EN  
November 2016

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**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
 OFFICE OF THE STATE FIRE MARSHAL  
 FIRE ENGINEERING & INVESTIGATIONS DIVISION  
 BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**

<b>LISTING No.:</b>	7125-0785:0168
<b>CATEGORY:</b>	7125 - FIRE ALARM DEVICES FOR THE HEARING IMPAIRED
<b>LISTEE:</b>	Cooper Wheelock Inc. 7246 16th St. E., Ste. 105, Sarasota, FL, 34243 Contact: Newsome, Leon 941-487-2331 Email: LeaoJNewsome@Eaton.com
<b>DESIGN:</b>	Exceder Series: Models ST strobe, HS horn strobe and HN horn. Model ST is a synchronous and non-synchronous strobe light. Model HS a visual/audible appliance and Model HN is an audible signal appliance. All units followed by R (red) or W (white). Additionally, a 'C' may be added for ceiling models and/or a '-NR' may be added for non-resettable models. For non -NR models and optional 'S' for silver fascia may be added*. Refer to listee's data sheet for additional detailed product description and operational considerations.
<b>RATING:</b>	Electrical: 12 VDC/24VDC/FWR  Candela (wall)*: 15, 15/75, 30, 75, 95, 110, 135 & 185  Candela (ceiling)*: 15, 30, 60, 75, 95, 115, 150, & 177
<b>INSTALLATION:</b>	In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction. All models are for indoor use and for wall mount only or ceiling mount only*
<b>MARKING:</b>	Listee's name, model number, electrical/candela rating, and UL label.
<b>APPROVAL:</b>	Listed as horn for fire alarm signaling and strobe, horn/strobe for the hearing impaired when used with separately listed electrically compatible fire alarm control units. Refer to listee's Installation Instructions Manual for details.
<b>NOTES:</b>	

\*Rev. 9-24-09 fm



**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
OFFICE OF THE STATE FIRE MARSHAL  
FIRE ENGINEERING & INVESTIGATIONS DIVISION  
BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**



This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

**Date Issued: 05/01/2023**

**Listing Expires: 06/30/2024**

Authorized By: **Damon Lam**, Program Coordinator  
Fire Engineering & Investigations Division

# Weatherproof appliances, Version 2



## Description

Designed for life safety, performance and reliability, the Wheelock weatherproof notification appliances include:

### Weatherproof Appliances

	Series
Strobes	RSSWP
Horn strobes	ASWP
Horn	AH-24WP, AH-12WP
Multitone horn strobes	MTWP
Multitone horns	MT
Speaker strobes	ET70WP
Speakers	ET-1010, ET-1080

All strobe models are UL dual listed—meeting both UL1638 and UL1971 requirements. As dual listed appliances, these weatherproof strobes, horn strobes and speaker strobes are listed for outdoor applications under UL 1638 as well as under UL 1971, the Standard for Safety Signaling Devices for Hearing Impaired. With an extended temperature range of -40°F to 150°F (-40°C to 66°C), Wheelock weatherproof appliances meet or exceed UL outdoor test requirements for rain, humidity and corrosion resistance while providing multiple strobe intensity options, including the highest strobe ratings available for area coverage per NFPA 72 strobe spacing tables (up to 185 candela for wall mounting and 177 candela for ceiling mounting).

To enable weatherproof mounting, Eaton provides the industry's widest choice of mounting options for surface or unique semi-flush installation. Models are available for surface mounting to Wheelock weatherproof backboxes on walls or ceilings. The optional WP-KIT allows the weatherproof backboxes (IOB, WPBB or WPSBB) to be mounted to a recessed electrical box for concealed conduit installation. For semi-flush installation, the WPA\* and WFPA\* kits allow a customer to mount the weatherproof appliances to a recessed electrical box without the need for an external weatherproof backbox. See Table 10 on page three of this document for a summarization of these mounting options and the required accessories.

All models may be synchronized using the Wheelock DSM sync modules, Wheelock power supplies or other manufacturers panels incorporating the Wheelock patented sync protocol. The horn output of horn strobes can be independently controlled on 2-wire circuits using the Wheelock patented sync protocol. MTWP horn strobe models are 4-wire appliances; the strobes can be synchronized while the audible can be connected to a coded fire alarm system. MT horns may be synchronized, using the temporal Code 3 horn setting.



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### Features & benefits

- Weatherproof with extended temperature range of -40°F to 150°F (-40°C to 66°C)\*
- Dual listed strobe models (UL 1638 and UL 1971)
- Industry’s highest strobe candela options
- Strobes and Code 3 horn synchronize using the Wheelock Sync Modules or panels with built-in Wheelock Patented Sync Protocol
- Models with field selectable tone, dBA and candela settings
- Wall or ceiling mounting options
- MTWP and ET70WP kits that include the device and IOB backbox are available; See ordering information for specific models
- Surface or semi-flush mounting (indoor and outdoor)
- IN/OUT wiring termination accepting two #12-18 AWG wires at each terminal

**Note:** Please read these specifications and associated installation instructions, before using, specifying, or installing this product. Visit [Eaton.com/massnotification](http://Eaton.com/massnotification) for current installation instructions.

### Approvals & compliances

- Approvals include: UL Standards 1971, 1638, 464 and 1480; ULC, California State Fire Marshal (CSFM); and Factory Mutual (FM) (see agency approvals by model number on pages 4 and 5 of this document)
  - The series RSSWP, ASWP, AH-24WP, MTWP-2475W, and MT-12/24 have UL/ULC approval down to -40°F. The ET-1010 and ET70WP have UL approval down to -40°F.
  - Compliance with the following requirements: NFPA; UFC; FCC, ANSI 117.1; OSHA Part 29, 1910.165; AD

### General notes

- Strobes are designed to flash at 1 flash per second minimum over their UL Listed Regulated Voltage Range.
- All candela ratings represent minimum effective Strobe intensity based on UL Standards 1971 and 1638 as indicated in candela ratings table.
- Models are available in red or white. Contact Customer Service for order code and delivery.

### Drawings

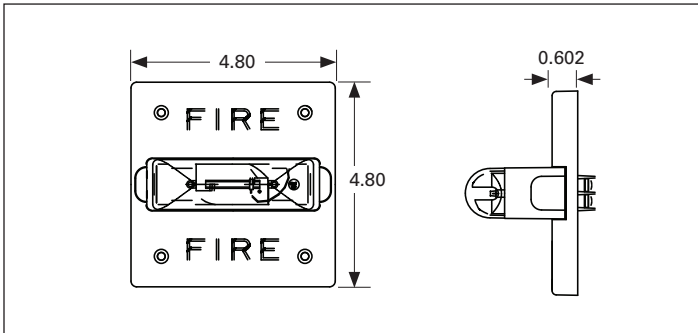


Figure 1. RSSWP front and side views

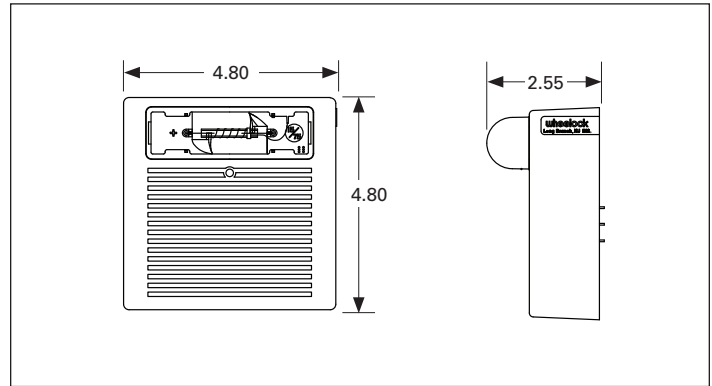


Figure 2. ASWP front and side views

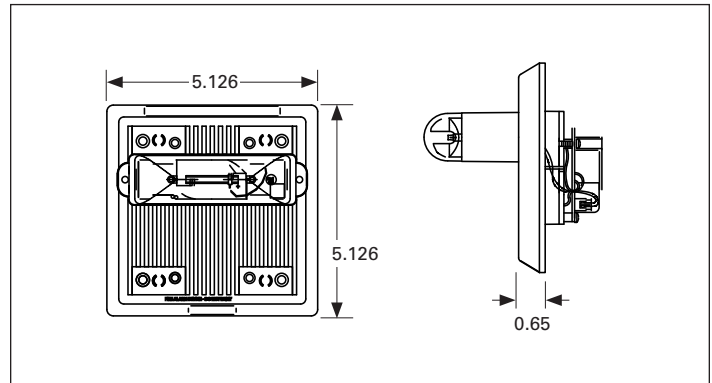


Figure 3. MTWP front and side views

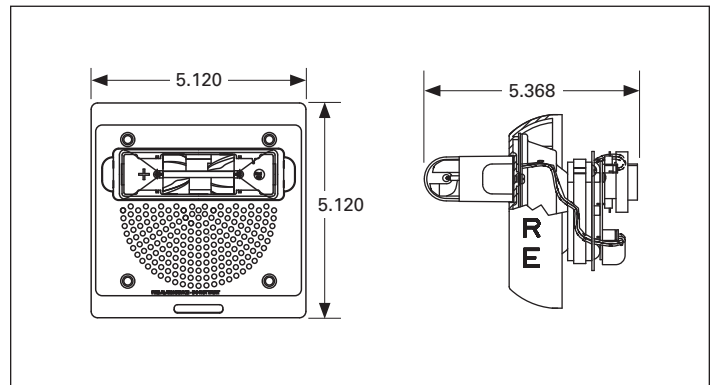


Figure 4. ET70WP front and side views

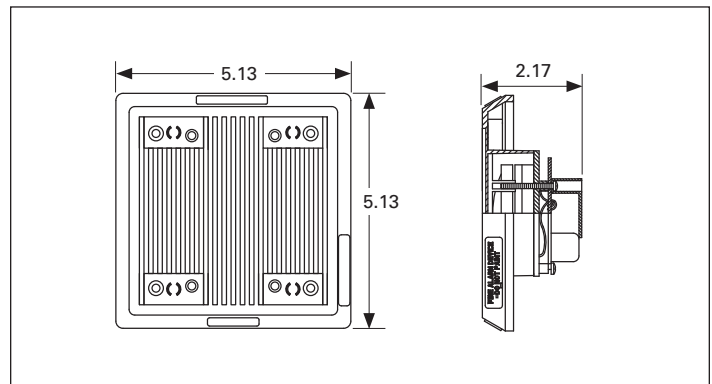


Figure 5. MT front and side views

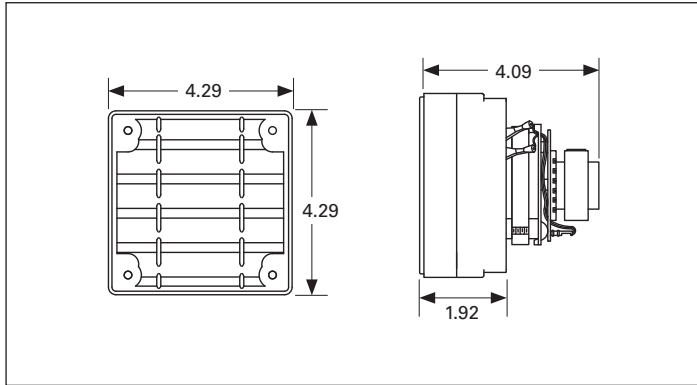


Figure 6. ET-1010 front and side views

Table 1. Maximum RMS current for AH models

UL Max Current for AH	
24 VDC	
High (99) dBA	0.080
Med (95) dBA	0.043
Low (90) dBA	0.021

Table 2. dBA ratings for ET-1010 and ET70WP models

UL Reverberant dBA @ 10 ft.							
Watts							
Model	1/8	1/4	1/2	1	2	4	8
ET-1010	77	80	83	86	87	92	94
ET70WP	77	80	83	86	88	91	93

Table 3. Maximum RMS current and dBA, MT weatherproof models

dBA	MTWP/MT 24 VDC		MT 12 VDC		UL Reverberant dBA at 10 Feet			
	HI	STD	HI	STD	24 VDC HI	STD	12 VDC HI	STD
Horn	0.108	0.044	0.177	0.034	92	87	92	87
Bell	0.053	0.024	0.095	0.020	86	80	86	80
March Time	0.104	0.087	0.142	0.034	89	84	89	84
Code 3 Horn	0.122	0.035	0.200	0.034	88	83	88	83
Code 3 Tone	0.135	0.035	0.152	0.021	85	80	85	80
Slow Whoop	0.098	0.037	0.142	0.035	90	85	90	85
Siren	0.104	0.036	0.152	0.030	89	84	89	84
Hi/Lo	0.057	0.025	0.114	0.026	86	81	86	81





Table 4. Strobe and ASWP ratings

Candela ratings				Max RMS Current (strobe only)	Maximum RMS Current for ASWP		
Strobe Candela	UL 1971	UL 1638 @ 77°F	UL 1638 @ -40°F		High	Med	Low
2475W	30 ①	180	115	0.138	0.168	0.155	0.150
2475C	15	180	115	0.138	0.168	0.155	0.150
MCWH	135	135	56	0.300	0.355	0.340	0.335
	185	185	77	0.420	0.480	0.465	0.460
MCCH	115	115	47	0.300	0.355	0.340	0.335
	177	177	73	0.420	0.480	0.465	0.460
24185	185	185	77	0.420			
24177	177	177	73	0.420			

① Wall mount rating only





### Wall mount models

Table 5. Specification and ordering information

Model Number	Finish	Kit	Order Code	Agency Approvals			
				UL	ULC	CSFM	FM
<b>Strobe</b>							
RSSWP-2475W-FR		Red	9013	X	X	X	X
RSSWP-2475W-FW		White	3034	X	X	X	X
RSSWP-24MCWH-FR		Red	5161	X	X	X	–
RSSWP-24MCWH-FW		White	5165	X	X	X	–
<b>Audible strobe</b>							
ASWP-2475W-FR		Red	9012	X	X	X	X
ASWP-2475W-NR		Red	0200	X	X	X	X
ASWP-24MCWH-FR		Red	5137	X	X	X	–
ASWP-24MCWH-FW		White	5140	X	X	X	–
<b>Multitone strobe</b>							
MTWP-2475W-FR		Red	8420	X	X	X	X
MTWP-2475W-FW		White	3112	X	X	X	X
MTWP-24MCWH-FR		Red	5132	X	X	X	–
MTWP-24MCWH-FW		White	5134	X	X	X	–
MTWP-2475W-FR KIT		Red	9082	X	X	X	X
MTWP-2475W-FW KIT		White	9083	X	X	X	X
MTWP-2475W-NW KIT		White	9084	X	X	X	X
<b>Speaker strobe</b>							
ET70WP-2475W-FR		Red	9077	X	–	X	X
ET70WP-2475W-FW		White	3179	X	–	X	X
ET70WP-2475W-ALR		Red	4480	X	–	X	X
ET70WP-2475W-ALW		White	4481	X	–	X	X
ET70WP-24185W-FR		Red	4885	X	–	X	X
ET70WP-24185W-FW		White	4891	X	–	X	X
ET70WP-2475W-FR KIT		Red	9078	X	–	X	X
ET70WP-2475W-FW KIT		White	9079	X	–	X	X
ET70WP-24135W-NW		White	1111	X	–	X	X
ET70WP-24135W-FR		Red	4872	X	–	X	X
ET70WP-24135W-FW		White	4875	X	–	X	X
ET70WP-24135W-ALW		White	6407	X	–	X	X




### Ceiling mount models

Table 6. Specification and ordering information

Model Number	Finish	Kit	Order Code	Agency Approvals			
				UL	ULC	CSFM	FM
<b>Strobe</b>							
RSSWP-2475C-FR		Red	4338	X	X	X	X
RSSWP-2475C-FW		White	4446	X	X	X	X
RSSWP-24MCCH-FR		Red	5167	X	X	X	–
RSSWP-24MCCH-FW		White	5187	X	X	X	–
<b>Audible strobe</b>							
ASWP-2475C-FR		Red	4251	X	X	X	X
ASWP-2475C-FW		White	4502	X	X	X	X
ASWP-24MCCH-FR		Red	5149	X	X	X	–
ASWP-24MCCH-FW		White	5157	X	X	X	–
<b>Multitone strobe</b>							
MTWP-2475C-FR		Red	4457	X	X	X	X
MTWP-2475C-FW		White	4458	X	X	X	X
MTWP-24MCCH-FR		Red	5102	X	X	X	–
MTWP-24MCCH-FW		White	5122	X	X	X	–
<b>Speaker strobe</b>							
ET70WP-2475C-FR		Red	4452	X	–	X	X
ET70WP-2475C-FW		White	4454	X	–	X	X
ET70WP-24177C-FR		Red	4845	X	–	X	X
ET70WP-24177C-FW		White	4859	X	–	X	X
ET70WP-2475C-FR KIT		Red	9080	X	–	X	X
ET70WP-2475C-FW KIT		White	9081	X	–	X	X
ET70WP-24115C-FR		Red	4550	X	–	X	X
ET70WP-24115C-FW		White	4732	X	–	X	X
ET70WP-24115C-NW		White	3552	X	–	X	X





### Wall or ceiling mount models

Table 7. Specification and ordering information

Model Number	Finish	Order Code	Agency Approvals				
			UL	ULC	CSFM	FM	
<b>Audible</b>							
AH-24WP-R	 Red	7416	X	X	X	X	
<b>Horn</b>							
MT-12/24-R	 Red	5023	X	X	X	X	
MT-12/24-W	White	5024	X	X	X	X	
<b>Speaker</b>							
ET-1010-R	 Red	3135	X		X	X	
ET-1010-W	White	3137	X		X	X	
ET-1080-R-ULC-D	Red	9834		X			
ET-1080-W-ULC-D	White	9835		X			

### Mounting accessories

Table 8. Ordering information

Model Number	Finish	Order Code	Model Number	Finish	Order Code
<b>Backboxes</b>					
IOB-R ①	 Red	5046	<b>Gasket kit</b>		
IOB-W ①	White	5047	WP-KIT	N/A	4486
<b>Flush plates</b>					
WPSBB-R ①	 Red	9751	WFPA-R	Red	4698
WPSBB-W ①	White	3033	WFPA-W	White	4701
WPBB-R ①	 Red	9014	WFP-R	Red	4696
WPBB-W ①	White	4692	WFP-W	White	4697
WBB-R	 Red	2959			
WBB-W	White	2960			

① IOB, WPSBB and WPBB models include weep holes and plug in the event that moisture may have entered the appliance.

Table 9. Mounting options

Mounting Options	Surface Mount		Flush Mount
	Exposed Conduit	Concealed Conduit	
RSSWP Strobes	WPSBB	WPSBB + WP-KIT	WFP
ET70WP Speaker Strobes	IOB	IOB + WP-KIT	WFP
ASWP Horn Strobes	WPBB	WPBB + WP-KIT	WFPA
AHWP Horns	WBB	---	WFP
ET-1010 Speakers	WBB	---	WFP
MTWP Multitone Strobes	IOB	IOB + WP-KIT	WFP
Multitone	IOB	IOB + WP-KIT	WFP

Note: Refer to Data Sheet TD450028EN for mounting options

## Architects and engineers specifications

### General

Weatherproof notification appliances shall be UL listed for outdoor use. Weatherproof strobe appliances shall be listed under UL Standard 1638 (Standard for Visual Signaling Appliances) for Indoor/Outdoor use and UL Standard 1971 (Standard for Safety Signaling Devices for Hearing Impaired). The appliances shall be available for optional wall mounting or ceiling mounting to weatherproof backboxes using either exposed conduit, concealed conduit, or semi-flush mounting to a recessed electrical box in walls or ceilings using Wheelock mounting accessories.

### Weatherproof Strobes and Audibles

Weatherproof strobe appliances shall be Wheelock RSSWP models or approved equals. The weatherproof strobes shall produce a minimum flash rate of 60 flashes per minute over the UL Regulated Voltage Range of 16 to 33 VDC and shall incorporate a Xenon flashtube. The weatherproof strobes shall be available with UL 1971 candela ratings up to 185 cd for wall mounting and 177 cd for ceiling mounting. UL 1638 candela ratings up to 180 cd at 77°F shall be available. The strobes shall operate over an extended temperature range of -40°F to 150°F (-40°C to 66°C) and be listed for maximum humidity of 95% RH. Strobe inputs shall be polarized for compatibility with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP).

Weatherproof audibles shall be Wheelock AH models or approved equals, and the weatherproof audible/strobe combinations shall be Wheelock ASWP models or approved equals. The weatherproof horns and multitone audibles shall be listed for Indoor/Outdoor use under UL Standard 464. The horns shall be able to produce a continuous output or a temporal code-3 output that can be synchronized. The horns shall have at least 3 sound level settings. Horn/strobe combinations shall be able to be synchronized on a single NAC.

Multitone audibles shall be Wheelock MT models or approved equals. The multitone horns shall be able to produce 8 distinct tones selectable by dip switch and shall have at least 2 sound level settings. Multitone audible/strobe combinations shall have independent inputs for the audible and strobe. The strobes and Code 3 horns shall be able to be synchronized. The audibles shall be able to be coded when operated on a separate NAC.

ASWP audibles and strobes shall be able to be synchronized on a 2-wire circuit with the ability to silence the audible if required. The strobes on MT multitone audible/strobe appliances shall be able to be synchronized and shall be able to be operated on a separate circuit from the audibles while the audible circuit is connected to a coded or continuous NAC. When set to Code 3 Horn, the MT multitone audibles shall be able to be synchronized.

### Weatherproof Speakers and Speaker/Strobes

Weatherproof speakers shall be Wheelock ET-1010 models or approved equals, and speaker strobes shall be ET70WP or approved equals. Weatherproof speakers and speaker strobes shall be UL listed for indoor/outdoor use under UL Standard 1480. All speakers shall provide field selectable taps for 1/8W to 8W operation for either 25 VRMS or 70 VRMS audio systems and shall incorporate a sealed back construction for extra protection and improved audibility. Speakers shall be listed to produce up to 94 dBA and shall incorporate a vandal resistant grille design. Speaker strobes shall be available for surface or semi-flush mounting to walls or ceilings and shall be listed to produce up to 93 dBA.

### Sync Modules

When synchronization of strobes or temporal code-3 audibles is required, the appliances shall be compatible with the Wheelock DSM sync modules, Wheelock power supplies or other manufacturers panels with built-in Wheelock patented sync protocol. The strobes and audibles shall not drift out of synchronization at any time during operation.

### Weatherproof Mounting Accessories

Weatherproof mounting options shall include surface mounting or semi-flush mounting to walls or ceilings. Surface mounted appliances shall mount to Wheelock IOB, WBB, WPBB or WPSBB weatherproof backboxes using either exposed conduit or concealed conduit. For concealed conduit the weatherproof backbox shall be mounted to a recessed electrical box with Wheelock's WP-KIT to provide a weatherproof seal for the electrical box. Semi-flush mounted appliances shall mount to a recessed electrical box using Wheelock WFP or WFPA flush plates to provide a weatherproof seal between the electrical box and the appliance.



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Publication No. TD450112EN  
January 2022

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**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
 OFFICE OF THE STATE FIRE MARSHAL  
 FIRE ENGINEERING & INVESTIGATIONS DIVISION  
 BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**

<b>LISTING No.:</b>	7125-0785:0131
<b>CATEGORY:</b>	7125 - FIRE ALARM DEVICES FOR THE HEARING IMPAIRED
<b>LISTEE:</b>	Cooper Wheelock Inc. 7246 16th St. E., Ste. 105, Sarasota, FL, 34243 Contact: Newsome, Leon 941-487-2331 Email: LeaoJNewsome@Eaton.com
<b>DESIGN:</b>	<p>Models AS-1215, -2415, -1230, -2430, -121575, -241575, -2475 and -24110 audible/strobes for the hearing impaired followed by any three alpha/numeric characters indicating lens orientation, lettering and color.</p> <p>Models AS-1215W, -2415W, -1230W, -2430W, -121575W, -241575W, -2475W and -24110W audible/strobes for the hearing impaired followed by any three alpha/numeric characters indicating lens orientation, lettering and color. These units with suffix -W are for wall mount only. *Models AS-121575W and AS-241575W lens color may be white, red, blue, green, or amber.</p> <p>Models AS-2415C, -2430C, -2475C and -24100C audible/strobes for the hearing impaired followed by two alpha/numeric characters indicating lens lettering, orientation and color. These units are intended for ceiling mount only.</p> <p>Model AH-12, -24, AH-12WP, -24WP audible appliances (no strobe), followed by an alpha or numeric character indicating product color.</p> <p>Model AS-24MCW and AS-24MCC audible/strobe, followed by any two alpha or numeric character indicating lettering and product color. *Lens color may be white, red, blue, green, or amber.</p> <p>Models ASWP-2475W and *ASWP-2475C audible/strobe with integral private mode fire/emergency visual signaling for non-hearing impaired applications. Lens color may be white, red, blue, green, and amber. Both models are suitable for outdoor use when mounted on the Model WPBB back box.</p> <p>Models AS-24MCWH, AS-24MCCH, *ASWP-24MCWH, and *ASWP-24MCCH audible/strobes for the hearing impaired followed by two alpha/numeric characters indicating lens lettering and product color. Units with suffix CH are for ceiling mount only. Units with suffix WH are for wall mount only. *Lens color may be white, red, blue, green, or amber.</p> <p>Refer to the listee's data sheet for detailed product description and operational considerations.</p>



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**LISTING SERVICE**

<b>RATING:</b>	<p>Electrical: 8-17.5/16-33 VDC/VFWR</p> <p>Flash Rate: 60 flashes/minute</p> <p>Candela: 15:15cd,1575:15/75cd,30:30cd,75:75cd,95:95cd,100:100cd,110:110cd</p> <p>MCW: Selectable 15cd, 30cd, 75cd,110cd</p> <p>MCC: Selectable 15cd, 30cd,75cd,95cd</p> <p>MCWH: Selectable 135cd,185cd (65cd, 90cd at -40 C)</p> <p>MCCH: Selectable 115cd,177cd (50cd, 75cd at -40 C)</p>
<b>INSTALLATION:</b>	<p>In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction. Models ASWP-2475W, ASWP-24MCWH, AS-24MCW and AS-24MCWH are for wall mount only. Models ASWP-2475C, ASWP-24MCCH, AS-24MCCH, AND AS-24MCC are for ceiling mount only. Models with suffix -W or WH are for wall mount only. Models with suffix -C or -CH are for ceiling mount only.</p>
<b>MARKING:</b>	<p>Listee's name, model number, electrical/candela rating, and UL label.</p>
<b>APPROVAL:</b>	<p>Listed as audible and audible/visual signaling devices suitable for the hearing impaired when used in conjunction with separately listed electrically compatible fire alarm control units. For indoor use only except Models AH-12WP, AH-24WP, *ASWP-2475W, ASWP-2475C, ASWP-24MCWH, and ASWP-24MCCH audible appliances are suitable for indoor/outdoor. For synchronization, Models AS Series must be used with Model SM-12/24, SMX-12/24, DSM-12/24 or DSMX-12/24 sync control module (CSFM Listing No. 7300-0785:132). Refer to listee's Installation Instruction Manual for details.</p> <p>These appliances can generate a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 2002 Edition.</p>
<b>NOTES:</b>	<p>Models AH-12, AH-24, -12WP and -24WP audible devices are not suitable for the hearing impaired applications.</p>

\*Rev. 10-01-07



This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

**Date Issued: 05/01/2023**

**Listing Expires: 06/30/2024**



**CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION  
OFFICE OF THE STATE FIRE MARSHAL  
FIRE ENGINEERING & INVESTIGATIONS DIVISION  
BUILDING MATERIALS LISTING PROGRAM**

**LISTING SERVICE**

Authorized By: **Damon Lam**, Program Coordinator  
Fire Engineering & Investigations Division



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**SECTION 31 10 00**

**SITE PREPARATION & PLANT PROTECTION**

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PART 1 - GENERAL

1.1 DESCRIPTION

- A. Protecting improvements and vegetation to remain.
- B. Clearing and grubbing.
- C. Removal of existing site improvements including but not limited to concrete, utilities, curbs, fencing, and irrigation system.
- D. Preserve and protect adjoining properties during removal work, site preparation work and construction.
- E. Generally, this project includes construction of new building and associated improvements including but not limited to: Protection of existing improvements, demolition, staking, site preparation, storm drainage, earthwork, concrete work, asphalt work, site furnishings, irrigation, and all reasonably incidental and related work as shown on plans and as specified.

1.2 QUALITY ASSURANCE

- A. Stipulations – Site Preparation and Demolition:
  - 1. Work is in accordance with the Drawings and specifications and includes but is not necessarily limited to the following:
    - a. Clearing and grubbing.
    - b. Identification and protection of vegetation indicated to remain.
    - c. Removal of existing site improvements, such as, paving and bases, concrete curbs, fences, footings, foundations, irrigation system, underground pipes and utilities and structures.
  - 2. Locate and identify existing utility services and protect or disconnect, remove and cap as required for new work.
  - 3. Remove, clean, store and protect all items designated and directed to be salvaged to Owner.
  - 4. Remove, store and protect all items designated and directed to be reinstalled.
  - 5. Obtain and pay for permits required for execution of this work.

1.3 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of adjacent streets, adjacent parking areas, trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site demolition.
- B. The Contractor is to submit a letter with the relevant material submittals certifying that the products used by the Contractor are consistent with the Environmental Safety Policy of the School District.

1.4 PROJECT CONDITIONS:

- A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work. Refer to the Demolition Plan for site work requirements.
- B. Nuisances: Keep dirt, dust, noise and other objectionable nuisance to a minimum. Use temporary enclosures, coverings and sprinkling, and combinations thereof, as necessary to limit dust to lowest practicable level, except do not use water to the extent that it causes or contaminated run-off.
- C. Traffic: Conduct work to ensure minimum interference with vehicular and pedestrian traffic, and to permit unencumbered access to the school property located outside of the project areas including the track and field.
  - 1. Do not close or obstruct streets, sidewalks, or other public passageway without permission from authorities having jurisdiction.
  - 2. If required, by governing authorities, provide alternate routes around closed and obstructed traffic ways.
  - 3. Do not drive any type of vehicle or store products on asphalt that is curing unless the area has been protected. Vehicles and storage areas are limited to the areas of thickened asphalt pavement section as shown on the drawings or as designated by the District Representative. Submit a protection plan to the District for approval prior to start of demolition work.
- D. Dispose of cleared, grubbed, and removed material that will not be salvaged or recycled on Site.
- E. Salvable Improvements: Carefully remove items indicated to be salvaged and store where designed by the District Representative. Avoid damaging salvage material.
- F. Protections:
  - 1. Prevent movement and settlement of adjacent structures. Install temporary barriers, fences, guard rails, enclosures, shoring, bracing, planking, warning signs and other protections required to protect structures, utilities, landscaping and other items that are to remain in place.
  - 2. Protect benchmarks, monuments and reference points from displacement and damage; and if displaced or damaged, replace at no cost to the Owner.
  - 3. Install and maintain required bracing, shoring and supports when removing structural elements and be responsible for safety and support of structure. If safety of structure appears to be endangered, cease operations and immediately notify the District Representative. Do not resume operations until safety is restored.

PART 2 – PRODUCTS

2.1 SOILS MATERIALS

- A. Satisfactory Soil Materials. See Section 31 20 00, Earthwork for satisfactory soil material for backfilling excavations and depressions resulting from site clearing.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine areas in which work is to be performed. Report in writing to the District's Representative all prevailing conditions that will adversely affect satisfactory execution of work. Do not proceed with work until unsatisfactory conditions have been corrected.
- B. Starting work constitutes acceptance of the existing conditions and the Contractor shall then, at his expense, be responsible for correcting unsatisfactory and defective work encountered.
- C. For the duration the project, provide a construction fence at the perimeter of project(s) as required to secure the project from trespass and provide a safe construction site. Field verify the perimeter and gate locations with the Construction Manager. The fence location may be adjusted as the project progresses based on the approval of the District's Representative.

3.2 CLEARING

- A. Remove designated trees, stumps, rubbish, undergrowth and deadwood as well as fences and incidental structures that interfere with the construction as shown on the Drawings and as specified. Obtain verification from project inspector prior to removal.

3.3 GRUBBING

- A. Remove all stumps and roots in their entirety, brush, organic materials and debris. When indicated, such materials as topsoil and leaf mold, or other organic materials above the ground surface suitable for use as mulch or topsoil, shall be salvaged and stockpiled.
- B. Remove grasses and weeds. Apply systemic weed killer and confirm weed kill prior to removal.

3.4 TOPSOIL STRIPPING – As required

- A. Coordinate with Section 31 20 00, Earthwork, and Drawings. Strip topsoil to required depths in a manner to prevent intermingling with underlying subsoil or other waste materials.

3.5 UTILITIES

- A. Contract local utility companies 48 hours minimum prior to start of demolition work. Confirm verbal notices and written notices. Verify locations of all utilities entering site and their locations on site.
- B. Cooperate with the District's Representative, utility companies, adjacent property owners, and other building trades in maintaining, protecting, re-routing or extending utilities passing through work areas which serve structures located on project site and on adjacent properties.
- C. Verify that utilities that are to be removed, capped or abandoned are turned off, or are disconnected, or are re-routed to new locations before starting demolition.

3.6 REMOVAL

- A. General:

1. Remove materials in an orderly and careful manner.
  2. Repair or replace all removal work performed in excess to that required at no cost to the District. Repair or replacement shall match and equal construction, condition and finish existing at time of award of Contract.
- B. Remove the following from locations to the extent required or directed for new construction.
1. Fencing, including posts, fabric and footings. Backfill voids if required from removed footings with clean fill as defined in Section 31 20 00, Earthwork. Be careful of soil caving due to presence of groundwater intrusion.
  2. Electric underground wires and conduits occurring within removal areas except those shown as reused on Electrical Drawings. Refer to Utility Drawings and Specifications.
  3. Miscellaneous structural elements that interfere with the new construction as directed.
  4. Paving: remove asphalt and concrete paving including aggregate base rock completely to the minimum depth required for subgrade of new improvements. Dispose of demolished concrete, asphalt and base rock at a material recycling facility. Existing aggregate base may be reused on site if it meets requirements of 31 20 00 fill and the approval of the Geotechnical Engineer.
  5. Underground pipes and utilities.
  6. Other items noted on the drawings and required to be removed to install the new improvements.
- C. Cutting asphalt, concrete curbs and concrete pavement:
1. All lines shall be marked and accepted by District's Representative before the cutting operation.
  2. Cut edges of pavement at 90-degree angle to the surface in a true and straight line in accordance with dimensions shown on the Drawings. Make cuts with a concrete saw, to a 1-1/2" minimum depth.
- D. Backfill and compact areas excavated and open pits and holes resulting from removal operations. Comply with requirements specified for backfill materials, compaction and installation methods.
- E. Rough grade site within removal areas to meet adjacent contours and to provide positive drainage. Leave site in clean condition acceptable for performance of subsequent construction operations.
- 3.7 CLEANUP AND DISPOSAL, per Section 01 70 00:
- A. Transport trash, rubbish and debris daily from site and legally dispose of:
1. Demolish and waste materials encountered.
  2. Remove and promptly dispose of contaminated, vermin-infested and dangerous materials encountered.
  3. Do not burn or bury materials on site.
- B. Clean excess soil may be distributed on site as accepted by the Project Inspector, if it does not adversely affect specified finish grades. Coordinate with Section 31 20 00 Earthwork, Drawings and, Subgrade Preparation & Base Material.
- C. Excess soil may need to be legally disposed of off-site. Refer Existing Conditions. Coordinate with Section 31 20 00, Earthwork, Drawings.

**PLUM** Architects

**Adult Education School**  
PAEC Restrooms Portable Bldg. Project  
PUSD Project No.: 24-001  
Pittsburg Unified School District

- D. Upon completion of work under this Section, remove all tools, equipment and temporary enclosures and structures.

END OF SECTION

4/22/23

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**SECTION 31 20 00**

**EARTHWORK**

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PART 1 – GENERAL

1.1 DESCRIPTION

- A. Provide earthwork complete, including removal work and clearing, grading, excavating and fill and dewatering.

1.2 REFERENCES

- A. Perform work in compliance with the rules and regulations of the Division of Industrial Safety and other local State agencies having jurisdiction. Nothing contained herein shall be constructed as permitting work that is contrary to such rules, regulations, and codes.
- B. Perform all work in accordance with all applicable laws, codes and regulations required by the State of California.
- C. Comply with State Water Resources Control Board.
- D. Work shall conform to local codes and regulations.
- E. References to "Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, Cal Trans.
- F. ASTM Standards.
- G. Relative compaction refers to the in-place dry density of the same soil expressed as a percentage of the maximum dry density of the same soil determined by ASTM D1557 laboratory test procedure. Optimum Moisture Content is the water content that corresponds to the maximum dry density as determined by the same procedure.

1.3 SUBMITTALS, per Section 01 33 00

- A. Submit a list of grading equipment to be used.
- B. Submit an analysis of physical and chemical properties and certificate of compliance of environmental clearance for import soil.
- C. Before the grading operation is underway, submit a letter identifying the approximate quantities and type of soil required to be imported and exported in order to accomplish a balance of the earthwork materials without additional compensation.
- D. The Contractor is to submit a letter with the relevant material submittals certifying that the products used by the Contractor are consistent with the Environmental Safety Policy of the School District.

1.4 CLOSEOUT SUBMITTALS

- A. The Contractor shall engage a California Registered Civil Engineer or licensed Land Surveyor to perform a conformance survey at completion of the project and provide a hard copy of the survey and an AutoCAD copy of the survey as part of the closeout documents.

#### 1.5 SOILS BORINGS

- A. Subsurface soils investigations have been made at the site and logs of the test holes are available in the Soils Report. Such investigations have been made for the purposes of design only, and neither the Architect, the Owner, nor the Soils Engineers guarantee adequacy or accuracy of the data, or that data are representative of all conditions to be encountered. Such information is made available for general information only and shall not relieve the Contractor of the responsibility for making his own investigations.

#### 1.6 PROJECT CONDITIONS

- A. Coordination: Coordinate this work with the work of other sections to avoid delay and interference with other work. Refer to Section 01 11 00 – Summary of Work for site work sequencing requirements.
- B. Protect excavations by shoring, bracing, sheeting, underpinning, or other methods as required to prevent cave-ins or loose dirt from entering excavations. Barricade open excavations and post warning lights at work adjacent to public streets and walks.
- C. Underpin adjacent structure(s), including utility service lines, which may be damaged by excavation operations.
- D. Promptly repair damage to adjacent facilities caused by earthwork operations. Cost of repair to Contractor's expense.
- E. Promptly notify the Inspector of unexpected subsurface conditions.
- F. If during the course of the earthwork operations, an area of pumping or otherwise unstable soil is encountered, the contractor shall immediately modify his operations in such a way as to limit the frequency and weight of vehicles traveling over the area and promptly notify the Inspection who will contact the Geotechnical Engineer for an evaluation.

#### 1.7 EXISTING CONDITIONS

- A. A topographic survey of the property has been included in the drawings for reference only. Upon the beginning of the earthwork, Contractor represents that he has inspected the site and satisfied himself as to actual grades and levels and the true conditions under which the work is to be performed.

#### 1.8 PROTECTION

- A. Furnish, place and maintain all supports, shoring and sheet piling which may be required for the earthwork operations.
- B. Maintain all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed.

- C. Adequate protection measures shall be provided to protect workmen, passers-by, and the site. Streets and adjacent property shall be fully protected throughout the operations.
- D. In accordance with generally practiced construction practices, the Contractor shall be solely and completely responsible for working conditions on the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.
- E. Any construction review of the Contractor's performance conducted by the Inspector is not intended to review the adequacy of the Contractor's safety measures in, on, or near the construction site.
- F. Adjacent streets, sidewalks, and property shall be kept free of mud, dirt, or similar nuisances resulting from earthwork operations.
- G. Provide for surface drainage during the period of construction in a manner to avoid creating a nuisance to adjacent areas.
- H. Water as required to suppress dust nuisance.
- I. Protection of Existing Improvements:
  - 1. Provide barricades, covering, or other types of protection necessary to prevent damage to existing improvements indicated to remain in place. Protect improvements on adjoining properties. Repair damaged existing improvements to original condition as approved by authority having jurisdiction.
- J. Provide erosion control measures as required.
- K. Protection of Other Property: Excavation and other work over, under and adjacent to existing pipelines, cables, conduit ruins or structures of any kind shall be procured in such a manner as not to interfere with the safe operation and use of such installations. Should any damage be incurred to existing facilities during the Contractor's operations, the Contractor shall immediately notify the Owner's Representative and authorities, and shall arrange for the immediate repair of same at his expense.
- L. Underground Obstruction: The locations of existing underground utilities and structures, insofar as that are known from information furnished by the respective utility companies and agencies, have been shown on the drawings. The Owner assumes no responsibility for the accuracy or completeness of said data, which is offered solely for the convenience of the Contractor.
- M. Control of Water: Take measures as may be required to furnish, install and operate such pumps or other devices as may be necessary to remove any seepage, storm water, or sewage that may be found or may accumulate in the excavations during the progress of the work. Keep excavations entirely free from water at all times during the progress of the work, and until the Geotechnical Engineer gives permission to cease pumping.
- N. Pavement Restoration: Pavement, bases and compacted subgrade disturbed by the trenching operations shall be replaced in an acceptable manner with materials equal to the adjacent compacted subgrade, bases and pavement for a minimum of 12' on each side of the trench, and shall conform to the requirements of these Specifications or to local ordinances governing such replacement.



1.10 QUALITY ASSURANCE

- A. Contractor shall provide adequate notice, cooperate with, provide access to the work, and assist testing agency and their representative in the execution of their function.
- B. When, during the progress of work, field tests indicate that installed compacted materials do not meet specified requirements, provide additional compaction until specified density is achieved, or remove and replace defective materials with new materials as directed by the Inspector. Costs of additional labor, materials, and testing to attain specified density at Contractor's expense.
- C. The Contractor shall engage a California Registered Civil Engineer or licensed Land Surveyor to perform field engineering.
- D. The Contractor shall engage a California Registered Civil Engineer or licensed Land Surveyor to perform a conformance survey at completion of the project and provide a hard copy of the survey at completion of the project and an AutoCAD copy of the survey as part of the closeout documents.
- E. Perform all grading with hydraulically laser controlled grading machinery.

1.11 TESTING

- A. Testing and Inspection: Testing shall be performed by a qualified independent testing laboratory under the supervision of a registered professional engineer, specializing in soils engineering.
- B. The Owner will direct, provide, and pay for initial testing and inspection during earthwork operations.
- C. Provide and pay for re-testing and inspection during earthwork operations. Laboratory and inspection service shall be acceptable to the Owner.
- D. Where reference is made to relative compaction, it shall be in the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, determined by the ASTM D1557 laboratory test procedure. Optimum moisture is the water content that corresponds to the maximum dry density.
- E. For structural fills under footings, slabs or pavements. determine moisture density relationships in accordance with ASTM D1557.

PART 2 – PRODUCTS

2.1 FILL

- A. Structural Fill Materials: Inert subsoil material free of organic matter, rubbish, debris and rocks greater than 3" diameter, and meeting the following requirements:
  - 1. Liquid limit of less than 40.

2. Plastic index of less than 15, per ASTM D4318.
3. Minimum laboratory dry weight at optimum moisture content of 110 pounds per cubic foot.
4. Provide imported fill material as required to complete the work. Obtain rights and pay all cost for imported materials.
5. Proposed fill material shall be inspected, tested, and laboratory report issued prior to use in the work.
6. Suitable excavated material removed to accommodate new construction may be used as fill material subject to inspection and approval.
7. All fill material is subject to testing and inspection by the Geotechnical Engineer.

B. Filter Materials

1. Drain Rock: Per Section 31 23 33
2. Angular Washed Sand: Per section 31 23 33

2.2 TOPSOIL

- A. Topsoil is defined as on-site surface soil. Satisfactory topsoil shall be free of subsoil, clay, lumps, stones, and other objects over ½" diameter, without any weeds, roots and other objectionable material.
- B. If herbicide contamination is suspected, then a radish/ryegrass growth trial must be performed. Consult with Inspector prior to decision to test or not.

2.3 SOIL STERILANT

- A. Sterilizer shall be approved as a weed and grass killer that is quick acting, short lived, non-selective, and not dangerous to installer.
- B. The Contractor is to submit a letter with the relevant material submittals certifying that the products used by the Contractor are consistent with the Environmental Safety Policy of San Rafael City Schools District.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Establish extent of grading and excavation by area and elevation. Designate and identify datum elevation and project engineering reference points. Set required lines, levels and elevations.
- B. Do not cover or enclose work of this Section before obtaining required inspections, tests and approvals and location recording.

3.2 EXISTING UTILITIES

- A. Notify the Underground Service Alert (U.S.A.) Center 48 hours in advance of performing any excavation works by calling (800) 227-2600. Verify the grade and location of existing utilities

- prior to any work where conflicts may arise by careful hand digging. Be responsible for the protection of all existing utilities. Be responsible for the protection of all existing survey monuments.
- B. Before starting grading and excavation, establish the location and extent of underground utilities in the work area. Exercise care to protect existing utilities during earthwork operations. Perform the excavation work near utilities by hand and provide necessary shoring, sheeting, and supports as the work progresses.
  - C. Maintain, protect, relocate or extend as required, existing utility lines which pass through the work area. Pay costs for this work, except as covered by the applicable utility companies.
  - D. Protect active utility services uncovered by excavation.
  - E. Remove abandoned utility service lines from the area of excavation. Cap, plug, or seal abandoned lines and identify termination points at grade level with markers.
  - F. Accurately locate and record abandoned and active utility lines rerouted or extended on project record documents.

### 3.3 SITE GRADING

- A. Perform grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide subgrade surfaces parallel to finish surface grades. Provide uniform levels and slopes between new elevations and existing grades.
- B. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes and as follows:
  - 1. Rough Grading: Plus or minus 0.10 ft. subgrade tolerance. Finish required will be that ordinarily obtained from a laser controlled blade grader operations.
  - 2. Provide subgrade surface free of exposed boulders or stones exceeding 3" in greatest dimension in paved areas, 1" in athletic field areas.
  - 3. Subgrade: Grade subgrade surface smooth and even, free of voids to the required subgrade suitable to receive granular base materials.
  - 4. Drainage Swales: Grade as shown on drawings.

### 3.4 EXCAVATING

- A. Excavate for structure to elevations and dimensions shown. Extend excavation a sufficient distance from foundations to permit placing and removal of formwork, installation of materials, services and inspection. Hand trim foundation excavations to final grade just before concrete is placed. Remove loose, soft materials, and all organic matter. Footings shall bear on approved undisturbed bearing soil.
- B. Obtain inspection and testing of foundation excavations by the inspector before concrete is placed.
- C. Excavate for structures and paving to cross-sections, elevations and grades indicated. Allow for base material.

- D. Extra Excavation: Excavate unsatisfactory soil materials extending below required elevations to depth as directed. Such extra excavation will be paid for as a change in work. Obtain Architect's written authorization before performing extra excavation work.
- E. Unauthorized excavation: Backfill and fill all over-excavation to proper grades. Fill over-excavation at footings with 1,500 psi concrete. Additional labor and material for unauthorized excavation and remedial work at Contractor's expense.
- F. Shore, sheet or brace excavations as required to maintain them secure. Remove shoring and bracing as backfilling progresses, when banks are safe against caving.
- G. Do not excavate footings or slabs to the full depth when freezing temperature may be expected, unless footings or slabs are placed immediately after the excavation has been completed. Protect excavation bottoms from freezing when the placing of concrete is delayed.
- H. Rock Excavating:
  - 1. Rock: Material which cannot be removed with  $\frac{3}{4}$  cu. yd. capacity power shovel without drilling or solid boulder with a volume of more than  $\frac{1}{2}$  cu. yd.
  - 2. Rock Excavation: Material excavation of buried boulders and rock in excess of  $\frac{1}{2}$ " cu. yd. that requires continuous use of ripper or other special equipment. All other excavation shall be classified as earth excavation.
  - 3. Contractor will be paid cost of rock excavation as a change in work. Obtain Inspector's written authorization prior to performing rock excavation work.

### 3.5 BACKFILLING

- A. Obtain inspection and approval of subgrade surfaces by Inspector prior to filling operations. Scarify, dry and compact soft and wet areas; remove and replace unsuitable subgrade materials with an approved compacted fill material. Take corrective measures before placing fill materials.
  - 1. Topsoil is not permitted as fill or backfill material under paved areas.
  - 2. Scarify the upper 6 inches of existing soil before placing any fill. In areas on which concrete, aggregate base, is to be placed, moisture condition and thoroughly mix the scarified material and re-compact to at least 90 percent relative compaction.
- B. Spread approved engineered fill material uniformly in layers not greater than 6" of loose thickness over entire area prior to compaction. Request monitoring of filling and compaction by Geotechnical Engineer.
  - 1. Lift thickness requirements may be modified by Inspector to suit equipment and materials or other conditions when required to assure satisfactory.
  - 2. Moisture-condition fill material to near Optimum Moisture Content by aerating or watering and thoroughly mix material to obtain moisture content permitting proper compaction.
  - 3. Place and compact each layer of fill to indicated density before placing additional fill material repeat filling until proposed grade, profile or contour is obtained.
  - 4. Suspend fill operations when satisfactory results cannot be obtained because of environmental or other unsatisfactory site conditions. Do not use muddy (or frozen) fill materials. Do not place fill material on muddy (or frozen) subgrade surface.
  - 5. Maintain surface conditions which permit adequate drainage of rainwater and prevent ponding of surface water in pockets. When fill placement is interrupted by rain, remove wet surface materials or permit to dry before placing additional fill material.

- C. Place backfill materials in uniform layers not greater than 6" loose thickness over entire backfill area.
  - 1. Use hand tampers at foundation retaining walls and similar locations. Do not use large rolling equipment adjacent to retaining walls.
  - 2. Do not backfill against retaining wall until walls for bearing surfaces have reached design strength or are properly braced, and backfilling operations approved. Provide clean backfill materials or granular materials as required; compact in maximum 6" layers.
- D. Fill all areas of settlement to proper grade before subsequent construction operations are performed.
- E. Compaction:
  - 1. Provide minimum and maximum compaction control for all fill and backfill.
  - 2. Engineered Fill
    - a. Compact each layer of engineered fill or backfill material to 90% relative compaction, unless otherwise specified. Extend compaction at last 5'-0" at both sides of foundations and retaining walls and at least 1'-0" beyond slabs on-grade and paving.
  - 3. Water settling, puddling, and jetting of fill and backfill materials as a compaction method is not acceptable.
  - 4. Maintain moisture content of materials during compaction operations within required moisture range to obtained indicated compaction density.
  - 5. Provide proper equipment to achieve consistent and uniform compaction of fill and backfill materials.
  - 6. Do not use heavy equipment that will over-compact planting soil. Compact topsoil to maximum 85 % relative compaction.
- F. Maintenance of Finished Grades:
  - 1. Protect finished graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and damaged areas.
  - 2. Where completed areas are disturbed by construction operations or adverse weather, scarify, reshape and compact or scarify to achieve required density.

### 3.6 FIELD QUALITY CONTROL

- A. The Owner will provide and pay for field quality control soils testing and inspection during earthwork operations.
- B. Contractor shall provide adequate notice, cooperate with, provide access to the work, obtain samples, and assist testing agency and their representatives in execution of their function.
- C. Fill Materials: The Owner will test proposed materials to verify suitability for use, gradation of material, moisture-density relation, design bearing value, and percent of materials.
- D. Subgrade Surfaces: Based on visual examination of the site, the Owner will provide and pay for bearing tests as required to verify subgrade surfaces are adequate and meet or exceed design bearing values.
  - 1. Paved Areas: Make at least one test for each 2000 sq. ft. of paved area.

- E. Compaction Operations: The Owner will provide and pay for inspection and testing during paved area filling and compaction operations. Test each lift of fill to verify compaction meets specified requirements. The owner will provide and pay for periodic inspection and testing during site area filling and compaction operations.
- F. When, during progress of work, filed tests indicate that installed compacted materials do not meet specified requirements, provide additional compaction until specified density is achieved, or removed and replace defective materials with new materials as directed by the inspector. Cost of additional labor, materials and testing to attain specified density is at Contractor's expense.

3.7 DISPOSAL OF WASTE MATERIALS

- 1. Stockpile, haul from site, and legally dispose of export and waste materials, including trash and debris.
- 2. Maintain disposal route clear, clean, and free of debris.
- 3. Clean excess soil may be distributed on site as accepted by Inspector, if it does not adversely affect specified finish grades. Coordinate with Drawings and Subgrade Preparation and Base Material.

3.8 CLEANING, per section 31 10 00

- A. Upon completion of earthwork operation, clean areas within contract limits, remove tools and equipment. Provide a clear, clean site, free of debris and suitable for site work operations.

END OF SECTION

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**SECTION 31 23 33**

**TRENCHING AND BACKFILLING**

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PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: Excavating, backfilling and compacting for utilities.
- B. Related Documents: The conditions of the Contract and Division 1 apply to this section as fully as if repeated herein.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Select Bedding Sand: Class A screened fill sand with a maximum particle size of ½", not exceeding 19 percent and free of expansive materials, debris and organic matter.
- B. Select Backfill Material: Non-expansive soil excavated from the utility trench or site cut areas, or from off-site, borrowed fill material, which in the opinion of the Geotechnical Engineer is suitable for backfilling. Provide material which contains no rocks or clods over 3 inches in diameter, is free of debris and organic matter, and a minimum of 50 percent of material passes a No.4 screen. Limit rock and clod size to 3 inches maximum diameter for backfilling trenches 12 inches or less in width.

PART 3 – EXECUTION

3.1 GENERAL

- A. Layout: Carefully layout the route of each underground utility before trenching. Drawings and coordinate with underground construction by other trades to avoid conflicts.
- B. Clearances: Take special notice and maintain the required horizontal and vertical depth clearances from structural footings for utility trenches running parallel to footings. Do not violate the area of the footing bearing prism. In the event of conflict (i.e., the utility cannot be relocated or its depth changed), proceed as directed by the Architect.

3.2 TRENCHING

- A. Grades and elevations indicated and as specified. Hand trim changes in direction and bottoms of trenches. Provide shoring in trenches over 5 feet deep and also in trenches where unstable soil conditions are encountered. Comply with OSHA requirements.
- B. Pipe Trench Dimensions: The following requirements are considered minimal unless otherwise indicated, in order to provide adequate pipe clearances and bedding. Provide trenches wider than the specified minimums where required to properly install the particular type of piping. In the event utility company regulations, code requirements, or the pipe manufacturer's

recommendations differ from these provisions, the most restrictive requirements shall take precedence:

Pipe Burial Depths (minimum):	
Sewer & Drainage:	24" + pipe O.D. + 3" bed
Gas:	30" + pipe O.D. + 4" bed
Water (Domestic)	
PVC:	30" + pipe O.D. + 4" bed
All other:	24" (30" at planters) + pipe O.D. + 4" bed
Water (Irrigation Pressure Piping)	
3" diameter or less:	18" + pipe O.D. + 2" bed
4" diameter or more:	Same as domestic water

**Notes: Finish grade to top of pipe, typical. O.D.: Outside dimension.**

Trench Widths:

Sewer & Drainage:	12" + pipe O. D. for 4" to 18" diameter pipe
Gas:	8" + pipe O.D.
Water (Domestic):	8" + pipe O.D.
Water (Irrigation Pressure Piping):	
3" diameter or less:	4" + pipe O.D.
4" diameter or more:	8" + pipe O.D.

C. Common Trench Requirements:

1. Do not install copper piping or metal gas piping in a common trench with other dissimilar metal piping or conduit; separate a minimum of 4 feet when running parallel to such piping or conduit.
2. Separate multiple parallel lines of piping in a common trench a minimum of 12 inches, both horizontally and vertically, between individual pipes.
3. Install domestic water piping, running parallel in a common trench with sewer or drainage lines, on a solid shelf 12 inches above the sewer or drainage piping.
4. Do not run electrical power and communications conduit in a common trench with sewer, drainage, water or gas piping.

D. Additional provisions for underground piping within building areas: Specification sections under Division 22 and details as indicated.

E. Requirements for underground electrical and communications conduit, ducts: applicable specification sections under Division 26 and Division 27 and details as indicated.

3.3 BEDDING AND BACKFILLING

A. Bedding: Lay and bed pipe in compacted select bedding sand, thickness as specified herein and backfill with the same material to a height of one foot above the top of pipe. Place in 6 inch layers and compact to a minimum relative density of 90 percent. Compact the soil in a manner that will not displace or damage the pipe.

1. Sewer and drain lines may be bedded in the native soil provided it is rock free and sandy. Dig out under bell portions of the piping for uniform bearing.
2. Irrigation Piping – not applicable



3. Conduits, ducts, laid in a single layer, running parallel and in the same horizontal plane and not concrete encased shall be “bedded” as specified herein. The select sand bedding for multilayered banks of conduit not concrete encased, shall be water settled (not flooded) to completely fill the voids between the conduits with sand.
  4. Provide warning tape in all gas and electrical trenches.
- B. Backfilling: Backfill the remaining trench depth, including concrete encased utilities, with select backfill material at optimum moisture content, place in 6 to 8 inch layers and compact to a minimum relative density of 90 percent. Attain compaction by any method (other than water jetting) that will obtain the minimum specified relative densities, without damaging the buried lines.
- C. Install underground utility materials requiring special bedding and backfilling methods as recommended in conjunction with these materials or as indicated.

### 3.4 QUALITY CONTROL

- A. Do not backfill underground utility lines until:
1. The “As-built” elevations and dimensions are recorded on “Record Drawings” and verified.
  2. The Utility Lines have been inspected and satisfactorily tested.
- B. Backfill compaction tests will be performed by the Owner’s Geotechnical Engineer, in accordance with Section 01 45 00 – Quality Control, at locations and depths as directed. If the required minimum relative compaction density has not been obtained, excavate and re-backfill the deficient portion of the trench.

### 3.5 CLEANUP

- A. Pick up and transport unsuitable and deleterious material to an off-site legal disposal area. Place acceptable excess earth in on-site areas as compacted fill.

END OF SECTION

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**SECTION 31 25 00**

**EROSION AND SEDIMENTATION CONTROLS**

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PART 1 – GENERAL

1.1 WORK INCLUDED

- A. Erosion and sediment control through the use of the following:
  - 1. Dikes
  - 2. Swales
  - 3. Grade stabilization structures
  - 4. Sediment basins
  - 5. Sediment traps
  - 6. Silt fences
  - 7. Straw and bales
  - 8. Planting and ground coverage
  - 9. Maintenance of erosion control improvements
  - 10. Cleanup and removal of silt from roadways on-site and off-site
- B. Dust alleviation and control by watering, matting, planting, etc.
- C. Provision of all materials, equipment, and apparatus not specifically mentioned herein or noted on the plans, but which are obviously necessary to complete the dust and erosion control.

1.2 RELATED REQUIREMENTS: Not used

1.3 MEASUREMENT AND PAYMENT

A. Water Pollution Control

The contract lump sum price paid for bid item "Water Pollution Control Program" shall include full compensation for furnishing transportation, labor, materials, tools, equipment, and incidentals, and for doing all work involved in Water Pollution Control Program. Work includes, but not limited to, submitting water pollution control plan for City's review and approval prior to project construction, participation in stormwater construction inspections, use of best management practices during construction to prevent construction related pollutants from entering the storm drain system, maintenance of storm water pollution prevention measures, and removal and disposal of measures after completion of work. All work shall be complete in place as accordance specifications, permits, and as directed by the Engineer.

1.4 REFERENCE STANDARDS

- A. Manual of Standards for Erosion and Sediment Control Measures - Association of Bay Area Governments (ABAG)
- B. State of California Department of Transportation Standard Specifications (SS) Section 21 Erosion Control.
- C. American Association of State Highway and Transportation Officials (AASHTO)

D. ABAG Manual of Standards for Erosion and Sediment Control Measures

1.5 QUALITY ASSURANCE

All work shall be done to the satisfaction of the designated representative of the geotechnical consultant, and shall meet the approval of the Engineer.

PART 2 - PRODUCTS

2.1 GENERAL

All materials shall conform to applicable requirements of SS Section 21, "Erosion Control", listed as follows and meeting the requirements of ABAG Manual of Standards for Erosion and Sediment Control Measures.

2.2 TOP SOIL

- A. The soil shall contain no more than seventy percent (70%) sand (as defined by USDA, Soil Conservation Service). This is to provide enough available water- holding capacity to support plant growth.
- B. The soil shall have sufficient porous base (greater than thirty percent (30%)) to permit adequate root penetration and provide for exchange of gases and water.
- C. The soil shall be free from any material harmful to plant growth.
- D. Topsoil that has been graded from the site shall be stockpiled, whenever possible, for reapplication on exposed graded slopes during the final grading stage. The soil shall be disked into the existing soil to provide for a good bond.

2.3 SEED

- A. A seed mix similar to the native plants and grasses or the following seed mix shall be applied at above the minimum rate specified below:

Seed Type	Minimum Application Rate (Pounds per Acre)
Blando Brome	30
Annual Ryegrass	20

- B. All seed shall be certified live and delivered to the site tagged and labeled in accordance with the California Agricultural Code and shall be acceptable to the County Agricultural Commissioner.

2.4 FERTILIZER

- A. Fertilizer shall contain a minimum of sixteen percent (16%) nitrogen, twenty percent (20%) available phosphoric acid, zero percent (0%) water soluble potash, and fifteen percent (15%) sulfur. It shall be uniform in composition, dry and free flowing, pellet or granular.

- B. All fertilizer shall be delivered in unbroken or unopened containers, labeled in accordance with the applicable State regulations, and bearing the warranty of the producer for the grade furnished.

2.5 STRAW MULCH

Straw mulch shall be of un-rotted small grain straw and shall be applied at the rate of four thousand pounds (4,000#) per acre. Mulch materials shall be relatively free of all noxious weeds. If the straw is applied with a blower, it shall be chopped in lengths not shorter than six inches (6").

2.6 STRAW BALES

Straw shall be derived from wheat, oats, or barley. The Contractor shall furnish evidence that clearance has been obtained from the County Agricultural Commissioner, as required by law, before straw obtained from outside the County in which it is to be used is delivered to the site of the work. Straw that has been used for stable bedding shall not be used.

2.7 SILT FENCE

- A. Filter fabric shall be a pervious sheet of synthetic polymer composed of at least eighty-five percent (85%) by weight ethylene, propylene, amide, ester, or vinylidene yarn, woven or non-woven, and shall contain stabilizers and/or inhibitors to resist deterioration by heat, water and ultra-violet light. The fabric shall conform to the following criteria:
  - 1. The equivalent opening size (U.S. Standard Sieve) shall be within the range 70-100.
  - 2. The tensile strength (ASTM D 1682 G "Test Method for Breaking Load and Elongation of Textile Fabric") shall be at least one hundred twenty pounds (120#). The strength of fabric required depends on the wire support fence. The strength given is the minimum for a six-inch (6") square mesh wire support fence. If extra strength fabric is used without a support fence, the strength required shall be two hundred pounds (200#) minimum with posts spaced on six foot (6') centers.
- B. Posts for silt fences shall be either four-inch (4") square wood or 1.33 pounds per linear-foot steel with a minimum length of five feet (5'). Steel posts shall have projections for fastening wire to them.
- C. Wire fence reinforcement for silt fences shall be a minimum of forty-two inches (42") in height, shall be a minimum of 14 gauge, and shall have a maximum mesh spacing of six inches (6").

2.8 LUMBER

Lumber shall be construction grade redwood rough finished, or approved equal.

2.9 PIPES

Pipes and conduits shall conform to applicable sections of these specifications and the requirement of the ABAG Manual of Standards for Erosion and Sediment Control Measures.

## PART 3 - EXECUTION

### 3.1 JOB CONDITIONS

- A. Equipment and materials shall be stored as to ensure the preservation of its quality and fitness for the work. Equipment and materials shall be located on the construction site so it can be used on short notice.
- B. Erosion and sediment control measures shall be in place during the rainy season (October 1st through April 30th) and shall be frequently serviced to maintain their full function. However, for projects having the potential to cause water pollution, the Storm Water Pollution Prevention Plan (SWPPP) must be available on site and at all times and must be implemented year-round throughout the duration of the construction project. For the foregoing type of projects, no construction activity shall be performed until the SWPPP has been certified and appropriate Best Management Practices (BMPs) have been implemented in accordance with Section 2 of the California Storm Water BMP Handbook for Construction as developed by the California Storm Water Quality Association (CASQA), and such other storm water pollution regulatory agency implementing guidelines.
- C. Dust control measures shall be implemented at all times during the construction period until no longer required. Contractor shall pay for the removal of all silt from the storm drain system and the inspection thereof.

### 3.2 TEMPORARY AND PERMANENT PLANTING OF EXPOSED SOILS

- A. Before seeding, necessary drainage controls such as dikes at tops of slopes and swales on slope benches shall be installed to prevent runoff from eroding slopes before grass is established. Temporary drainage controls shall remain in place until permanent drainage facilities are installed or until slopes are stabilized and temporary controls are no longer necessary for continued slope stability.
- B. The area to be seeded shall have a firm seed bed that has previously been roughened by scarifying, disking, harrowing, chiseling, or track-walking, or otherwise worked to a depth of two inches (2") to four inches (4") unless a roughed condition already exists. No implement shall be used that will create an excessive amount of downward movement of soil or clods on sloping areas. The seedbeds may be prepared at the time of completion of earth-moving work.
- C. Seeding, fertilizing, and mulching shall be done by October 1st of any year.
- D. Slopes above critical areas, such as a water supply reservoir or an existing residence, shall be stabilized by October 1st of any year. Irrigation shall be used if rainfall is insufficient to establish protection by this date.
- E. Seed shall be distributed uniformly over the seedbed by hand broadcasting, hydro-seeding or other approved method. Seed shall be covered to a depth of one-quarter to one-half inch (1/4"-1/2"), except when seed is hydraulically applied with a mulch. Seed shall not have a soil cover greater than one inch (1").
- F. Fertilizer shall be distributed uniformly over the seedbed at a rate of not less than five hundred pounds (500#) per acre. Fertilizer shall be applied in any way that will result in uniform distribution. Fertilizer shall be incorporated into the soil if possible. Incorporation may be as

part of the seedbed preparation or as part of the seeding operation. Fertilizer may also be applied as a mix with seed and fiber in a slurry (see Paragraph H below).

- G. A mulch cover shall be distributed uniformly over the surface of the seeded area. Mulching shall follow immediately after the seeding.
1. For slopes flatter than 2:1 and within a fifty-foot (50') access of a straw blower, the following procedure shall be used: Straw mulch shall be applied at the rate of four thousand pounds (4,000#) per acre. The mulch shall be applied by hand, blower or other suitable equipment. The mulch shall be anchored in place using hand tools, mulching rollers, disks, nets, chemical tackifiers or other suitable means.
  2. For slopes steeper than two to one (2:1), mulch shall be applied hydraulically as specified in Item H, below.
- H. Hydro-seeding is defined as the simultaneous application of seed, fertilizer, and mulch in a slurry.
1. The hydro-seeder shall be equipped with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous slurry and with a discharge system that applies the slurry to the slopes at a continuous and uniform rate. Seed shall not remain in the slurry longer than thirty (30) minutes. The slurry shall contain the required fertilizer (see preceding Item F) and shall also contain wood fiber to be applied at the rate of one thousand five hundred pounds (1,500#) of wood fiber per acre.
  2. The water used shall be potable water or Class 1 or 2 agricultural irrigation water.
  3. The slurry shall be continuously mixed and shall be mixed for at least five (5) minutes after the last addition before application starts. The slurry shall be applied at a rate that is non-erosive and minimizes runoff. The slurry must have fibrous and/or chemical adhesives to ensure retention of seed mix on soil slopes.
- I. Irrigation is optional, except on critical areas (see Paragraph D above).
1. If irrigation is required or desired, the following procedure shall be used. The top one-inch (1") of soil of all seeded areas shall be kept moist for the first twenty-one (21) days after seeding. Moisture needs will be determined by visual observation. After twenty-one (21) days, the top six inches (6") of soil shall be kept moist until the first major rainstorm (minimum 1.0-inch per 24- hour period). The moisture level shall not be allowed to drop below fifty percent (50%) available moisture capacity.
  2. Irrigation shall not exceed one-half inch (0.5") of water applied per acre per irrigation on sandy soils, and one-inch (1.0") of water applied per acre per irrigation on loam- and clay-type soils.
  3. Irrigation water shall be potable or Class 1 or 2 agricultural irrigation water. Water shall be applied by sprinklers or similar devices at a non-erosive rate using the above criteria as a guide.
- J. Seeded areas shall be inspected no more than thirty (30) days after planting and no more than thirty (30) days after the first rain. Follow-up inspections shall be done between sixty (60) and ninety (90) days after the first inspection and again in the spring. The spring inspection shall establish any corrective measures necessary before the next rainy season. If, at the sixty (60) day inspections, the vegetation is not established and/or erosion is expected to continue, slopes shall be reseeded and/or repaired. Eroded slopes shall be smoothed over, including the filling of rills and/or gullies, before reseeding starts. The reseeding operation shall follow the specifications given above.

3.3 TEMPORARY DIKES

- A. The top width shall be a minimum of two feet (2').
- B. The height of compacted earth fill dike shall be a minimum of eighteen inches (18") measured from the existing ground at the upslope toe to the top of the dike and at least twelve inches (12") above any outlet pipe. The maximum allowable water depth in the diked areas shall not exceed thirty inches (30").
- C. The side slopes shall be 2:1 or flatter.
- D. The grade along the face of the dike (flow area) shall be dependent on topography, but shall be a minimum of one percent (1%) (sufficient grade to drain) to an adequate outlet. Drainage must be positive. The "flow area" of the dike is defined as the upslope portion of the dike face and adjacent ground surface over which diverted runoff water flows.
- E. The flow area shall be stabilized:
  - 1. Where the slope of the flow area exceeds five percent (5%); or
  - 2. Where the slope of the flow area is one percent (1%) to five percent (5%) and the maximum flow velocity from the ten (10) year frequency storm is exceeded as specified below:

Flow Area Surface	Maximum Velocity (Feet per Second)
Sand and Sandy Loam	2.5
Silt Loam	3.0
Sandy Clay Loam	3.5
Clay Loam	4.0
Clay, Fine Gravel, Graded Loam to Gravel	5.5
Graded Silt to Cobbles	5.5
Shale, Hardpan, and Course Gravel	6.0

- F. Stabilization, when required by Paragraph E above, shall be:
  - 1. In accordance with the ABAG Standard and Sample Specifications for Grass Protection of Waterways, Swales and Dikes, when the dike intercepts runoff from a protected or stabilized area; or
  - 2. By lining the flow area with stone that meets AASHTO M43 size No. 2 or 24 in a layer at least three inches (3") thick and pressed into the soil. The lining shall extend up the upslope side of the dike to a height of at least eight inches (8") measured vertically from the upslope toe and shall extend upslope from the upslope toe a distance sufficient to include the flow area.
- G. Diverted runoff from a protected or stabilized area shall flow directly to a grade stabilization structure and/or receiving water channel. Diverted water from a disturbed or exposed upland area shall flow to a sediment trap or a sediment basin or to an area protected by these practices.
- H. All dikes shall be machine-compacted with the tires or tracks going over at least ninety percent (90%) of the surface. There shall be a maximum of six inches (6") of lift between each compaction.

- I. The dike shall be inspected periodically and maintained as required.

**3.4 TEMPORARY SWALE**

- A. The bottom width shall be a minimum of seven feet (7') and the bottom shall be level.
- B. The depth shall be a minimum of one-foot (1').
- C. The side slope shall be two to one (2:1) or flatter (flat enough to allow construction traffic to cross if desired).
- D. The grade shall be dependent on topography, but shall be a minimum of one percent (1%) (sufficient grade to drain) to an adequate outlet. Drainage must be positive.
- E. The swale shall be stabilized:
  - 1. Where the slope of the swale bottom exceeds five percent (5%), or
  - 2. Where the slope of the swale bottom is one percent (1%) to five percent (5%) and the maximum flow velocity from the 10-year frequency storm is exceeded as specified below:

<b>Swale Surface</b>	<b>Maximum Velocity (Feet per Second)</b>
Sand and Sandy Loam	2.5
Silt Loam	3.0
Sandy Clay Loam	3.5
Clay Loam	4.0
Clay, Fine Gravel, Graded Loam to Gravel	5.5
Graded Silt to Cobbles	5.5
Shale, Hardpan, and Course Gravel	6.0

- F. Stabilization, when required by Paragraph E above, shall be:
  - 1. With grass protection when the swale receives runoff from a stabilized area; or
  - 2. By lining the flow area with stone that meets AASHTO M43 size No. 2 or 24 in a layer at least three inches (3") thick and pressed into the soil. The lining shall extend across the bottom and up both sides of the channel to a height at least eight inches (8") vertically above the bottom.
- G. At all points where the swale will be crossed by vehicles several times a day, the swale shall be stabilized according to preceding Paragraph 3.04 (F) 2, above, except that the stone lining shall be at least six inches (6") thick for the whole width of the traffic crossing.
- H. The swale shall be located to take advantage of the most suitable outlet. The swale shall discharge without causing erosion at its outlet.
- I. All trees, brush, stumps, obstructions and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
- J. The swale shall be excavated and/or shaped to line, grade, and cross-section as required to meet the criteria specified herein, and be free of bank projections or other irregularities that will impede normal flow.



- K. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed swale.
- L. All earth removed and not needed in construction shall be spread or disposed of so it will not interfere with the functioning of the swale.
- M. The swale shall be inspected periodically and maintained as required.

### 3.5 TEMPORARY GRADE STABILIZATION STRUCTURE

#### A. Rigid Pipe Slope Drain

- 1. The inlet pipe shall have a slope of three percent (3%) or steeper.
- 2. The top of the earth dike over the inlet pipe, and those dikes carrying water to the pipe, shall be at least one foot (1') higher at all points than the top of the inlet pipe.
- 3. The pipe shall be corrugated metal pipe with watertight connecting bands.
- 4. A riprap apron shall be provided at the outlet. This shall consist of six-inch (6") diameter rocks placed as shown on the plans.
- 5. The soil around and under the inlet pipe and entrance section shall be hand tamped in four-inch (4") lifts to the top of the earth dike.
- 6. Follow-up inspection and any needed maintenance shall be performed after each storm.

#### B. Flexible Pipe Slope Drain

- 1. The inlet pipe shall have a slope of three percent (3%) or steeper.
- 2. The top of the earth dike over the inlet pipe, and those dikes carrying water to the pipe, shall be at least one foot (1') higher at all points than the top of the inlet pipe.
- 3. The inlet pipe shall be corrugated metal pipe with watertight connecting bands.
- 4. The flexible tubing shall be the same diameter as the inlet pipe and shall be constructed of durable material with hold-down grommets spaced no more than ten feet (10') on centers.
- 5. The flexible tubing shall be securely fastened to the corrugated metal pipe with metal strapping or watertight collars.
- 6. The flexible tubing shall be securely anchored to the slope by staking at grommets provided.
- 7. A riprap apron shall be provided at the outlet. This shall consist of six-inch (6") diameter rocks placed as shown on the plans.
- 8. The soil around and under the inlet pipe and entrance section shall be hand tamped in four-inch (4") lifts to the top of the earth dike.
- 9. Follow-up inspection and any needed maintenance shall be performed after each storm.

#### C. Paved Chute or Flume

- 1. The structure shall be placed on undisturbed soil or on well-compacted fill.
- 2. The cut or fill slope shall not be steeper than two-to-one (2:1) and shall not be flatter than twenty-to-one (20:1).
- 3. The top of the earth dike at the entrance, and those dikes carrying water to it, shall not be lower at any point than the top of the lining at the entrance of the structure.
- 4. The lining at the entrance to the structure shall extend above the crest as shown on the plans.
- 5. The lining shall be placed beginning at the lower end and proceeding up the slope to the upper end. The lining shall be well compacted and free of voids. The lining surface shall be reasonably smooth.

6. The entrance floor at the upper end of the structure shall have a slope toward the outlet of one-quarter to one-half inch (1/4" - 1/2") per foot.
7. The cut-off walls at the entrance and at the end of the discharge aprons shall be continuous with the lining.
8. The lining shall consist of Type 2 Portland cement concrete (3,000 psi), bituminous concrete or comparable non-erodible material.
9. An energy dissipater of adequate design shall be used to prevent erosion at the outlet.

### 3.6 SEDIMENT BASINS

- A. Areas under the embankment and any structural works shall be cleared, grubbed, and stripped of any vegetation and root mat. In order to facilitate cleanup and restoration, the basin area shall be cleared also.
- B. A cut-off trench shall be excavated along the centerline of earth-fill embankments. The minimum depth shall be two feet (2'). The cut-off trench shall extend up both abutments to the riser crest elevation. The bottom width shall be wide enough to permit operation of excavation and compaction equipment and a minimum of four feet (4') in width. The side slopes shall be no steeper than one to one (1:1). Compaction requirements shall be the same as those for the embankment. The trench shall be dewatered during the backfilling and compacting operations.
- C. Fill material for the embankment shall be taken from approved fill areas. It shall be clean material soil free of roots, woody vegetation, oversized stones, rocks or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW, and SP) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six to eight inch (6" - 8") thick continuous layers over the entire length of the fill. Compaction shall be obtained by routing the hauling equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment, or by the use of a compactor. The embankment shall be constructed to an elevation ten percent (10%) higher than the design height to allow for settlement if compaction is obtained with hauling equipment. If compactors are used for compaction, the overbuild may be reduced to not less than five percent (5%).
- D. The principal spillway riser shall be securely attached to the discharge pipe by welding all around and all connections shall be watertight. The pipe and riser shall be placed on a firm, smooth soil foundation. The connection between the riser and the riser base shall be watertight. Pervious materials such as sand, gravel or crushed stone shall not be used as backfill around the pipe of anti-seep collars. The fill material around the pipe spillway shall be placed in four inch (4") layers and compacted under the shoulders and around the pipe to at least the same density as the adjacent embankment. A minimum of two feet (2') of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment. Steel base plates shall have at least two and one-half feet (2-1/2') of compacted earth, stone or gravel placed over them to prevent flotation.
- E. The emergency spillway shall not be installed in fill. Elevations, design width, and entrance and exit channel slopes are critical to the successful operation of the emergency spillway.
- F. Baffles shall be constructed of four-inch by four-inch (4" x 4") posts and four-feet by eight-feet (4' x 8') by one-half inch (1/2") exterior plywood. The posts shall be set at least three feet (3') into the ground, no further apart than eight feet (8') center to center, and shall reach a height six inches (6") below the riser crest elevation. The plywood shall be securely fastened to the upstream side of the posts.

- G. The embankment and emergency spillway shall be stabilized with vegetation immediately following construction.
- H. Construction operations shall be carried out in such a manner that erosion and water pollution will be minimized. State and local laws concerning pollution abatement shall be complied with.
- I. State and local requirements shall be met concerning fencing and signs warning the public of hazards of soft sediment and floodwater.
- J. Maintenance and repairs shall be carried out as follows:
  - 1. All damages caused by soil erosion or construction equipment shall be repaired before the end of each working day.
  - 2. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment or in or adjacent to a stream or floodplain.
- K. When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits shall be leveled or otherwise disposed of in accordance with the approved erosion and sediment control plan.

### 3.7 SEDIMENT TRAPS

- A. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. The pool area shall be cleared.
- B. The fill material for the embankment shall be free of roots or other woody vegetation, as well, as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- C. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to within one foot (1') of the outlet elevation. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- D. The structure shall be inspected after each rain and repairs made as needed.
- E. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- F. The structure shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.
- G. All cut-and-fill slopes shall be two-to-one (2:1) or flatter.
- H. When a riser is used, all pipe joints shall be watertight.
- I. When a riser is used, at least the top two-thirds of the riser shall be perforated with one-half inch (1/2") diameter holes spaced eight inches (8") vertically and ten to twelve inches (10"-12") horizontally.

- J. When a pipe outlet is used, fill material around the pipe spillway shall be hand compacted in four-inch (4") layers. A minimum of one and one half feet (1.5') of hand-compacted backfill shall be placed over the pipe spillway. At least two feet (2') of backfill shall be placed if construction equipment will cross over the pipe spillway.
- K. When an earth or stone outlet is used, outlet crest elevation shall be at least one foot (1') below the top of the embankment. Pipe outlets shall be at least one-and-one-half feet (1.5') below the top of the embankment.
- L. When a crushed stone outlet is used, the crushed stone used in the outlet shall meet AASHTO M43, size No. 2, 24, or its equivalent such as MSHA NO. 2 Gravel meeting the above gradation may be used if crushed stone is not available. Crusher run is not acceptable.

### 3.8 TEMPORARY STRAW BALE DIKES

- A. Bales shall be placed in a row with ends tightly abutting as shown on the Plan.
- B. Each bale shall be embedded in the soil a minimum of four inches (4").
- C. Bales shall be securely anchored in place by two (2) wood stakes driven through the bales. The first stake in each bale shall be driven toward the previously laid bale to force bale together.
- D. The dike shall be inspected after each storm, and repair or replacement shall be made promptly as needed.
- E. Bales shall be removed when they have served their purpose so as not to block or impede storm flow or drainage.

### 3.9 TEMPORARY SILT FENCE

- A. The height of silt fence shall not exceed thirty-six inches (36"). On slopes, the fence line shall follow the contour as closely as possible. In small swales, the fence line shall be curved upstream at the sides to direct the flow toward the middle of the fence.
- B. If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum six-inch (6") overlap and both ends securely fastened to the post.
- C. Posts shall be spaced a maximum of ten feet (10') apart and driven securely into the ground, a minimum of twelve inches (12"). When extra strength fabric is used without the wire support fence, post spacing shall not exceed six feet (6').
- D. A trench shall be excavated approximately four inches (4") wide and four inches (4") deep along the line of posts and upslope from the barrier.
- E. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one inch (1") long, tie wires or hog rings. The wire shall extend into the trench a minimum of two inches (2") and shall not extend more than thirty-six inches (36") inches above the original ground surface.
- F. The standard strength filter fabric shall be stapled or wired to the fence, and eight inches (8") of the fabric shall extend into the trench. The fabric shall not extend more than thirty-six inches (36") above the original ground surface. Filter fabric shall not be stapled to existing trees.

- G. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Subparagraph F, above, applying.
- H. The trench shall be backfilled and the soil compacted over the toe of the filter fabric.
- I. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- J. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- K. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the barriers expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.
- L. Sediment deposits should be removed when deposits reach approximately one-half (1/2) the height of the barrier.
- M. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

### 3.10 SPECIAL REQUIREMENTS

- A. All basins and check dams shall have been pumped dry, and all debris and silt removed within twenty-four (24) hours after each storm.
- B. Hydro-seed all fill and cut slopes as approved by the Engineer, with a vertical height of five feet (5') or more.
- C. Changes to the erosion and sediment control plans to meet field conditions will be made only with the approval of, or at the direction of, the Engineer.
- D. During the rainy season, all paved areas will be kept clear of earth material and debris. The site will be maintained so that a minimum of sediment-laden runoff enters the storm drainage system.

### 3.11 CONTROL OF GROUND WATER

The Contractor shall be solely responsible for dewatering excavations and subsequent control of ground water. The Contractor shall provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage, to the satisfaction of the Engineer, until backfilling is completed.

END OF SECTION

7/23/23

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**SECTION 32 11 23**

**AGGREGATE BASE COURSES**

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PART 1 – GENERAL

1.1 SUMMARY

A. Related Documents:

1. Drawings and general provisions of the contract apply to this Section.
2. Review these documents for coordination with additional requirements and information that apply to work under this Section.

B. Section includes:

1. Aggregate base.
2. Subgrade Preparation.

C. Related Sections:

1. Division 01 – General Requirements
2. Division 32 Section 32 12 16 – Asphalt Paving and Surfacing

1.2 REFERENCES

A. General:

1. The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply.

B. State of California – California Department of Transportation (CALTRANS):

1. Standard Specifications: Section 26 Aggregate Bases.

1.3 DEFINITIONS

A. Acceptance: Wherever the terms acceptance or accepted are used herein, they mean acceptance of the Architect-Engineer in writing.

B. Subgrade: The soil surface on which aggregate base or cement-treated base is placed.

1.4 SUBMITTALS

A. Submit under provisions of Division 01 – General Requirements

B. Test Results:

1. Compaction Tests.

1.5 QUALITY ASSURANCE

- A. Single Source: Furnished from single source throughout Work.
- B. Certification: Arrange with District to have District's Geotechnical Engineer certify that source materials for this Work meets these Specifications and provide tests required to prove that Work-in-progress meets requirements of these specifications.

1.6 DELIVERY, STORAGE AND HANDLING

- A. On Site Storage: Store aggregate-base material on-site covered or in a location where material will not be contaminated.

1.7 SITE CONDITIONS

- A. Unfavorable Weather: When weather is such that satisfactory results cannot be secured, suspend operations until the weather is considered favorable.
- B. Wet Subgrades: Do not place material on wet or muddy subgrade.

1.8 WARRANTY

- A. General Description: In addition to manufacturer's warranties, warrant Work for a period of one year from the Date of Final Completion against defects in materials and workmanship.
- B. Additional Items Covered: Warranty shall also cover repair of damage to other materials and workmanship resulting from defects in materials and workmanship.
- C. Exceptions: Subcontractor shall not be held responsible for failures due to ordinary wear, neglect by the District, vandalism, or other causes beyond the Subcontractor's control.

PART 2 – PRODUCTS

2.1 FORM MATERIALS

- A. Aggregate Base: SS Section 26-1.02A, Class 2, meeting requirements of ¾-inch (20 mm) maximum size from a single source.
- B. Water: Fresh, clean, potable.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verification of General Conditions: Examine site and verify that conditions are suitable to receive Work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.
- B. Subgrade: Review to verify that it has been inspected, graded to the correct grades, and compacted as required for correct installation of aggregate base.
- C. Notification of Unsuitable Conditions: Before proceeding with Work, notify the Project Manager in writing of unsuitable conditions and conflicts.

### 3.2 PREPARATION

- A. Protection of Existing Conditions:
  - 1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, plant materials and walks on or adjacent to the site of the Work. Provide barricades, fences or other barriers to protect existing conditions to remain from damage during construction.
  - 2. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
  - 3. Submit written notification of damaged plants and structures to the Project Manager.
- B. Subgrade Preparation:
  - 1. Meet requirements of Project Geotechnical Report recommendations for subgrade preparation prior to placement of aggregate base or cement-treated base.
  - 2. Grade subgrade with uniform slope between points where elevations are given.
  - 3. Use equipment of proper size and appropriate type to achieve grades required.
  - 4. Grade subgrade surface to within 0.05-foot (15 mm) of elevations indicated by the Drawing details.
  - 5. Fill and compact any depressions and remove loose material to finish true to line and grade, presenting a smooth, compacted and unyielding surface, except where indicated otherwise.
  - 6. Remove debris, loose dirt and other extraneous materials.

### 3.3 AGGREGATE BASE

- A. Pre-wetting Aggregate Base: Meet requirements of CALTRANS Specifications Section 26.
- B. Hauling:
  - 1. Use of dragline equipment to transport aggregate from stockpiles to elevators or other loading devices will not be permitted.
  - 2. Distribute hauling over the area to be paved in such a manner as to be most effective in the compacting of the surfacing.
  - 3. Hauling over any of the surfacing in process of construction will not be permitted when, in the opinion of the District, the effect will be detrimental.
  - 4. Uniformly load hauling vehicles when it is practicable.
- C. Placement of Aggregate Base:
  - 1. Spread base in an even distribution of material without perceptible segregation.



2. Method of spreading and field operation shall be acceptable to the District at all times and in accordance with of CALTRANS Specifications Section 26.
3. Construct base course in lifts not exceeding 6 inches (150 mm) in depth so that when compacted to the specified density, the finished surface will conform to grades and dimensions shown, with proper allowance for subsequent courses where specified.
4. Construct the base course in an orderly manner so that reasonable size areas will be ready for testing and a reasonable length of time will be allowed for the District to perform tests and obtain the test results during normal working hours.
5. Equipment such as scrapers, and other equipment essentially used for earth excavation, will not be permitted.
6. Compaction equipment shall be adequate in design and number to obtain the specified density for each layer while still moist.
7. Apply water as needed to obtain the specific densities.
8. Place each layer of base course and compact to the specified density before a succeeding layer is placed.

D. Compacting of Aggregate Base:

1. Compact each lift of base as soon after spreading operations as practicable and continue until a density of 95 percent of the maximum density has been achieved as determined in accordance with ASTM D1557.
2. Roll each course of surfacing until the material does not creep under the roller before a succeeding course of surfacing material is applied.
3. At the outer edges of the surfacing and continue toward the center.
4. Correction of Surface Defects: Should irregularities develop in any surface during or after rolling, they shall be remedied by loosening the surface and correcting the defects, after which the entire area, including surrounding surfaces, shall be rerolled until thoroughly compacted. Finished surfaces shall be true to grade and crown before proceeding with surfacing.

E. Patrolling: Surfacing in progress of construction shall be bladed and otherwise worked as may be necessary to maintain proper grade and cross section at all times and to keep the surface smooth and thoroughly compacted.

F. Final Clean-up:

1. After work is completed, the entire area shall be neatly finished and trimmed to lines, grades and cross sections shown.
2. Unused construction material shall be removed, and stockpile areas shall be cleaned of aggregate and left in an acceptable condition.

3.4 TOLERANCES

- A. Subgrade Surface: Plus or minus 0.05-foot or elevations indicated by the Drawing details.
- B. Aggregate Base Course Variation from Thickness: Plus or minus 0.05-foot.
- C. Aggregate Base Course Finished Surface Smoothness: Plus or minus ¼-inch.

END OF SECTION

4/22/23

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**SECTION 32 12 16**

**ASPHALT PAVING AND SURFACING**

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PART 1 – GENERAL

1.1 SUMMARY

- A. This section describes general requirements, products, and methods of execution relating to on-site paving and surfacing. Any work within the Public right-of-way shall be done to the standards of the local City or County or the State of California Department of Transportation. Paving and surfacing includes but is not limited to:
  - 1. Asphalt Concrete Paving.
  - 2. Liquid Asphalt and Asphalt Emulsion.
  - 3. Aggregate Base.
  
- B. Related work furnished under other sections but conforming to the provisions of this section:
  - 1. Section 31 20 00 – Earthwork.
  - 2. Section 32 11 23 - Aggregate Base Courses.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM International):
  - 1. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 2. ASTM D1557-12e1 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup>)
  - 3. ASTM D5035 - 11(2015) - Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method).
  
- B. California Code of Regulations (CCR): Title 24, Chapter 2-71, Site development Requirements for Handicapped Accessibility.
  
- C. California Department of Transportation (CalTrans):
  - 1. Standard Specifications:
    - a. Section 26 Aggregate Bases.
    - b. Section 37 Bituminous Seals.
    - c. Section 39 Asphalt Concrete.
    - d. Section 92 Asphalts.
    - e. Section 93 Liquid Asphalts.
    - f. Section 94 Asphaltic Emulsions.
  - 2. Traffic Manual.
  - 3. Highway Design.
  
- D. Institute of Transportation Engineers: Transportation and Traffic Engineering Handbook.

### 1.3 SUBMITTALS

- A. Requirements: Refer to Section 01 33 00 – Submittals.
- B. Asphalt Concrete Paving:
  - 1. Provide two copies of material certificates signed by the material producer and the Contractor, certifying that each material item complies with or exceeds specified requirements.
  - 2. The Contractor shall furnish a certified weight or load slip for each load of material used in the construction of the asphalt concrete pavement.
- C. Asphalt Paving: The Contractor shall furnish material test reports showing compliance with the respective specifications. The Test Engineer may determine to compliance with specifications.
- D. Product Data:
  - 1. Liquid Asphalt.
  - 2. Pavement Reinforcement Fabric.
  - 3. Tack Coat.
  - 4. Aggregate base.
  - 5. Paint.

### 1.4 PROJECT CONDITIONS

- A. Liquid Asphalt and Asphalt Emulsion:
  - 1. Prime coat, seal coat, and paint binder shall be applied only when the ambient temperature is above 50° Fahrenheit and when temperature has not been below 35° Fahrenheit for 12 hours immediately prior to application.
  - 2. Prime coat, fog coat, seal coat, and paint binder shall not be applied when base or surfaces are wet or contain excess moisture.
- B. Asphalt Concrete Paving:
  - 1. Asphalt concrete surfaces shall be constructed only when ambient temperature is above 50° Fahrenheit and when base is dry.

### 1.5 GENERAL DESIGN CRITERIA:

- A. Services Areas: Approach ramps, driveways, and paved work areas in excess of 4 percent slope shall be provided with a rough texture for non-skid surface.
- B. Walks and Paths: Concrete exterior slabs (walks, terraces, etc.) shall have a pitch of at least 2 percent. (unless otherwise noted on the drawings)
- C. Pavement Markings: All traffic control striping and pavement markings shall conform to the standards illustrated in the CalTrans Standard Plans Book current edition.

## PART 2 - PRODUCTS

## 2.1 PAVING MATERIALS

- A. Aggregate Base: Aggregate base shall conform to Caltrans Class 2 (R value 78 min) aggregate base, 3/4" maximum size, as specified in Section 26 of the CalTrans Standard Specifications.
- B. Asphalt Concrete Paving:
  - 1. Paving asphalt to be mixed with aggregate shall be steam-refined asphalt, AR-4000, conforming to Section 92 of the CalTrans Standard Specifications.
  - 2. Mineral aggregate shall be Type B mineral aggregate as specified in Section 39 of the CalTrans Standard Specifications.
  - 3. Maximum aggregate size shall be as follows:
    - a. Pathways: 1/2" Fine
    - b. Drive Aisle: 3/4" Medium
  - 4. Asphaltic emulsion for paint binder, fog coat, and seal coat shall be emulsified asphalt, Type SS-1h, conforming to Section 94 of the CalTrans Standard Specifications.
- C. Pavement Reinforcement Fabric: Pavement reinforcement fabric shall meet Caltrans Section 88-1.02, BP Petromat or approved equivalent.
- D. Crack Sealant:
  - 1. Crack sealant: Rubberized hot-pour type and shall meet ASTM D 3405, Husky 1611 or approved equivalent.
  - 2. Blotting Agent: One of: Screened sand, cement, or fly ash.
- E. Tack coat: Meet Caltrans Section 39-4.02.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Subgrade and Aggregate Base:
  - 1. Prepare a subgrade and over-excavation per Section 31 20 00 – Earthwork.
  - 2. Aggregate base shall be compacted to 95 percent ASTM D1557. Sections 26-1.04B and 26-1.05 of the CalTrans Standard Specifications shall apply.
  - 3. Apply soil sterilant to prepared subgrade in areas indicated by soils engineer or after installation of rock or aggregate base uniformly at the rate recommended by the manufacturer.
- B. Crack Sealing:
  - 1. Before sealing, clear cracks of dirt, dust, and all other deleterious materials to a depth of 1/4-inch to 1/2-inch.
  - 2. Seal cracks 1/8-inch in width and greater.
  - 3. Apply crack sealer accordance with the manufacturer's recommendations unless otherwise directed.

### 3.2 ASPHALT CONCRETE PAVING

A. General:

1. Proportion, mix, place, spread, and compact asphalt concrete in conformance with Section 39 of the CalTrans Standard Specifications.
2. Before placing asphalt concrete, apply an asphalt emulsion tack coat to all vertical surfaces of existing pavement, curbs, gutters, construction joints, and all existing pavement to be surfaced, in conformance with Section 39 of the CalTrans Standard Specifications.
3. Perform spreading and compacting of asphalt concrete in accordance with Section 39 of the CalTrans Standard Specifications.
4. Apply fog seal to all finished surfaces of asphalt concrete pavement at a rate of 0.05 gallons per square yard, in accordance with Section 37 of the CalTrans Standard Specifications.
5. After fog seal has been applied, allow ample time for drying before traffic is allowed on the pavement or paint striping is applied.

3.3 FIELD QUALITY CONTROL

- A. Asphalt Base: The surface of finished aggregate base shall vary no more than 0.05 feet above or below the grade established as shown on the drawings.

B. Asphalt Concrete Paving:

1. The finished pavement, where not controlled by adjacent structures or features, shall not vary more than 0.05 feet above or below the planned grade, providing it is uniform and free of sharp breaks.
2. The cross section of the finished pavement shall be free of ridges and valleys and shall not vary more than 0.02 feet above or below the theoretical section at any point on the cross section.
3. The specified thickness of the finished pavement shall be the minimum acceptable.
4. Conforms shall form a smooth, pond free transition between exiting and new pavement.
5. Depressions in paving between high points are not to exceed 1/8 inch when measured below 10 feet long straight edged placed anywhere on the surface in any direction.

3.4 CLEANUP

A. General:

1. Surplus material remaining upon completion of paving operations shall become the property of the Contractor, to be removed from the work site and disposed of in a lawful manner.
2. Leave surfaces in a clean, neat, and workmanlike condition, and remove all construction waste, rubbish, and debris from the work site and dispose of in a lawful manner.

END OF SECTION

4/22/23

**SECTION 33 10 00**

**WATER SYSTEMS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This section describes general requirements, products, and methods of execution relating to on-site domestic water and fire water systems serving all buildings and appurtenances. Unless otherwise noted, this section does not apply to irrigation water systems and water systems inside and within 5 feet of buildings. This section applies to:
  - 1. Domestic water distribution and services.
  - 2. Fire water distribution and services.
- B. Contractor shall provide all labor, equipment, materials, and testing services unless otherwise noted.

**1.2 SUBMITTALS**

- A. Comply with requirements of Section 01 33 00 – Submittals.
- B. Product Data: Submit manufacturer's certification of Compliance for all materials used.
- C. Shop Drawings and Calculations: Where an on-site fire water system is required, Contractor shall provide shop drawings for engineer and agency approval prior to construction. Coordinate with the Contract Documents and identify any proposed modifications or deviations. Shop Drawings and Calculations shall be stamped and signed by a registered Fire Protection Engineer licensed by the State of California as required.
  - 1. Include the following information:
    - a. Design assumptions.
    - b. Thrust block sizing and calculations.
    - c. Materials to be used.
    - d. Available water pressure.
    - e. Required water pressure.
  - 2. The review of fire system components constitutes only a portion of the review and approval required. A copy of the fire system component submittal package shall be forwarded to the local fire marshal for further review and approval.
- D. Test Reports:
  - 1. Water Pressure Report: Contractor shall engage the public utility agency, or a qualified testing service to conduct a flow test of the existing water main(s). Provide date and location of test, type and method of test performed, static pressure and residual pressure in psig, observed flow in gpm, and orifice size.
- E. Samples: None specified. Provide as necessary.

1.3 QUALITY ASSURANCE

A. Comply with the latest edition of the following Standards and Regulations:

1. American Water Works Association (AWWA) and American National Standards Institute (ANSI):
  - a. C104/A21.4 ANSI Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
  - b. C105/A21.5 ANSI Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
  - c. C110/A21.10 ANSI Standard for Ductile-Iron and Gray-Iron Fittings, 3 inch - 48 inch for Water.
  - d. C111/A21.11 ANSI Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
  - e. C115/A21.15 ANSI Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
  - f. C116/A21.16 ANSI Standard for Protective Fusion-Bonded Epoxy Coatings Interior & Exterior Surfaces for Ductile-Iron and Gray-Iron Fittings.
  - g. C150/A21.50 ANSI Standard for Thickness Design of Ductile-Iron Pipe.
  - h. C151/A21.51 ANSI Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.
  - i. C153/A21.53 ANSI Standard for Ductile-Iron Compact Fittings for Water Service.
  - j. C500 Metal-Seated Gate Valves for Water Supply Service.
  - k. C502 Dry-Barrel Fire Hydrants.
  - l. C503 Wet-Barrel Fire Hydrants.
  - m. C504 Rubber-Seated Butterfly Valves.
  - n. C507 Ball Valves, 6 inches - 48 inches.
  - o. C508 Swing-Check Valves for Waterworks Service, 2 inches - 24 inches NPS.
  - p. C509 Resilient-Seated Gate Valves for Water Supply Service.
  - q. C510 Double Check Valve Backflow Prevention Assembly.
  - r. C511 Reduced-Pressure Principle Backflow Prevention Assembly.
  - s. C512 Air Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
  - t. C550 Protective Epoxy Interior Coating for valves and Hydrants.
  - u. C600 Installation of Ductile-Iron Water Mains and their Appurtenances.
  - v. C602 Cement- Mortar Lining of water Pipelines in place- 4 inches and larger.
  - w. C605 Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
  - x. C651 Disinfecting Water Mains
  - y. C652 Disinfection of Water-Storage Facilities
  - z. C800 Underground Service Line Valves and Fittings for 1/2 inches - 2 inches.
  - aa. C900 Polyvinyl Chloride (PVC) Pressure Pipe, and Fabricated Fittings, 4 inches - 12 inches, for Water Distribution.
  - bb. C901 Polyethylene (PE) Pressure Pipe and Tubing, 1/2 inches through 3 inches, for Water Service.
  - cc. C905 Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 inches - 48 inches.
  - dd. C906 Polyethylene (PE) Pressure Pipe and Fittings, 4 inches - 63 inches, for Water Distribution and Transmission.
  - ee. C907 Polyvinyl Chloride (PVC) Pressure Fittings for Water, 4 inches - 8 inches.
  - ff. C908 PVC Self-Tapping Saddle Tees for Use on PVC Pipe.
  - gg. D103 Factory-Coated Bolted steel Tanks for water Storage.
2. National Fire Protection Association (NFPA):
  - a. NFPA 13 Standard for the Installation of Sprinkler Systems.

- b. NFPA 14 Standard for the Installation of Standpipe, Private Hydrants, and Hose Systems.
  - c. NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection.
  - d. NFPA 22 Standard for Water Tanks for Private Fire Protection.
  - e. NFPA 24 Private Service Mains and their Appurtenances.
  - f. NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.
3. Uni-Bell Plastic Pipe Association (UNI):
- a. PUB 3 PVC Pipe – Technology Serving the Water Industry.
  - b. PUB 7 External Corrosion of Underground Water Distribution Piping Systems.
  - c. PUB 8 Tapping Guide for AWWA C900 Pressure Pipe.
  - d. PUB 9 Installation Guide for PVC Pressure Pipe.
  - e. B-8 Recommended Practice for the Direct Tapping of Polyvinyl Chloride (PVC) Pressure Water Pipe (Nominal Diameters 6-12 inch).
4. American Society of Testing and Materials (ASTM International):
- a. ASTM A536 Standard Specification for Ductile Iron Castings.
  - b. ASTM A674 Standard Practice for Polyethylene Encasement for Ductile Iron Pipe for Water or Other Liquids.
  - c. ASTM D1785 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
  - d. ASTM D2241 Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe.
  - e. ASTM D2466 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
  - f. ASTM D2564 Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
  - g. ASTM D2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing.
  - h. ASTM D3139 Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
  - i. ASTM D3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
  - j. ASTM D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.
  - k. ASTM F477 Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
  - l. ASTM F1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing.
  - m. ASTM F1056 Standard Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings.
  - n. ASTM A53/A53M Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
  - o. ASTM A795 Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use.
  - p. ASTM A865 Standard Specification for Threaded Couplings, Steel, Black or Zinc-Coated (Galvanized) Welded or Seamless, for Use in Steel Pipe Joints.
  - q. ASTM B88 Standard Specification for Seamless Copper Water Tube.
5. American Society of Mechanical Engineers (ASME):
- a. ASME B16 series for valves, fittings, flanges, and gaskets applicable for use in water systems.
  - b. ASME B1.20.1 American Standard Tapered Pipe Threads for factory-threaded pipe and pipe fittings.
6. National Sanitation Foundation (NSF):
- a. NSF/ANSI 14 Plastics Piping System Components and Related Materials.
  - b. NSF/ANSI 61 Standard for Drinking Water Systems Components – Health Effects.



7. Underwriters Laboratories, Inc. (UL):
    - a. UL 157 Standard for Safety for Gaskets and Seals.
    - b. UL 194 Standard for Safety for Gasketed Joints for Ductile-Iron Pipe and Fittings for Fire Protection Service.
    - c. UL 213 Rubber Gasketed Fittings for Fire-Protection Service.
    - d. UL 246 Standard for Safety for Hydrants for Fire-Protection Service.
    - e. UL 262 Standard for Safety for Gate Valves for Fire-Protection Service.
    - f. UL 312 Standard for Safety for Check Valves for Fire-Protection Service.
    - g. UL 405 Standard for Safety for Fire Department Connections.
    - h. UL 448 Standard for Safety for Pumps for Fire-Protection Service.
    - i. UL 789 Standard for Safety for Indicator Posts for Fire-Protection Service.
    - j. UL 860 Pipe Unions for Flammable and Combustible Fluids and Fire-Protection Service.
    - k. UL 1091 Standard for Safety for Butterfly Valves for Fire-Protection Service.
    - l. UL 1285 Pipe and Couplings, Polyvinyl Chloride (PVC), for Underground Fire Service.
    - m. UL 1468 Direct Acting Pressure Reducing and Pressure Restricting Valves.
    - n. UL 1478 Standard for Safety for Fire Pump Relief Valves.
  8. FM Global (FM):
    - a. FM 1020 Automatic Water Control Valves.
    - b. FM 1045 Waterflow Detector Check Valves.
    - c. FM 1110 Indicator Posts.
    - d. FM 1111 Post-Indicator-Valve-Assembly.
    - e. FM 1112 Indicating Butterfly Valves.
    - f. FM 1120 and FM 1130 Fire Service Water Control Valves (OS&Y and NRS Type Gate Valves).
    - g. FM 1210 Swing Check Valves.
    - h. FM 1221 Backflow Preventers (Reduced Pressure Principle and Double Check Valve Types).
    - i. FM 1311 Centrifugal Fire Pumps (Horizontal, Split-Case Type).
    - j. FM 1312 Centrifugal Fire Pumps (Vertical-Shaft, Turbine Type).
    - k. FM 1319 Centrifugal Fire Pumps (Horizontal, End Suction Type).
    - l. FM 1361 Water Pressure Relief Valve.
    - m. FM 1362 Pressure Reducing Valves.
    - n. FM 1371 Centrifugal Fire Pumps (In-Line Type).
    - o. FM 1510 Fire Hydrants (Dry Barrel Type) for Private Fire Service.
    - p. FM 1511 Fire Hydrants (Wet Barrel Type) for Private Fire Service.
    - q. FM 1530 Fire Department Connections.
    - r. FM 1610 Plastic Pipe & Fittings for Underground Fire Protection Service.
    - s. FM 1620 Pipe Joints & Anchor Fittings for Underground Fire Service Mains.
  9. Plastics Pipe Institute (PPI):
    - a. Underground Installation of Polyethylene Pipe.
    - b. Polyethylene Joining Procedures.
    - c. Inspections, Test and Safety Considerations.
  10. American Association of State Highway and Transportation Officials (AASHTO) for H2O Loading.
  11. American Concrete Institute (ACI).
    - a. ACI 348 - Meter Pit Construction.
  12. Local Standard Specifications and Details.
  13. Local Fire Department Regulations.
  14. Other authorities having jurisdiction.
- B. System Description: Grades and elevations are to be established with benchmarks referenced on Plans.

- C. Comply with County of San Mateo Standards and authorities having jurisdiction for the installation and testing of potable water piping and fire protection systems.
- D. All testing of systems specified in this section shall be witnessed by representatives of the local water department or local authority. Provide at least 7 days notice.
- E. The Contractor shall prepare shop drawings and calculations, and obtain all required approvals for the fire water system of the proposed project. Contractor shall have shop drawings and calculations stamped and signed by a fire protection engineer, licensed by the State of California, as required by the County of Marin.

## PART 2 - PRODUCTS

### 2.1 PIPING

#### A. Water Distribution Main (pipe size 4 inches and larger).

- 1. Ductile Iron Pipe (DIP): Pressure Class 350 pipe conforming to AWWA/ANSI C151/A21.5, cement-mortar lining conforming to AWWA/ANSI C104/A21.4, with standard thickness per AWWA/ANSI C150/A21.50. U.S. Pipe, American Cast Iron Pipe Company (ACIPCO), or approved equivalent.
  - a. Flanged ends shall conform to AWWA/ANSI C115/A21.15.
  - b. Rubber-gasket joints shall conform to AWWA/ANSI C111/A21.11.
- 2. Polyvinyl Chloride Pipe (PVC): Pressure Class 200, DR 14, spigot and gasket bell end, conforming to AWWA C900 or AWWA C905, with equivalent cast-iron pipe outer diameter (O.D.). J-M Manufacturing, PW Pipe, North American Pipe Company, or approved equivalent.
- 3. Polyethylene Pipe (PE): PE 3408, Pressure Class 200, DR 9, conforming to AWWA C906. Driscopipe 4000/4100, or approved equivalent.

#### B. Water Service Line (pipe size 3 inches and smaller)

- 1. Copper (Cu): Provide Type K soft or hard copper pipe conforming to ASTM B88.
- 2. For pipe size 1 inches and smaller High Density Polyethylene Pipe (HDPE): PE3408, Pressure Class 200, DR 9 conforming to AWWA C901. PWPIPE or approved equivalent.

### 2.2 FITTINGS, GASKETS, COUPLINGS, SLEEVES, AND ASSEMBLY BOLTS AND NUTS

- A. For DIP: Provide fittings with pressure rating greater than or equal to that of the pipe. Provide flanged joints, mechanical joints, push-on joints, and insulating joints where indicated. Fittings with push-on joint ends shall conform to the same requirements as fittings with mechanical-joint ends. Provide mechanically coupled type joints using a sleeve-type mechanical coupling where indicated. Provide ends of pipe and fittings suitable for the specified joints. Fittings shall have cement-mortar lining conforming to AWWA/ANSI C104/A21.4.
  - 1. Flanged Joints: Provide bolts, nuts, and gaskets in conformance with AWWA/ANSI C115/A21.15. Flanged fittings shall conform to AWWA/ANSI C110/A21.10 or C153/A21.53.
    - a. Provide flange for set screwed flanges of ductile iron, ASTM A536, Grade 65-45-12, and conform to the applicable requirements of ASME B16.1, Class 250.
    - b. Provide setscrews for set screwed flanges of 190,000 psi tensile strength, heat treated and zinc-coated steel.

- c. Gaskets for set screwed flanges shall conform to the applicable requirements for mechanical-joint gaskets specified in AWWA/ANSI C111/A21.11.
    - d. Design of set screwed gaskets shall provide for confinement and compression of gasket when joint to adjoining flange is made.
    - e. Unless otherwise required, above ground flange assembly bolts shall be standard hex-head, cadmium plated machine bolts with American Standard Heavy, hot-pressed, cadmium plated hexagonal nuts. Buried flange nuts and bolts shall be as above except they shall be of Type 304 stainless steel.
  2. Mechanical Joints: Dimensional and material requirements for pipe ends, glands, bolts and nuts, and gaskets shall conform to AWWA/ANSI C111/A21.11.
  3. Push-on Joints: Provide shape of pipe ends and fitting ends, gaskets, and lubricant for joint assembly conforming to AWWA/ANSI C111/A21.11. Modify bell design fittings, as approved.
  4. Insulating Joints: Provide a rubber-gasketed or other suitable approved type of insulating joint or dielectric coupling which will effectively prevent metal-to-metal contact at the joint between adjacent sections of dissimilar metals.
    - a. Provide joint of the flanged type with insulating gasket, insulating bolt sleeves, and insulating washers.
    - b. Provide gasket of the dielectric type, full face, as recommended in AWWA/ANSI C115/A21.15.
    - c. Provide bolts and nuts as recommended in AWWA/ANSI C115/A21.15.
- B. For PVC: Fittings shall be DIP or PVC.
  1. DIP fittings: Provide gray-iron or ductile-iron conforming to AWWA/ANSI C110/A21.10, with cement-mortar lining conforming to AWWA/ANSI C104/A21.4, and standard thickness, with equivalent cast-iron pipe O.D.
    - a. Fittings with push-on joint ends shall conform to the same requirements as fittings with mechanical-joint ends, except the bell design shall be modified, as approved, for push-on joint suitable for use with PVC plastic pipe.
    - b. Provide push-on joints, compression joints and mechanical joints where indicated between pipe and fittings, valves, and other accessories.
    - c. Mechanical joints, glands, bolts and nuts, and gaskets shall conform to AWWA/ANSI C111/A21.11.
  2. PVC fittings: Provide fabricated PVC fittings for pressure pipe conforming to AWWA C900, C905, or C907.
    - a. PVC fittings shall conform to ASTM D2466.
    - b. Push-on joints shall conform to ASTM D3139.
    - c. Compression joints shall conform to ASTM D3139.
    - d. Provide each joint connection with an elastomeric gasket suitable for the bell or coupling with which it is to be used. Gaskets shall conform to ASTM F477.
- C. For PE: Fittings shall conform to AWWA C901 or AWWA C906. Driscopipe, or approved equivalent.
  1. Socket type fittings shall conform to ASTM D2683.
  2. Butt fusion fittings shall conform to ASTM D3261.
  3. Electrofusion fittings shall comply with ASTM F1055.
- D. For Cu:
  1. Cast copper alloy solder-joint pressure fittings shall conform to ASME B16.18.
  2. Wrought copper solder-joint pressure fittings or wrought copper alloy unions shall conform to ASME B16.22
  3. Cast copper alloy flare fittings shall conform to ASME B16.26.

4. Wrought copper alloy body, hexagonal stock, metal-to-metal seating surfaces, and solder-joint threaded ends shall conform to ASME B1.20.1.
5. Compression connections shall be Mueller 110, Ford or approved equivalent.

E. For HDPE:

1. Cast Copper Fittings shall conform to ASME B16.18.
2. Cast Copper Compression Fittings and connections shall be Mueller 110 Ford or approved equivalent.

### 2.3 GATE VALVES AND BALL VALVES

A. Gate Valves: Valves shall open by counterclockwise rotation of the valve stem. Provide valves with ends as appropriate for the adjoining pipe.

1. Stuffing boxes shall have O-ring stem seals. Provide stuffing boxes bolted and constructed so as to permit easy removal of parts for repair.
2. Valves (2-1/2 inches and larger):
  - a. Provide valves conforming to AWWA C500 or AWWA C509 and of one manufacturer. Valves shall have a non-rising stem, a 2-inch square nut, and double-disc gates. Valves shall be rated for 250 psi maximum working pressure. Mueller 2360 series, ACIPCO, or approved equivalent.
  - b. For the domestic water system, valves shall also conform to ANSI/NSF 61.
  - c. For the fire water system, valves 2 inches through 16 inches in size shall also conform to UL 262 and FM 1120 or FM 1130 to a working pressure of 200 psi.
3. Where a post indicator is shown, provide valve with an indicator post flange.

B. Ball Valves: Valves shall open by counterclockwise rotation of the valve stem. Provide valves with ends as appropriate for the adjoining pipe.

1. Valves (2-inches and smaller):
  - a. Provide valves conforming to AWWA C800 and of one manufacturer. Mueller 300 Series, Ford, or approved equivalent.
2. Provide valve with operating nut or handle as shown on the Construction Documents.

### 2.4 BLOW-OFF VALVES, AIR RELEASE AND VACUUM VALVES, AND COMBINATION AIR VALVES

A. Blow-off valves: Provide valve and service size as shown in the Contract Documents. Provide 2-inch valves at low points of the piping system, and 4-inch valves at dead-ends of the piping system, unless otherwise directed by the Engineer.

1. 2-inch blow-off shall have a 2-inch vertical female iron pipe (FIP) inlet and a 2-inch normal pressure and temperature (NPT) nozzle outlet with cap. Valve shall open by counterclockwise rotation of a top-mounted 9/16-inch square operating nut. All working parts shall be serviceable without excavation. Kupferle/Truflo Model TF550, or approved equivalent.
2. 4-inch blow-off shall have a 4-inch vertical FIP inlet and a 4-inch male iron pipe (MIP) outlet with cap. Valve shall open by counterclockwise rotation of a top-mounted 9/16-inch square operating nut. All working parts shall be serviceable without excavation. Kupferle/Truflo Model TF800, or approved equivalent.

- B. Air release and vacuum valves: Provide valve and service size as shown on the Contract Documents, and where there is an increase in the downward slope or a decrease in the upward slope of the piping system. Valve shall have cast-iron single valve body, and shall conform to AWWA C512. A compound lever system shall have a maximum operating pressure of 300psi. Provide a protective cap for the outlet of the valve. Provide universal air-vacuum type valves, Crispin Model UL, Apco, or approved equivalent.
- C. Combination air valves: Provide valve and service size as shown on the Contract Documents, and at high points and sharp changes in gradient of the pipe system. Valve shall have cast-iron single valve or double valve body, and shall conform to AWWA C512. A simple or compound lever system shall have a maximum operating pressure of 300psi. Provide a protective cap for the outlet of the valve. Crispin Model C, Apco, or approved equivalent.

## 2.5 CHECK VALVES

- A. Check Valves: Valves shall have clear port opening and a cast-iron body. Provide spring-loaded or weight-loaded valves where indicated on the Construction Documents.
  - 1. For the domestic water system, provide swing-check type valves conforming to AWWA C508. Provide valves of one manufacturer. Mueller, Apco, or approved equivalent.
  - 2. For the fire water system, provide swing-check type valves conforming to FM 1210 and UL 312. Mueller, Watts, or approved equivalent.

## 2.6 PRESSURE REDUCING VALVES

- A. Pressure Reducing Valves: Valves shall have a cast-iron body, conforming to ASTM A536, with epoxy interior coating conforming to AWWA, and rated to pressure class .300. Cla-Val Model 90-01, Singer, or approved equivalent.
  - 1. Valves shall have flanged ends.
  - 2. Valves sized 3-inches or smaller may have screwed ends.

## 2.7 POST INDICATORS

- A. Posts Indicators shall withstand up to 900 ft-lbs of operating torque, be free-standing, and tamper-proof.
- B. Post Indicators shall conform to UL 789 and FM 1110. Mueller, ACIPCO, or approved equivalent.

## 2.8 VALVE BOXES, METER BOXES, FRAMES AND COVERS

- A. Water Valve Box: Provide pre-cast concrete valve box for each buried valve. Provide box with steel or cast iron traffic cover marked "WATER". Christy Model G5 with G5C cover or approved equivalent.
- B. Valve or Meter Boxes: Contractor shall verify box size required for water system appurtenances as shown in the Contract Documents. Provide a precast concrete utility box for each buried appurtenance. Provide a traffic-rated lid for H20 loading. A non-traffic rated lid may be used for boxes located in landscape areas. Christy, or approved equivalent.

## 2.9 BACKFLOW PREVENTERS

- A. Provide backflow preventers as shown on the Contract Documents. Subject to local water department approval. Backflow preventers on the fire water system shall be subject to approval by the local office of the fire marshal.
- B. Reduced Pressure Principle Assemblies (RPPA): Provide a cast-iron body RPPA consisting of two independently operating check valves with a pressure differential relief valve located between the two check valves, two shut-off valves and four test cocks. RPPA shall be tamper-proof and conform to AWWA C511. Febco 860, Watts, or approved equivalent.
- C. Double Check Detector Assemblies (DCDA): Provide a cast-iron body DCDA consisting of mainline double check assemblies in parallel with a bypass double check and meter assembly, two shut-off valves and four test cocks. DCDA shall be tamper-proof and conform to AWWA C510. Febco 806, Watts, or approved equivalent.

## 2.10 FIRE DEPARTMENT CONNECTIONS AND WET STAND PIPES

- A. Fire Department Connections (FDC): Provide FDC's with 2-1/2 inch female hose connections, sidewalk or free-standing type. Number of inlets shall be as shown on the Contract Documents. Clapper and spring check inlets shall each have a minimum capacity of 250 gpm, and be furnished with a cap and chain. Outlet shall be sized for simultaneous use of all inlets. Connection shall be branded "AUTO SPKR".
  - 1. 2-Way FDC: Connection shall conform to UL 405 or FM 1530. Elkhart, Croker, or approved equivalent.
  - 2. 3-Way FDC: Connection shall be subject to approval by the local water department or fire marshal. Elkhart, Croker, Potter-Roemer or approved equivalent.
  - 3. 4-Way FDC: Connection shall conform to UL 405. Potter-Roemer, Croker, or approved equivalent.
  - 4. 6-Way FDC: Connection shall be subject to approval by the local water department or fire marshal. Croker, Potter-Roemer or approved equivalent.
- B. Wet Stand Pipes (WSP): Provide 2-Way WSP's with valves and two (2) 2-1/2 inch male hose connections free-standing type, with a 4" inlet. Each outlet shall each have a minimum capacity of 250 gpm, and be furnished with a cap and chain. Water to the WSP shall be controlled with a remote valve. Connection shall be branded "HYDRANT". Subject to approval by the local water department or fire marshal. Croker, Elkhart, Potter-Roemer or approved equivalent.

## 2.11 FIRE HYDRANTS

- A. Provide two 2-1/2 inch and one 4-1/2 inch outlets, with a 6-inch nominal inside diameter inlet and break-away type bolts. Hydrant shall have a working pressure of 250 psi and shall conform to AWWA C502 or C503, and be UL listed and FM approved. Provide hydrants of one manufacturer. Clow 800 series, Mueller, ACIPCO, or approved equivalent, subject to approval by the local water department and fire marshal.

## 2.12 THRUST BLOCKS AND PIPE RESTRAINTS

- A. Thrust Blocks: Provide thrust blocks in accordance with NFPA 24 Standards. Use concrete conforming to ASTM C94 having a minimum compressive strength of 2,500 psi at 28 days; or

use concrete of a mix not leaner than one part cement, 2-1/2 parts sand, and 5 parts gravel, having the same minimum compressive strength.

- B. Pipe Restraints: Provide thrust restraint systems for fittings and joints as required or as indicated on the Plans.
  - 1. For mechanical joint fittings and joints: Pipe restraints shall be "Mega-Lug" pipe restraint system by EBBA Iron, Inc., or approved equivalent.
  - 2. For push-on joint fittings and joints: Pipe restraints shall be "Field-Lok" gaskets by U.S. Pipe, or approved equivalent.
- C. Thrust blocks, gravity blocks, or mechanical pipe restraints may be used at Contractor's option, unless otherwise indicated on the Plans.
- D. Provide thrust blocks or mechanical pipe restraints at all fittings and changes in angle, alignment or elevation.
- E. Where depth or location of water piping, existing utilities, or other structures prohibit the use of standard thrust blocks, gravity blocks or mechanical pipe restraints may be used. Conform to NFPA 24 Standards.

#### 2.13 TAPPING SLEEVES AND TAPPING VALVES

- A. Tapping sleeves shall be epoxy coated and furnished with stainless steel washers, nuts and bolts. Mueller H-615 and H-619, Ford, or approved equivalent.
- B. Tapping valves shall have flanged inlet, Class 125, conforming to ASME B16.1 and furnished with stainless steel washers, nuts and bolts. Tapping valves shall be constructed with a mechanical joint outlet. Mueller T-687, T-642, T-681, or approved equivalent.

#### 2.14 SERVICE SADDLES AND CORPORATION STOPS

- A. Service Saddles shall conform to AWWA C800 and NSF 61.
  - 1. For DIP: Provide bronze or stainless steel body, double strap type with a 200 psi maximum working pressure. Mueller BR2 Series, Ford, or approved equivalent.
  - 2. For PVC: Provide bronze body, wide strap type. Mueller H-13000 Series, Ford, or approved equivalent.
  - 3. For PE:
- B. Corporation Stops: Provide ground key type; bronze conforming to ASTM B61 or ASTM B62, for a working pressure of 100 psi. and suitable for the working pressure of the system.
  - 1. Ends shall be suitable for adjoining pipe and connections, solder-joint, or flared tube compression type joint.
  - 2. Threaded ends shall conform to AWWA C800.
  - 3. Coupling nut for connection to flared copper tubing shall conform to ASME B16.26.
  - 4. Mueller H-15000 Series with "CC" threads and a copper flare straight connection outlet, Ford, or approved equivalent.

#### 2.15 IDENTIFICATION MATERIALS AND DEVICES

- A. Marker Tape: Provide marker tape consisting of metallic foil bonded to plastic film not less than 2-inches wide. Film shall be inert polyethylene plastic. Film and foil shall each not be less than 1-mil. thick. The tape shall be identified with lettering, not less than 3/4-inch high, "CAUTION: WATER MAIN BELOW", repeated at approximately 24-inch intervals.
- B. Tracer Wire for Nonmetallic Piping: Provide 12 gage, coated copper or aluminum wire not less than 0.10 inch in diameter in sufficient length to be continuous over each separate run of nonmetallic pipe. Wire shall be tied in at all valves.

## 2.16 CORROSION PROTECTION

- A. In soils with high resistivity, high sulfides, high/low ph, redox potential and/or poor surrounding drainage conditions, or as indicated in the Contract Documents, encase underground pipe and appurtenances in 4-mil, high-density cross-laminated (HDCL) polyethylene film or 8-mil linear low-density (LLD) polyethylene film in accordance with AWWA/ANSI C105/A21.5. U.S. Pipe, ACIPCO, or approved equivalent.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces and areas for suitable conditions where water service is being installed.
- B. Do not begin installation until unsatisfactory conditions have been corrected.

### 3.2 LOCATION OF WATER LINES

- A. Where the location of the water line is not clearly defined by dimensions on the Plans, do not lay water line closer than 10 feet horizontally from any sewer line.
- B. Where water lines cross under gravity sewer lines, encase sewer line in concrete for a distance of at least 10 feet on each side of the crossing, unless sewer line is made of pressure pipe with rubber-gasketed joints and no joint is located within 3 feet horizontally of the crossing.
- C. Where water lines cross sewer force mains and inverted siphons, install water line at least 2 feet above these sewer lines.
- D. When joints in the sewer line are closer than 3 feet horizontally from the water line, encase sewer line joints in concrete.
- E. Do not lay water lines in the same trench with other utilities.
- F. Install water lines at 3'-0" minimum depth or as detailed on Plans.

### 3.3 INSTALLATION OF PIPING

- A. Inspection:
  - 1. Before placing in position, inspect pipe for noticeable defects. Clean the pipe, fittings, valves, and accessories, and maintain in a clean condition.



2. Remove fins and burrs from pipe and fittings.
- B. Pipe laying and jointing:
1. Provide proper facilities for lowering sections of pipe into trenches.
  2. Do not drop or dump pipe, fittings, valves, or any other water line material into trenches.
  3. Cut pipe accurately to length established at the site and work into place without springing or forcing. Replace any pipe or fitting that does not allow sufficient space for proper installation of jointing material.
  4. Blocking or wedging between bells and spigots will not be permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying.
  5. Grade the pipeline in straight lines; avoid the formation of dips and low points.
  6. Support pipe at proper elevation and grade.
  7. Provide secure firm, uniform support. Wood support blocking will not be permitted.
  8. Lay pipe so that the full length of each section of pipe and each fitting rests solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings.
  9. Provide anchors and supports where indicated and where necessary for fastening work into place.
  10. Make proper provision for expansion and contraction of pipelines.
  11. Keep trenches free of water until joints have been properly made.
  12. Do not lay pipe when conditions of trench or weather prevent proper installation.
  13. All fittings shall be blocked with appropriately sized thrust blocks as shown in the Contract Documents.
- C. Installation of Tracer Wire:
1. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe.
  2. Attach wire to top of pipe in such manner that it will not be displaced during construction operations.
- D. Connections to Existing Lines:
1. Make connections to existing water lines after approval is obtained and with a minimum interruption of service on the existing line.
  2. Make connections to existing lines under pressure in accordance with the recommended procedures of a manufacturer of pipe of which the line being tapped is made.
- E. At the end of each work day, close open ends of pipe temporarily with wood blocks or bulkheads to keep out debris and contamination.

### 3.4 INSTALLATION OF DUCTILE-IRON PIPING

- A. Install pipe and fittings in accordance with requirements of AWWA C600 for pipe installation, joint assembly, valve-and-fitting installation, and thrust restraint.
- B. Jointing:
1. Provide push-on joints with the gaskets and lubricant specified for this type joint; assemble in accordance with the applicable requirements of AWWA C600 for joint assembly.
  2. Provide mechanical joints with the gaskets, glands, bolts, and nuts specified for this type joint; assemble in accordance with the applicable requirements of AWWA C600 for joint assembly and with the recommendations of AWWA C111.
  3. Provide flanged joints with the gaskets, bolts, and nuts specified for this type joint.

- a. Install flanged joints up tight; avoid undue strain on flanges, fittings, valves, and other equipment and accessories.
  - b. Align bolt holes for each flanged joint.
  - c. Use full size bolts for the bolt holes; use of undersized bolts to make up for misalignment of bolt holes or for any other purpose will not be permitted.
  - d. Do not allow adjoining flange faces to be out of parallel to such degree that the flanged joint cannot be made watertight without over straining the flange.
  - e. Where flanged pipe and fitting have dimensions that do not allow the installation of a proper flanged joint as specified, replace it by one of proper dimensions.
  - f. Use setscrewed flanges to make flanged joints where conditions prevent the use of full-length flanged pipe. Assemble in accordance with the recommendations of the setscrewed flange manufacturer.
4. Provide insulating joints with the gaskets, sleeves, washers, bolts, and nuts previously specified for this type joint. Assemble insulating joints as specified for flanged joints. Bolts for insulating sleeves shall be full size for the bolt holes.
  5. Ensure that there is no metal-to-metal contact between dissimilar metals after the joint has been assembled.
- C. Exterior Protection: Completely encase buried ductile iron pipelines and underground appurtenances with polyethylene wrap. Install 8-mil linear low-density polyethylene (LLD) film or 4-mil high-density cross-laminated (HDCL) film per manufacturer's recommendations and in accordance with AWWA/ANSI C105/A21.5 and ASTM A674.
- D. Pipe Anchorage:
1. Provide concrete thrust blocks or restrained joints for pipe anchorage, except where metal harness is indicated on the Construction Documents.
  2. Pipe anchorage shall be in accordance with NFPA 24 Standards.

### 3.5 INSTALLATION OF POLYVINYL CHLORIDE PIPING

- A. Install pipe and fittings in accordance with the requirements of UNI B-3 for the following:
1. The laying of pipe, joining PVC pipe to fittings and accessories.
  2. The setting of hydrants, valves, and fittings.
- B. Comply with the recommendations for pipe joint assembly and appurtenance installation in AWWA Manual M23, Chapter 7, "Installation".
- C. Comply with the applicable requirements of AWWA C600 for joint assembly, and with the recommendations of Appendix A to AWWA C111.
- D. Jointing:
1. Provide push-on joints with the elastomeric gaskets specified for this type joint, using either elastomeric-gasket bell-end pipe or elastomeric-gasket couplings.
  2. For pipe-to-pipe push-on joint connections, use only pipe with push-on joint ends having factory-made bevel.
  3. For push-on joint connections to metal fittings, valves, and other accessories, cut spigot end of pipe off square and re-bevel pipe end to a bevel approximately the same as that on ductile-iron pipe used for the same type of joint.
  4. Use an approved lubricant recommended by the pipe manufacturer for push-on joints.

5. Assemble push-on joints for connection to fittings, valves, and other accessories in accordance with the requirements of UNI B-3 for joining PVC pipe to fittings and accessories and with the applicable requirements of AWWA C600 for joint assembly.
6. Make compression-type joints/mechanical-joints with the gaskets, glands, bolts, nuts, and internal stiffeners previously specified for this type joint. Cut off spigot end of pipe for compression-type joint or mechanical-joint connections and do not re-bevel.
7. Assemble joints made with sleeve-type mechanical couplings in accordance with the recommendations of the coupling manufacturer using internal stiffeners as previously specified for compression-type joints.

E. Pipe Anchorage:

1. Provide concrete thrust blocks or restrained joints for pipe anchorage, except where metal harness is indicated on the Construction Documents.
2. Anchorage shall be in accordance with the requirements of UNI B-3 and in accordance with NFPA 24 Standards for reaction or thrust blocking and plugging of dead ends, except that size and positioning of thrust blocks shall be as indicated on the Construction Documents.

3.6 INSTALLATION OF POLYETHYLENE PIPING

A. Install pipe, fittings, and appurtenances in accordance with PPI and Manufacturer's Recommendations.

B. Jointing:

1. Provide mechanical joints, compression fittings, or flanges as recommended by the manufacturer.
2. Jointing shall be performed using proper equipment and machinery by trained and certified personnel.
3. Joints, fittings and tools shall be clean and free of burrs, oil, and dirt.
4. Butt fusion:
  - a. Pipe ends shall be faced to establish clean, parallel mating surfaces.
  - b. Align and securely fasten the components to be joined squarely between the jaws of the joining machine.
  - c. Heat the ends of the pipe to the pipe manufacturer's recommended temperature interface pressure and time duration. A pyrometer or other surface temperature measuring device should be used to insure proper temperature of the heating tool. Temperature indicating crayons shall not be used on a surface which will come into contact with the pipe or fitting.
  - d. Prevent molten plastic from sticking to the heater faces. Molten plastic on the heater faces shall be removed immediately according to the tool manufacturer's instructions.
  - e. Bring the molten ends together with sufficient pressure to properly mix the pipe materials and form a homogeneous joint. Hold the molten joint under pressure until cooled adequately to develop strength. Refer to the Manufacturer's recommendations for temperature, pressure, holding, and cooling times.
  - f. Remove the inside bead from the fusion process using Manufacturer's recommended procedure.
5. Socket fusion:
  - a. Mixing manufacturers' heating tools and depth gages will not be allowed unless the tools conform to ASTM F1056.
  - b. Pipe ends shall be faced square to establish clean, parallel mating surfaces.
  - c. Clamp the cold ring on the pipe at the proper position using a depth gauge.

- d. Heat the tool to the pipe manufacturer's recommended temperature. A pyrometer or other surface temperature measuring device should be used to insure proper temperature. Temperature indicating crayons shall not be used on a surface which will come into contact with the pipe or fitting.
  - e. Follow manufacturer's recommendations for bringing the hot tool faces into contact with the outside surface of the end of the pipe and the inside surface of the socket fitting.
  - f. Simultaneously remove the pipe and fitting from the tool.
  - g. Inspect the melt pattern for uniformity and immediately insert the pipe squarely and fully into the socket of the fitting until the fitting contacts the cold ring. Do not twist the pipe or fitting during or after the insertion.
  - h. Hold or block the pipe in place during cooling.
6. Electrofusion:
- a. Unless the operation is for a saddle-type electrofusion joint, pipe ends shall be faced square to establish clean, parallel mating surfaces.
  - b. Clamp the pipe and fitting at the proper position in the fixture.
  - c. Connect the electrofusion control box to the fitting and to the power source. Apply the electric current using manufacturer's instructions.
  - d. Allow the joint to cool before removing the clamping fixtures.

### 3.7 INSTALLATION OF VALVES

- A. Install gate valves conforming to AWWA C500 and UL 262 in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix (Installation, operation, and Maintenance of Gate Valves) to AWWA C509.
- B. Install gate valves conforming to AWWA C509 in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix (Installation, Operation, and Maintenance of Gate Valves) to AWWA C509.
- C. Install gate valves on PVC water mains in addition in accordance with the recommendations for appurtenance installation in AWWA Manual M23, Chapter 7, "Installation."
- D. Install check valves in accordance with the applicable requirements of AWWA C600 for valve-and-fitting installation, except as otherwise indicated.
- E. Provide and assemble joints to gate valves and check valves as specified for making and assembling the same type joints between pipe and fittings.

### 3.8 INSTALLATION OF VALVE AND METER BOXES

- A. Boxes shall be centered over the appurtenance so as not to transmit shock or stress. Covers shall be set flush with the surface of the finished pavement, or as shown in the Construction Documents. Backfill shall be placed around the boxes and compacted to the specified level in a manner that will not damage or displace the box from proper alignment or grade. Misaligned boxes shall be excavated, plumbed, and backfilled at no additional cost to the Owner.

### 3.9 INSTALLATION OF HYDRANTS

- A. Install hydrants, except for metal harness, plumbed vertical, in accordance with AWWA C600 for hydrant installation and as indicated.

- B. Provide and assemble joints as specified for making and assembling the same type joints between pipe and fittings. Hydrants shall be set so that mounting bolts clear the top of finished grade by three inches so bolts may be easily replace if needed.
- C. Provide metal harness as specified under pipe anchorage requirements for the respective pipeline material to which hydrant is attached.

### 3.10 SERVICE LINE CONNECTIONS TO WATER MAINS

- A. Connect service lines of size shown on plans to the main with a rigid connection or a corporation stop and gooseneck. Install a gate valve on the service line.
- B. Connect service lines to ductile-iron water mains in accordance with AWWA C600 for service taps.
- C. Connect service lines to PVC plastic water mains in accordance with UNI-B-8 and the recommendations of AWWA Manual M231, Chapter 9, "Service Connections."

### 3.11 INSTALLATION OF BACKFLOW PREVENTERS

- A. Backflow devices shall be installed horizontal and level, with three feet minimum clearances from obstructions.

### 3.12 HYDROSTATIC PIPELINE TESTING

#### A. Requirements:

1. After the pipe has been laid and backfilled, perform hydrostatic pressure tests.
2. Do not conduct tests until at least 12 hours have elapsed since pipe laying and at least 5 days have elapsed since placing of concrete thrust blocks.
3. Fill the pipe with water which shall remain without external application of pressure for 24 hours before tests are conducted.
4. Prior to hydrostatic testing, flush pipe system with fresh water until piping is free of dirt and foreign matter.
5. Apply pressure by a pump and measured by a test gage. All necessary apparatus and labor for conducting the pressure and leakage tests shall be furnished by the Contractor.
6. Ensure the release of air from the line during filling, and prevent collapse due to vacuum when dewatering the line.
7. For pressure test, use a hydrostatic pressure not less than 200 psi. The duration of the test shall not be less than 4 hours with the variation in pressure of not more than 5 psi for the duration of the test.

#### B. Leakage Tests:

1. Perform tests at the same time as pressure tests.
2. Leakage rate shall be measured for at least 4 hours with a certified water meter, or other approved method. If requested, meter certification shall be submitted to the Owner for approval prior to testing.
3. Leakage shall not be measured by a drop in pressure in a test section over a period of time.
4. Leakage at mechanical couplings and joints, tapping sleeves, saddles, flanged joints, and copper piping will not be accepted. Correct any visible leaks.

5. Push-on joints: Test ductile iron pipe for leakage in accordance with AWWA C600 as shown in the following table:

TABLE 1  
 Allowable Leakage per 1000 feet of DIP Pipeline (Gal/Hr)

Average Test Pressure (psi)	Nominal Pipe Diameter - Inches									
	3	4	6	8	10	12	14	16	18	20
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12

6. When the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.
7. Test polyvinyl chloride pipe for leakage in accordance with the recommendations of the Uni-Bell Plastic Pipe Association (UNI) as shown in the following table:

TABLE 2  
 Allowable Leakage per 1000 feet of 50 joints of PVC Pipeline (Gal/Hr)

Nominal Pipe Size (inches)	Average Test Pressure in Line (psi.)	
	200	250
4	0.38	0.43
6	0.57	0.64
8	0.76	0.85
10	0.96	1.07
12	1.15	1.28
14	1.34	1.50
16	1.53	1.71
18	1.72	1.92
20	1.91	2.14

8. Should any section of new pipe fail to pass either test, locate and repair the defective pipe and repeat the test.

3.15 STERILIZATION AND FLUSHING

- A. General: Disinfect domestic water lines, mains, and branches by chlorination in accordance with AWWA C601 and as herein specified.
- B. Sterilization Methods:
  1. Liquid Chlorine Solution Method:

- a. Flush all foreign matter from mains, branch runs, hydrant runs, and installed services.
- b. Introduce liquid chlorine solution at appropriate locations to assure uniform distribution through the facilities at the proper concentration.
- c. Do not use installed copper service lines to convey the concentrated chlorine solution to the mains.
- d. The sanitizing solution shall be retained in the facilities for a period of 24 hours after which each service, hydrant run, branch run and dead end shall be flushed until:
  - i. Residual chlorine is less than 1 part per million.
  - ii. Residual chlorine is no greater than the concentration of chlorine in the water supplied for flushing.
- e. Chlorine shall be a 1 percent solution (containing 10,000 parts per million available chlorine) or shall be obtained by use of dry chlorine in tablet form firmly attached to inside tope of the pipe.
- f. The required concentration of chlorine in the pipe is 50 parts per million. This concentration may be attained by adding 5 gallons of the chlorine solution to 1,000 gallons of water.
- g. The weight of chlorine or chlorine compound required to make a 1 percent chlorine solution is as follows:

TABLE 3  
 One-Percent Chlorine Solution Mix

AMOUNT OF PRODUCT COMPOUND		QUANTITY OF WATER (in gallons)
High-Test Calcium Hypochlorite (65-70% Cl)	1 pound	7.50
Chlorinated Lime (32-35% Cl)	2 pounds	7.50
Liquid Laundry Bleach (5.25% Cl)	1 gallon	4.25
Liquid Chlorine (100% available chlorine)	0.62 pounds	7.50

2. HTH Tablet Method:
  - a. The required concentration of chlorine in the mains may be obtained by the use of HTH tablets as produced by Olin Mathieson in the following quantities or approved equivalent:

TABLE 4  
 HTH Tablet (70%) Dosage  
 Number of Tablets Per Length of Pipe

Length of Section	DIAMETER OF PIPE				
	4 inches	6 inches	8 inches	10 inches	12 inches
13 feet	1	2	3	4	6
18 feet	1	2	3	5	6
20 feet	1	2	3	5	7
30 feet	2	3	5	7	10
36 feet	2	3	5	8	12

Length of Section	DIAMETER OF PIPE				
	2	4	6	9	14
40 feet	2	4	6	9	14
100 feet	4	9	15	23	30

- b. Tablets are to be fastened to the inside top surface of each length of pipe using "Permatex No. 1" no earlier than the day pipe is laid.
- c. Tablets shall not be installed in the pipe and left overnight before laying and shall not be accessible at any time for casual pilferage by the general public or by children. Tablets shall be stored in a hermetically sealed container.
- d. The new water lines are to be slowly filled with water. Air is to be exhausted from each dead end, branch run, hydrant run, and installed service.
- e. Water shall be retained for a period of 24 hours, after which each service, hydrant run, branch run and dead end shall be thoroughly flushed to clear foreign matter and until:
  - i. Residual chlorine concentration is less than 1 part per million
  - ii. Residual chlorine is no greater than the concentration of chlorine in the water supplied for flushing.

C. Bacteriological Testing:

- 1. Samples shall be gathered and tests conducted at the expense of the Contractor by a laboratory certified by the California Department of Health Services as an Environmental Testing Laboratory (ELAP).
- 2. Samples are to be taken at representative points as required by the Owner and authorities having jurisdiction.
- 3. The new water lines shall remain isolated and out of service until satisfactory test results have been obtained that:
  - a. Meet the requirements of the California Department of Health Services, Drinking Water Standards.
  - b. District has accepted the results as indicative of the bacteriological condition of the facilities.
  - c. If unsatisfactory or doubtful results are obtained from the initial sampling, repeat the chlorination process until acceptable test results are reported.

END OF SECTION

4/22/23



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**SECTION 33 30 00**

**SANITARY SEWER**

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PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Exterior sanitary sewage system complete with manholes, cleanouts, and pipelines from points of connection to the interior plumbing system of the building to the existing sewage mains.
- B. Related Documents: The Conditions of the Contract and Division 1 apply to this section as fully as repeated herein.

1.02 REFERENCES

- A. The editions of the specifications and standards referenced herein, published by the American Society for Testing and Materials (ASTM), apply to the work only to the extent specified by the reference. Refer to Section 01 42 19 for information concerning availability and use of references.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's catalog cuts of pipe, fittings, joints and couplings; valves; hydrants; and valve boxes.
- B. On a set of Contract Drawings, kept at the site during construction, the Contractor shall mark construction that is installed differently from that indicated. Locate materials installed underground by dimensions from fixed identifiable points whether installed as indicated or not.
- C. Submittal procedures and quantities are specified in Section 01 33 00.

1.04 REGULATORY REQUIREMENTS

- A. Materials and installation shall be in accordance with the following documents hereinafter referred to as the "Standard Specifications". Local City or County Public Works Standards and Specification

1.05 DELIVERY, STORAGE, AND HANDLING:

- A. Delivery and Storage: Do not store materials directly on the ground. Support the pipe uniformly during shipping and storage. Do not stack higher than 4 feet nor stack with weight on bells. Cover plastic pipe to protect it from sunlight. Keep inside of pipe and fittings free of dirt and debris. Avoid scratching the pipe surface.
- B. Do not install pipe that is cracked, broken, gouged, scratched or forming a clear depression. Remove damaged pipe from the site.

- C. Hoist pipe with mechanical equipment using a cloth belt sling or a continuous fiber rope which avoids scratching the pipe. Pipes may be lowered by rolling on two ropes controlled by snubbing.

## PART 2 - PRODUCTS

### 2.01 PIPE AND FITTINGS

- A. Polyvinyl Chloride (PVC) Sewer Pipe and Fittings: ASTM D 3034-16, Type PSM, SDR 26. Joints shall be solvent weld type meeting the requirements of ASTM D 2855-15 using solvent meeting the requirements of ASTM D 2564-12.
- B. Polyvinyl Chloride (PVC) Sewer Pipe and Fittings: ASTM 0 3034-00, Type PSM, SDR 26. [ Joints shall be solvent weld type meeting the requirements of ASTM 0 2855-96 using solvent meeting the requirements of ASTM 0 2564-96a. ] [ Joints shall be elastomeric type meeting the requirements of ASTM 0 3212-96a using elastomeric seals meeting the requirements of ASTM F 477-99. ]
- C. Acrylonitrile-Butadiene-Styrene (ABS) or Polyvinyl Chloride (PVC) Composite Sewer Pipe and Fittings: ASTM 0 2680-95a, Schedule 40 with solvent welded joints made with solvent meeting the requirements of ASTM 0 2235-96a for ABS pipe and ASTM 0 2564-96a for PVC pipe.

Installation:

- 1. Acrylonitrile-Butadiene-Styrene (ABS) Plastic Piping and Fittings: Install in accordance with ASTM D 2321.

### 2.02 MATERIALS FOR MANHOLES

- A. Precast Concrete Units: Manhole sections shall comply with ASTM C 478 except that portland cement shall be Type II, low alkali. Gaskets for joints between section shall comply with ASTM C 443.
- B. Manhole Frame and Cover Sets: None.
- C. Concrete construction shall comply with Section 03 30 00.

## PART 3 - EXECUTION

### 3.01 UTILITY CONNECTIONS

- A. Permits and Fees: Refer to the Conditions of the Contract for requirements for permits and fees.
- B. Connections to Plumbing Systems: Make connections of service laterals to plumbing facilities at a location 5 feet outside the building line as indicated. Connections shall be made utilizing standard prefabricated adaptors installed in accordance with the pipe manufacturer's recommendations.

3.02 EARTHWORK

- A. Trenching, bedding, backfilling, and compacting requirements are specified in Section 31 20 00.

3.03 INSTALLATION

- A. Pipe and Fittings: Inspect each section of pipe and fittings before lowering the pipe or fitting into the trench. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.
  - 1. Handle pipe in a manner to avoid any damage to the pipe. Do not drop or allow pipe to fall into trenches.
  - 2. When installing pipe in trenches, do not deviate more than 1 inch from line or 1/4 inch from grade. Measure for grade at the pipe invert.
  - 3. When the pipe laying IS not in progress, including lunch hours, close the open ends of pipe. Do not permit trench water, animals, or foreign material to enter the pipe.
  - 4. Vitrified Clay Pipe: Install in accordance with ASTM C 12.
  - 5. Polyvinyl Chloride (PVC) Piping and Fittings: Install in accordance with ASTM D 2321.
- B. Manholes: Install precast manhole sections in accordance with ASTM C 891. Provide gaskets at joints between sections.
- C. Cleanouts: Construct cleanouts of pipe and fittings extended to grade and provide ferrule and countersunk clean out plug.

3.04 CLEANING

- A. Rodding Sewers: All sanitary sewer lines shall be rodded out. Rodding shall be accomplished utilizing a rotary cutter which shall be full size of pipe being cleaned. The lines shall be flushed simultaneously. Rodding shall not take place until building is complete, but before occupancy. This construction shall be done in the presence of the Inspector.

END OF SECTION

2/23/23