PROJECT MANUAL

BID NUMBER: 101

REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS PROJECT

TAMALPAIS UNION HIGH SCHOOL DISTRICT

BIDS FEBRUARY 26, 2025

SEALS PAGE

DOCUMENT 00 01 02

REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS

AT

REDWOOD HIGH SCHOOL, LARKSPUR, CALIFORNIA

FOR

TAMALPAIS UNION HIGH SCHOOL DISTRICT

SCHOOL DISTRICT
Mike Woolard
Senior Director of Facilities Planning
Tamalpais Union High School District
395 Doherty Drive, Larkspur, CA 94939
w: tamdistrict.org e: mwoolard@tamdistrict.org
Phone 415.945.1056

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

LANDSCAPE ARCHITECT
Carducci Associates
555 Beach Street, Fourth Floor
San Francisco, CA 94133
Direct 415.902.3786

LICENSED LANDSCAPE ARCHITECT
WILLIAM E. FEE
2537
Signature
12.31.2024
Renewal Date
09.11.2024
Date
STATE OF CALIFORNIA

BY:_____
William E. Fee, 2537

STRUCTURAL ENGINEER
DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

ZFA Structural Engineers
1212 Fourth Street, Suite Z
Santa Rosa, CA 95404
Phone 707.526.0992



BY:_____
Chris S. Warner, S4613

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SCHEDULES

END OF DOCUMENT

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NOTICE TO BIDDERS

1. Notice is hereby given that the governing board ("Board") of the Tamalpais Union High School District ("District") will receive sealed bids for the following project, **Bid No. 101** ("Project" or "Contract"):

REDWOOD HS GHILOTTI FIELD SITE IMPROVEMENTS PROJECT

2. The Project consists of:

The Redwood High School Ghilotti Field Site Improvements consists of replacement and addition of concrete curbs and flatwork, safety netting, 5-row non-elevated bleachers and stormwater mitigation. Included in the scope of work will also be improvements to the accessible / egress routes and improvements to the existing field.

To bid on this Project, the Bidder is required to possess one or more of the following State of California contractors' license(s)**: A – General Engineering or B – General Building**

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

3. 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.

4. Contract Documents will be available on or after January 28, 2025, for review by contacting Brenda Parella, Greystone West at brendaparella@greystonewest.com for an electronic set of plans; or visiting the District Facilities Planning office at 333 Doherty Drive, Larkspur, California to review a hard copy of the plans; or may be downloaded from the District's website at: https://www.tamdistrict.org/administration/maintenance-operations/rfprfq-bid-information, using the "**Notices Inviting Bids**" link.

5. Sealed bids will be received until **2:00 p.m., February 26, 2025**, at the District Facilities Planning Office, 333 Doherty Drive, Larkspur, California 94939, 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.

6. 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. Required documents include a bid bond by an admitted surety insurer on the form provided by the District, a cashier's check or a certified check, drawn to the order of the Tamalpais Union High 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.

7. A **mandatory** pre-bid conference and site visit will be held on **Wednesday, February 5, 2025, at 11:00 a.m.** at Ghilotti Field – all interested participants shall meet at the District Office entrance at 395 Doherty Drive, Larkspur, California, and can park in the East Parking Lot in open visitor parking spaces. All participants are required to sign-in before the site visit begins, District staff will escort all participants from the District Office to Ghilotti Field for the site tour. The site visit is expected to take approximately 30 minutes. Failure to attend or tardiness will render bid ineligible.

8. 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.

9. 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.

10. The successful Bidder will be required to certify that it either meets the Disabled Veteran Business Enterprise ("DVBE") goal of three percent (3%) participation or made a good faith effort to solicit DVBE participation in this Contract if it is awarded the Contract for the Work.

11. 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>.

12. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.

13. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the **base bid amount only.**

14. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT

DOCUMENT 00 21 13

INSTRUCTIONS TO BIDDERS

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

Tamalpais Union High 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"):

   Redwood HS Ghilotti Field Site Improvements Project

2. A Bidder and its subcontractors must possess the appropriate State of California contractors' license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.

3. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.

   a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number and/or bid number, and time of bid opening.

   b. Bids must be submitted to the District Office by date and time shown in the Notice to Bidders.

   c. Bids must contain all documents as required herein.

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, if a site visit was required.

    d. Non-Collusion Declaration.

    e. Iran Contracting Act Certification, if contract value is $1,000,000 or more.

10. Bidders must submit with their bids 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, 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. Section 17076.11 of the Education Code requires school districts using funds allocated pursuant to the State of California School Facility Program for the construction and/or modernization of school building(s) to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended on projects that receive state funding or demonstrate its good faith effort to solicit DVBE participation in this Contract. In order to meet this requirement by demonstrating a good faith effort, Bidder must advertise for DVBE-certified subcontractors and suppliers before submitting its Bid. For any project that is at least partially state-funded, the lowest responsive responsible Bidder awarded the Contract must submit certification of compliance with the procedures for implementation of DVBE contracting goals with its signed Agreement. DVBE Certification form is attached. Do not submit this form with your Bid.

18. Submission of bid signifies careful examination of Contract Documents and complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of a bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:

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

    b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;

    c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;

    d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution(s) thereof by the District is/are acceptable to Bidder;

    e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;

    f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by this document and that Bidder represented in its Bid Form and Proposal and the Agreement that it performed prior to bidding. Contractor under this Contract is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.

    g. Conditions Shown on the Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or

obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.

(1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.

(2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions that the Bidder has drawn from such information; nor is the District responsible for subsurface conditions that are not specifically shown (for example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown).

h. Conditions Shown in Reports and Drawings Supplied for Informational Purposes: Reference is made to the document entitled Geotechnical Data, and the document entitled Existing Conditions, for identification of:

(1) Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by Architect in preparing the Contract Documents; and

(2) Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that has been utilized by Architect in preparing the Contract Documents.

(3) These reports and drawings are **not** Contract Documents and, except for any "technical" data regarding subsurface conditions specifically identified in Geotechnical Data and Existing Conditions, and underground facilities data, Bidder may not in any manner rely on the information in these reports and drawings. Subject to the foregoing, Bidder must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by District.

19. Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name

of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Bidder may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified. The District is not responsible and/or liable in any way for a Contractor's damages and/or claims related, in any way, to that Contractor's basing its bid on any requested substitution that the District has not approved in advance and in writing. Contractors and materials suppliers who submit requests for substitutions prior to the award of the Contract must do so in writing and in compliance with Public Contract Code section 3400. All requests must comply with the following:

a. District must receive any notice of request for substitution of a specified item a minimum of **TEN (10)** calendar days prior to bid opening. The Successful Bidder will not be allowed to substitute specified items unless properly noticed.

b. Within 35 days after the date of the Notice of Award, the Successful Bidder shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.

c. Approved substitutions, if any, shall be listed in Addenda. District reserves the right not to act upon submittals of substitutions until after bid opening.

d. Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions and the Specifications.

20. 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.

21. All questions about the meaning or intent of the Contract Documents are to be directed via email to the District to _____. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed, faxed, mailed, or delivered to all parties recorded by the District as having received the Contract Documents or posted on the District's website at _____. Questions received less than **SEVEN (7)** calendar days prior to the date for opening bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

22. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.

23. 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.

24. 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.

25. 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.

26. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.

27. Bidders in contention for contract awards shall be required to attend a Post-Bid interview, which will be set within three (3) calendar days following bid opening. A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person. The apparent low bidder's authorized representative(s) must have (1) knowledge of how the bid submitted was prepared, (2) the person responsible for supervising performance of the Work, and (3) the authority to bind the apparent low bidder. Failure to attend the Post Bid Interview as scheduled will be considered just cause for the District to reject the Bid as nonresponsive.

28. 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.

29. 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. District may require Contractor to submit up to three (3) copies, each bearing an original signature.

b. Escrow of Bid Documentation: This must include all required documentation. See the document titled Escrow Bid Documentation for more information.

c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.

d. Payment Bond (Contractor's Labor 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. Off-Road Diesel-Fueled Fleet Certification.

i. Disabled Veteran Business Enterprise Participation Certification.

j. Drug-Free Workplace Certification.

k. Tobacco-Free Environment Certification.

l. Drug and Alcohol-Free Schools Certification.

m. Workplace Violence Prevention Plan Certification.

n. Hazardous Materials Certification.

o. Lead-Based Materials Certification.

p. Imported Materials Certification.

q. Criminal Background Investigation/Fingerprinting Certification.

r. Roofing Project Certification: from Contractor, Material Manufacturer and/or Vendor.

s. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.

30. 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.

31. 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.

32. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, religious creed, color, national origin, ancestry, physical disability, mental disability, reproductive health decision-making, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or veteran or military status. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.

33. Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time.

END OF DOCUMENT

DOCUMENT 00 21 13.1

BIDDER INFORMATION AND FORMS

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

END OF DOCUMENT

DOCUMENT 00 41 13

BID FORM AND PROPOSAL

To: Governing Board of the Tamalpais Union High 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. 101**, for the following project known as:

Redwood High School Ghilotti Field Site Improvements Project

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

_____ dollars $ _____

BASE BID

Bidder acknowledges and agrees that the Base Bid accounts for any and all Allowance(s).

Additive/Deductive Alternates: N/A

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

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

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

Task/Work	Allowance Value
Twenty-Five Thousand Dollars Allowance: Allowance for unforeseen conditions.	$25,000.00

The Allowance Value for an Allowance Item includes the direct cost of labor, materials, equipment, transportation, taxes and insurance associated with the applicable Allowance Item. All other costs, including Contractor's overall project management and general conditions costs, overhead and fee, are deemed to be included in the Base Bid.

The District shall have sole discretion to authorize all expenditures from the Allowances. The District shall process expenditures from the Allowances in the form of an Allowance Expenditure Directive ("AED"). Any unused Allowance or unused portion thereof shall be deducted from the Contract Price to the benefit of the District.

1. 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.

2. 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.

3. 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.

4. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.

5. 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.

6. The following documents are attached hereto:

   - Bid Bond on the District's form or other security
   - Designated Subcontractors List
   - Site Visit Certification
   - Non-Collusion Declaration
   - Iran Contracting Act Certification

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

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

8. Bidder acknowledges that the license required for performance of the Work is an **A** or **B** license.

9. Bidder hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

10. 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.

11. Bidder hereby certifies that its bid includes sufficient funds to permit Bidder to comply with all local, state or federal labor laws or regulations during the Project, including payment of prevailing wage, and that Bidder will comply with the provisions of Labor Code section 2810(d) if awarded the Contract.

12. 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.

13. 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.

14. 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.

15. The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.

[SIGNATURE ON FOLLOWING PAGE]

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

Dated this _____ day of _____ 2025

Name of Bidder: _____

Type of Organization: _____

Signature: _____

Print Name: _____

Title: _____

Address of Bidder: _____

Taxpayer Identification No. of Bidder: _____

Telephone Number: _____

Fax Number: _____

E-mail: _____ Web Page: _____

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

No.: _____ Class:_____ Expiration Date: _____

No.: _____ Class:_____ Expiration Date: _____

Public Works Contractor Registration No.: _____

END OF DOCUMENT

DOCUMENT 00 43 13

BID BOND

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

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned,_____, as Principal ("Principal"),

and _____, as Surety ("Surety"), a corporation organized and existing under and by virtue of the laws of the State of California and authorized to do business as a surety in the State of California, are held and firmly bound unto the Tamalpais Union High School District ("District") of Marin County, State of California, as Obligee, in an amount equal to **ten percent (10%) of the Base Bid** plus alternates, 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: **Redwood High School Ghilotti Field Site Improvements 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 ten (10) days of the date of the District's Notice of Award to Principal.

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

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

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

IN WITNESS WHEREOF, this instrument has been duty executed by the Principal and Surety above named, on the _____ day of _____, 2025.

_____
Principal

_____
By

_____
Surety

_____
By

_____
Name of California Agent of Surety

_____
Address of California Agent of Surety

_____
Telephone Number of California Agent of Surety

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

END OF DOCUMENT

DOCUMENT 00 43 36

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

PROJECT: **Redwood High School Ghilotti Field Site Improvements Project**

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

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

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

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

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

(Provide additional sheets as needed to document all Subcontractors used on project).

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 01

SITE VISIT/JOB WALK CERTIFICATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
(ONLY IF SITE VISIT/JOB WALK WAS MANDATORY)

PROJECT: **Redwood High School Ghilotti Field Site Improvements Project**

Check option that applies:

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

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

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

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

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

ATTACHMENTS:

1.

2.

3.

END OF DOCUMENT

DOCUMENT 00 45 19

NON-COLLUSION DECLARATION
(Public Contract Code Section 7106)

The undersigned declares:

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

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

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

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

at _____, _____.
[City] [State]

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 19.01

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

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

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

☐ **OPTION 1.** Bidder/Proposer is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b), and we are not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

☐ **OPTION 2.** Bidder/Proposer has received a written exemption from the certification requirement pursuant to Public Contract Code sections 2203(c) and (d). *A copy of the written documentation demonstrating the exemption approval is included with our bid/proposal.*

CERTIFICATION:

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

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

END OF DOCUMENT

DOCUMENT 00 45 26

WORKERS' COMPENSATION CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Labor Code section 3700, in relevant part, provides:

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

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

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

END OF DOCUMENT

DOCUMENT 00 45 46.01

PREVAILING WAGE AND RELATED LABOR REQUIREMENTS CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.02

DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

GENERAL INSTRUCTIONS

Section 17076.11 of the Education Code requires school districts using, or planning to use, funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year by the school district on projects that receive state funding. Therefore, the lowest responsive responsible Bidder awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract. **Do not submit this form with your bids.**

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

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

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

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

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

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

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

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

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

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

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

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

DVBE CONTACTED	**SELECTED**		**REASON NOT SELECTED**	**NO RESPONSE**
	YES	**NO**		

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

CERTIFICATION

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.03

DRUG-FREE WORKPLACE CERTIFICATION

BID NO.: 100 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

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

Contractor must also comply with the provisions of Health & Safety Code section 11362.3 which prohibits the consumption or possession of cannabis or cannabis products in any public place, including school grounds, and specifically on school grounds while children are present.

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

a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.

b. Establishing a drug-free awareness program to inform employees about all of the following:

   (1) The dangers of drug abuse in the workplace.

   (2) The person's or organization's policy of maintaining a drug-free workplace.

   (3) The availability of drug counseling, rehabilitation, and employee-assistance programs.

   (4) The penalties that may be imposed upon employees for drug abuse violations.

c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

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

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

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.04

TOBACCO-FREE ENVIRONMENT CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

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

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.05

DRUG AND ALCOHOL-FREE SCHOOLS CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

I acknowledge that I am aware of the District's policy regarding drug and alcohol-free schools, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to possess, use or sell:

1. Any substance which may not lawfully be possessed, used, or sold in California.

2. Cannabis or cannabis products (Health and Safety Code, § 11362.3; 21 USC §§ 812, 844).

3. Alcohol beverages, unless approved by the Superintendent or designee for limited purposes specified in Business and Professions Code section 25608.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.06

WORKPLACE VIOLENCE PREVENTION PLAN CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____
_____
_____
_____ ("Contractor" or "Bidder") ("Contract" or "Project").

California Labor Code section 6401.9 requires covered employers to adopt a comprehensive workplace violence prevention plan, which shall be in writing and shall be available and easily accessible to the District's employees. To the extent that it may apply to Contractor's employees, the District's Workplace Violence Prevention Plan ("Prevention Plan") is available at the District Office.

In light of Section 6401.9 of the California Labor Code, Contractor certifies that Contractor has ascertained that the personnel (including the entity's employees and Subcontractors) providing site services on the District's Project have (1) received comprehensive Prevention Plan training and (2) access to the Prevention Plan.

Contractor understands that the Project site will need to comply with the Prevention Plan requirements for its employees and Subcontractors. Personnel who have not received comprehensive Prevention Plan training and do not have access to the Prevention Plan or decline to state if they received such training and have access to the Prevention Plan will be treated as not receiving comprehensive Prevention Plan Training and not having access to the Prevention Plan.

Contractor agrees to compensate the District for any civil penalties and expenses (including attorney's fees) it accrues pursuant to the California Labor Code, including but not limited to, California Labor Code section 6401.9(g), for any California Labor Code violations stemming from Contractor's Project work.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the California Labor Code section 6401.9.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF SECTION

DOCUMENT 00 45 46.07

HAZARDOUS MATERIALS CERTIFICATION

BID NO.: 101 between Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

1. Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.

2. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.

3. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.

4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.

5. All Work or materials found to be New Hazardous Material or Work or material installed with equipment containing New Hazardous Material will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.

6. Contractor has read and understood the document titled, "Hazardous Materials Procedures & Requirements" and shall comply with all the provisions outlined therein.

7. Contractor certifies that it is knowledgeable of, and shall comply with, all laws applicable to the Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.08

LEAD-BASED MATERIALS CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

(1) Contractor's work may disturb lead-containing building materials.

(2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.

(3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

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

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

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

2. Overview of California Law

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

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

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

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

a. Demolition or salvage of structures where lead or materials containing lead are present;

b. Removal or encapsulation of materials containing lead;

c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;

d. Installation of products containing lead;

e. Lead contamination/emergency cleanup;

f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and

g. Maintenance operations associated with the construction activities described in the subsection.

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

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

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

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

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

4. Contractor's Liability

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

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

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

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

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

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;

2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.09

IMPORTED MATERIALS CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

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

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

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

_____

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

Date: _____

Proper Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.10

CRIMINAL BACKGROUND INVESTIGATION/ FINGERPRINTING CERTIFICATION

BID NO.: 101 between the Tamalpais Union High School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

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

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

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

Name: _____

Title: _____

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

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

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

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

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

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

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

[CONTINUED ON NEXT PAGE]

ATTACHMENT "A"

List of Employees/Subcontractors

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

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

END OF DOCUMENT

DOCUMENT 00 45 49

REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

PROJECT: **Redwood High School Ghilotti Field Site Improvements 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: _____

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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

TAMALPAIS UNION HIGH
SCHOOL DISTRICT

NOTICE OF AWARD

Contractor: ***Contractor Name*** *(Contractor Address))*

Project: **Redwood High School Ghilotti Field Site Improvements Project - BID No. 101**

Contractor has been awarded the Contract for the above-referenced Project on ***Date of Award***, by action of the District's Board of Trustees at the public Board meeting held on ***Date of Board Approval*** (if needed).

The Contract Price is ***Contract Price – spelled out ($xxx,xxx,xxx)***.

You are required to execute the Contract and furnish the required documents listed below within **ten (10) calendar days** from the date of issuance of this Notice of Award (as signed and dated below):

a. *Agreement:* To be executed by successful Bidder; submit three (3) copies, each bearing an original signature.

b. *Escrow Bid Documentation:* includes all required documentation – see *Escrow Bid Documentation* section 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:* As required.

i. *Drug-Free Workplace Certification:* As required.

j. *Tobacco-Free Workplace Certification:* As required.

k. *Hazardous Materials Certification:* As required.

l. *Lead-Based Materials Certification:* As required.

m. *Imported Materials Certification:* As required.

n. *Criminal Background Investigation/Fingerprinting Certification*.

Failure to comply with these conditions within the time specified will entitle the 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.

You are required to return an acknowledged copy of this Notice of Award to the District, attention to Mike Woolard, Senior Director of Facilities Planning. After you comply with these conditions, the District will provide one fully-signed original of the Agreement.

SIGNATURE

Dated: _____

By: _____

Mike Woolard
Senior Director of Facilities Planning

Contractor to sign and date this NOA to acknowledge acceptance.

Contractor's Acknowledgement of Acceptance for Notice of Award:

Receipt of this Notice of Award is hereby acknowledged by **Contractor Name**

_____ _____

Authorized Company Representative ***Date***

_____

Title

DOCUMENT 00 52 13

AGREEMENT

THIS AGREEMENT IS MADE AND ENTERED INTO THIS _____ DAY OF _____ _____, 2025, by and between the Tamalpais Union High School District ("District") and ____ _____ ("Contractor") ("Agreement").

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

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

Redwood High School Ghilotti Field Site Improvements Project
("Project" or "Contract" or "Work")

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

2. The Contract Documents: The complete Contract consists of all Contract Documents as defined in the General Conditions and incorporated herein by this reference. Any and all obligations of the District and Contractor are fully set forth and described in the Contract Documents. All Contract Documents are intended to cooperate so that any Work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all Contract Documents.

3. Interpretation of Contract Documents: Should any question arise concerning the intent or meaning of Contract Documents, including the Drawings or Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, valid, written modifications, beginning with the most recent, shall control over this Agreement (if any), which shall control over the Special Conditions, which shall control over any Supplemental Conditions, which shall control over the General Conditions, which shall control over the remaining Division 0 documents, which shall control over Division 1 Documents which shall control over Division 2 through Division 49 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In the case of a discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications. In no case shall a document calling for lower quality and/or quantity material or workmanship control. The decision of the District in the matter shall be final.

4. Time for Completion: It is hereby understood and agreed that the Work under this Contract shall be completed within Fifty-Four (54) consecutive calendar days

("Contract Time") from the date specified in the District's Notice to Proceed or, only in the event no Notice to Proceed is issued, from the date Contractor first furnishes work on the Project, unless terminated by the District earlier for cause or for convenience.

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) per day as liquidated damages for each and every day's delay beyond the time herein prescribed in completion of the Work.

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

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

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

7. **Loss Or Damage**: The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.

8. **Limitation Of District Liability:** District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost

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

9. **Insurance and Bonds**: Prior to issuance of the Notice to Proceed by the District, or, only in the event no Notice to Proceed is issued, prior to the date Contractor first furnishes work on the Project, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.

10. **Prosecution of Work**: If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

11. **Authority of Architect, Project Inspector, and DSA**: Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.

12. **Assignment of Contract**: Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.

13. **Classification of Contractor's License**: Contractor hereby acknowledges that it currently holds valid Type _____ Contractor's license(s) issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.

14. **Registration as Public Works Contractor**: The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.

15. **Payment of Prevailing Wages**: The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code.

16. **Labor Compliance Monitoring and Enforcement**: This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable

provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.

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

_____ Dollars

($_____),

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

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

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

20. **Severability**: If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

21. **Authority of Signatories**: Each party has the full power and authority to enter into and perform this Contract, and the person signing this Contract on behalf of each party has been properly authorized and empowered to enter into this Contract. This Contract may be executed in one or more counterparts, each of which shall be deemed an original. For this Agreement, and for all Contract Documents requiring a signature, a facsimile or electronic signature shall be deemed to be the equivalent of the actual original signature. All counterparts so executed shall constitute one Contract binding all the Parties hereto.

[SIGNATURES ON FOLLOWING PAGE]

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

[CONTRACTOR NAME]	**TAMALPAIS UNION HIGH SCHOOL DISTRICT**
By: _____	By: Mike Woolard
Title: _____	Title: Senior Director of Facilities Planning

NOTE: If the Contractor executing this Contract is a corporation, the Contractor shall furnish to District satisfactory evidence of the authority of the officer signing on behalf of the corporation.

END OF DOCUMENT

TAMALPAIS UNION HIGH
SCHOOL DISTRICT

NOTICE TO PROCEED (NTP)

Contractor: **NAME**
Address Line 1
Adress Line 2

Project: **Redwood High School Ghilotti Field Site Improvements Project – BID No. 101**

You are hereby notified to commence work in accordance with the signed Agreement dated **Date of Award**, between Tamalpais Union High School District (TUHSD) and **Contractor Name** on or before ***Date to Proceed*****.** In accordance with this signed Agreement, the official contract time and project completion is **Number of calendar days for the Work (###)** ***consecutive calendar days*** from the date of this NTP (**NTP Date**); all project work must be completed by **Final Date**.

You must submit the following documents within 10 calendar days following the NTP:

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 this Project;
e. Registered Subcontractor's List – a complete subcontractors list for all tiers, including the name, Department of Industrial Relations registration number and portion of work.

You are required to return an acknowledged copy of this **NTP** to the District. Please send either a hardcopy to TUHSD, attention Mike Woolard (Sr. Director of Facilities Planning) to *333 Doherty Drive, Larkspur, CA 94939.*

or scan/e-mail a copy electronically to mwoolard@tamdistrict.org.

Dated: Date

By: _____
Mike Woolard
Sr. Director of Facilities Planning

Receipt of this Notice to Proceed is hereby acknowledged by **Contractor Name:**

_____ _____
Authorized Company Representative ***Date***

_____
Title

DOCUMENT 00 56 00

ESCROW BID DOCUMENTATION

1. Requirement to Escrow Bid Documentation

a. Contractor shall submit, within **SEVEN (7)** calendar days after the date of the Notice of Award, one copy of all documentary information received or generated by Contractor in preparation of bid prices for this Contract, as specified herein. This material is referred to herein as "Escrow Bid Documentation." The Escrow Bid Documentation of the Contractor will be held in escrow for the duration of the Contract.

b. Contractor agrees, as a condition of award of the Contract, that the Escrow Bid Documentation constitutes all written information used in the preparation of its bid, and that no other written bid preparation information shall be considered in resolving disputes or claims. Contractor also agrees that nothing in the Escrow Bid Documentation shall change or modify the terms or conditions of the Contract Documents.

c. The Escrow Bid Documentation will not be opened by District except as indicated herein. The Escrow Bid Documentation will be used only for the resolution of change orders and claims disputes.

d. Contractor's submission of the Escrow Bid Documentation, as with the bonds and insurance documents required, is considered an essential part of the Contract award. Should the Contractor fail to make the submission within the allowed time specified above, District may deem the Contractor to have failed to enter into the Contract, and the Contractor shall forfeit the amount of its bid security, accompanying the Contractor's bid, and District may award the Contract to the next lowest responsive responsible bidder.

e. NO PAYMENTS WILL BE MADE, NOR WILL DISTRICT ACCEPT PROPOSED CHANGE ORDERS UNTIL THE ABOVE REQUIRED INFORMATION IS SUBMITTED AND APPROVED.

f. The Escrow Bid Documentation shall be submitted in person by an authorized representative of the Contractor to the District.

2. Ownership of Escrow Bid Documentation

a. The Escrow Bid Documentation is, and shall always remain, the property of Contractor, subject to review by District, as provided herein.

b. Escrow Bid Documentation constitute trade secrets, not known outside Contractor's business, known only to a limited extent and only by a limited number of employees of Contractor, safeguarded while in Contractor's possession, extremely valuable to Contractor, and could be extremely valuable to Contractor's competitors by virtue of reflecting Contractor's

contemplated techniques of construction. Subject to the provisions herein, District agrees to safeguard the Escrow Bid Documentation, and all information contained therein, against disclosure to the fullest extent permitted by law.

3. Format and Contents of Escrow Bid Documentation

a. Contractor may submit Escrow Bid Documentation in its usual cost-estimating format; a standard format is not required. The Escrow Bid Documentation shall be submitted in the language (e.g., English) of the specification.

b. Escrow Bid Documentation must clearly itemize the estimated costs of performing the work of each bid item contained in the bid schedule, separating bid items into sub-items as required to present a detailed cost estimate and allow a detailed cost review. The Escrow Bid Documentation shall include all subcontractor bids or quotes, supplier bids or quotes, quantity takeoffs, crews, equipment, calculations of rates of production and progress, copies of quotes from subcontractors and suppliers, and memoranda, narratives, add/deduct sheets, and all other information used by the Contractor to arrive at the prices contained in the bid proposal. Estimated costs should be broken down into Contractor's usual estimate categories such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials, and subcontract costs as appropriate. All labor rates must be broken down to specify any and all burden costs including, but not limited to, health and welfare pay, vacation and holiday pay, pension contributions, training rates, benefits of any kind, insurance of any kind, workers' compensation, liability insurance, truck expenses, supply expenses of any kind, payroll taxes, and any other taxes of any kind. Plant and equipment and indirect costs should be detailed in the Contractor's usual format. The Contractor's allocation of indirect costs, contingencies, markup, and other items to each bid item shall be identified.

c. All costs shall be identified. For bid items amounting to less than $10,000, estimated unit costs are acceptable without a detailed cost estimate, provided that labor, equipment, materials, and subcontracts, as applicable, are included and provided that indirect costs, contingencies, and markup, as applicable, are allocated.

d. Bid Documentation provided by District should not be included in the Escrow Bid Documentation unless needed to comply with the following requirements.

4. Submittal of Escrow Bid Documentation

a. The Escrow Bid Documentation shall be submitted by the Contractor in a sealed container within **SEVEN (7)** calendar days after the date of the Notice of Award. The container shall be clearly marked on the outside with the Contractor's name, date of submittal, project name and the words "Escrow Bid Documentation – Intended to be opened in the presence of Authorized Representatives of Both District and Contractor".

b. By submitting Escrow Bid Documentation, Contractor represents that the material in the Escrow Bid Documentation constitutes all the documentary information used in preparation of the bid and that the Contractor has personally examined the contents of the Escrow Bid Documentation container and has found that the documents in the container are complete.

c. If Contractor's proposal is based upon subcontracting any part of the work, each subcontractor whose total subcontract price exceeds 5 percent of the total contract price proposed by Contractor, shall provide separate Escrow Documents to be included with those of Contractor. Those documents shall be opened and examined in the same manner and at the same time as the examination described above for Contractor.

d. If Contractor wishes to subcontract any portion of the Work after award, District retains the right to require Contractor to submit Escrow Documents for the Subcontractor before the subcontract is approved.

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

a. The Escrow Bid Documentation will be placed in escrow, for the life of the Contract, in a mutually agreeable institution. The cost of storage will be paid by Contractor for the duration of the project until final Contract payment. The storage facilities shall be the appropriate size for all the Escrow Bid Documentation and located conveniently to both District's and Contractor's offices.

b. The Escrow Bid Documentation shall be examined by both District and Contractor, at any time deemed necessary by either District or Contractor, to assist in the negotiation of price adjustments and change orders or the settlement of disputes and claims. In the case of legal proceedings, Escrow Bid Documentation shall be used subject to the terms of an appropriate protective order if requested by Contractor and ordered by a court of competent jurisdiction. Examination of the Escrow Bid Documentation is subject to the following conditions:

(1) As trade secrets, the Escrow Bid Documentation is proprietary and confidential to the extent allowed by law.

(2) District and Contractor shall each designate, in writing to the other party **SEVEN (7)** calendar days prior to any examination, the names of representatives who are authorized to examine the Escrow Bid Documentation. No other person shall have access to the Escrow Bid Documentation.

(3) Access to the documents may take place only in the presence of duly designated representatives of the District and Contractor. If Contractor fails to designate a representative or appear for joint examination on **SEVEN (7)** calendar days' notice, then the District representative may examine the Escrow Bid Documents alone upon an

additional **THREE (3)** calendar days' notice if a representative of the Contractor does not appear at the time set.

(4) If a subcontractor has submitted sealed information to be included in the Escrow Bid Documents, access to those documents may take place only in the presence of a duly designated representative of the District, Contractor and that subcontractor. If that subcontractor fails to designate a representative or appear for joint examination on **SEVEN (7)** calendar days' notice, then the District representative and/or the Contractor may examine the Escrow Bid Documentation without that subcontractor present upon an additional **THREE (3)** calendar days' notice if a representative of that subcontractor does not appear at the time set.

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

END OF DOCUMENT

DOCUMENT 00 57 00

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

(Note: Contractor must use this form.)

This Escrow Agreement in Lieu of Retention ("Escrow Agreement") is made and entered into this _____ day of _____, 2025, by and between the Tamalpais Union High School District ("District"), whose address is 395 Doherty Drive, Larkspur, California 94939, and _____ ("Contractor"), whose address is _____ , and _____ ("Escrow Agent"), a state or federally chartered bank in the state of California, whose address is _____.

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

1. Pursuant to section 22300 of Public Contract Code of the State of California, which is hereby incorporated by reference, Contractor has the following two (2) options:

   ☐ Deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to the Construction Contract No.___ entered into between District and Contractor for the _____ _____ Project, in the amount of _____ Dollars ($_____) dated, _____, 20_____, (the "Contract"); **or**

   ☐ On written request of Contractor, District shall make payments of the retention earnings for the above referenced Contract directly to Escrow Agent.

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

   Securities shall be held in the name of Tamalpais Union High School District, and shall designate Contractor as beneficial owner.

2. District shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified above.

3. When District makes payment of retentions earned directly to Escrow Agent, Escrow Agent shall hold them for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the Parties shall be equally applicable and binding when District pays Escrow Agent directly.

4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of District. The District will charge Contractor $_____ for each of District's deposits to the escrow account. These expenses and payment terms shall be determined by District, Contractor, and Escrow Agent.

5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to District.

6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from District to Escrow Agent that District consents to withdrawal of amount sought to be withdrawn by Contractor.

7. District shall have the right to draw upon the securities and/or withdraw amounts from the Escrow Account in the event of default by Contractor. Upon seven (7) days' written notice to Escrow Agent from District of the default, if applicable, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District. Escrow Agent shall not be authorized to determine the validity of any notice of default given by District pursuant to this paragraph, and shall promptly comply with District's instructions to pay over said escrowed assets. Escrow Agent further agrees to not interplead the escrowed assets in response to a conflicting demand.

8. Upon receipt of written notification from District certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all monies and securities on deposit and payments of fees and charges.

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

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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

On behalf of District:	On behalf of Contractor:
Title	Title
Name	Name
Signature	Signature
Address	Address

On behalf of Escrow Agent:

Title

Name

Signature

Address

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

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

On behalf of District:	On behalf of Contractor:
Title	Title
Name	Name
Signature	Signature
Address	Address

END OF DOCUMENT

DOCUMENT 00 61 13.13

PERFORMANCE BOND
(100% of Contract Price)

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

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Tamalpais Union High 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:

Redwood High School Ghilotti Field Site Improvements Project

("Project" or "Contract") which Contract dated _____, 2025, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

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

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

_____

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

- Promptly perform all the work required to complete the Project; and

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

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

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration

thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warrantees of materials and workmanship, and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

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

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

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

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 2025.

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

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

END OF DOCUMENT

DOCUMENT 00 61 13.16

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

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

KNOW ALL PERSONS BY THESE PRESENTS:

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

_____

("Project" or "Contract") which Contract dated _____, 2025, 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 _____, 2025.

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

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

END OF DOCUMENT

DOCUMENT 00 63 57

PROPOSED CHANGE ORDER FORM

Tamalpais Union High School District
395 Doherty Drive
Larkspur, CA 94939

PCO NO.:

Project: _____
Bid No.: _____
RFI #:_____

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

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

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

	WORK PERFORMED OTHER THAN BY CONTRACTOR	**ADD**	**DEDUCT**
(a)	**Material** (attach suppliers' invoice or itemized quantity and unit cost plus sales tax)		
(b)	**Add Labor** (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	**Add Equipment** (attach suppliers' invoice)		
(d)	**Subtotal**		
(e)	**Add overhead and profit for any and all tiers of Subcontractor**, the total not to exceed ten percent (10%) of Item (d)		
(f)	**Subtotal**		
(g)	**Add General Conditions** (if Time is Compensable) (attach supporting documentation)		
(h)	**Subtotal**		
(i)	**Add Overhead and Profit for Contractor**, not to exceed five percent (5%) of Item (h)		
(j)	**Subtotal**		
(k)	**Add Bond and Insurance**, not to exceed two and one-half percent (2.5%) of Item (j)		
(l)	**TOTAL**		
(m)	**Time** (zero unless indicated; "TBD" not permitted)	**_____ Calendar Days**	

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	WORK PERFORMED BY CONTRACTOR	**ADD**	**DEDUCT**
(a)	**Material** (attach itemized quantity and unit cost plus sales tax)		
(b)	**Add Labor** (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	**Add Equipment** (attach suppliers' invoice)		
(d)	**Add General Conditions** (if Time is Compensable) (attach supporting documentation)		
(e)	**Subtotal**		
(f)	**Add Overhead and Profit for Contractor**, not to exceed fifteen percent (15%) of Item (e)		
(g)	**Subtotal**		
(h)	**Add Bond and Insurance**, not to exceed two and one-half percent (2.5%) of Item (g)		
(i)	**TOTAL**		
(j)	**Time** (zero unless indicated; "TBD" not permitted)	**____ Calendar Days**	

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

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

SUBMITTED BY:

Contractor:

_____ _____

[Name] Date

END OF DOCUMENT

DOCUMENT 00 63 63

CHANGE ORDER FORM

Tamalpais Union High School District
395 Doherty Drive
Larkspur, CA 94939

CHANGE ORDER NO.:

CHANGE ORDER

Project: _____
Bid No.: _____

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

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

Owner: _____
[Name / Address]
_____
_____

Contractor: _____
[Name / Address]
_____
_____

Architect: _____
[Name / Address]
_____
_____

Project Inspector: _____
[Name / Address]
_____
_____

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

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

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

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

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

Signatures:

District:		Contractor:	
[Name]	Date	[Name]	Date
Architect:		Project Inspector:	
[Name]	Date	[Name]	Date

END OF DOCUMENT

DOCUMENT 00 65 19.26

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF CLAIMS ("Agreement and Release") IS MADE AND ENTERED INTO THIS _____ DAY OF _____, 2025 by and between the TAMALPAIS UNION HIGH SCHOOL DISTRICT ("District") and _____ _____ ("Contractor"), whose place of business is _____ _____.

RECITALS

WHEREAS, District and Contractor entered into BID NO.: 101 ("Contract" or "Project") in the County of Marin, California; and

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

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

AGREEMENT AND RELEASE

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

   Original Contract Sum $_____

   Modified Contract Sum $_____

   Payment to Date $_____

   Liquidated Damages $_____

   Payment Due Contractor $_____

2. Subject to the provisions hereof, District shall forthwith pay to Contractor the undisputed sum of _____ Dollars ($_____) under the Contract, less any amounts represented by any notice to withhold funds on file with District as of the date of such payment.

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

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

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

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

5. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 2 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, inspectors, assignees, and transferees from any and all liability, claims, demands, actions, or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.

6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, including without limitation, the duty to defend, indemnify and hold harmless the District, shall remain in full force and effect as specified in the Contract Documents.

7. Contractor hereby waives the provisions of California Civil Code section 1542 which provides as follows:

> A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

8. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable. If any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal, or other law, ruling, or regulations, then such provision, or part thereof, shall remain in force and effect to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

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

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

TAMALPAIS UNION HIGH SCHOOL DISTRICT

Signature: _____

Print Name: _____

Title: _____

CONTRACTOR: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 65 36

GUARANTEE FORM

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

PROJECT: **Redwood High School Ghilotti Field Site Improvements Project**

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

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

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

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

Name: _____

Address: _____

Phone No.: _____

Email: _____

END OF DOCUMENT

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GENERAL CONDITIONS

1. CONTRACT TERMS AND DEFINITIONS

1.1 Definitions

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

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

1.1.2 Allowance(s): The Allowance Item(s) identified in the Bid Form and Proposal and included in the Contract Price. Any unused portion of the Allowance will revert to the District documented by a deductive Change Order. Contractor hereby authorizes the District to execute a unilateral deductive Change Order at or near the end of the Project for all or any portion of the Allowance not allocated.

1.1.3 Allowance Expenditure Directive: Written authorization for expenditure of an Allowance, if any. Contractor shall not bill for or be due any portion of an Allowance unless the District has identified specific work, Contractor has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has executed an Allowance Expenditure Directive incorporating that work.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1.1.25 DSA: Division of the State Architect.

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

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

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

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

1.1.30 Plans: See **Drawings**.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1.1.50 State: The State of California.

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

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

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

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

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

1.2 Laws Concerning the Contract; Venue

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

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

1.3 No Oral Agreements

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

1.4 No Assignment

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

1.5 Notice and Service Thereof

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

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

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

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

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

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

1.6 No Waiver

The failure of District in any one or more instances to insist upon strict performance of any of the terms of this Contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion. No action or failure to act by the District, Architect, or Construction Manager shall constitute a waiver of any right or duty afforded the District under the Contract, nor shall any action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

1.7 Substitutions for Specified Items

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

1.8 Materials and Work

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

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

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

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

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

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

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

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

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

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

1.8.9 Title to new materials and/or equipment for the Work of this Contract and attendant liability for its protection and safety shall remain with Contractor until

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

1.8.10 [RESERVED]

2. [RESERVED]

3. ARCHITECT

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

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

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

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

4. CONSTRUCTION MANAGER

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

4.2 The Construction Manager, however, will have authority to reject materials and/or workmanship not conforming to the Contract Documents, as determined by the District, the Architect, and/or the Project Inspector. The Construction Manager shall also have the authority to require special inspection or testing of any portion of the Work, whether it has been fabricated, installed, or fully completed. Any decision made by the

Construction Manager, in good faith, shall not give rise to any duty or responsibility of the Construction Manager to: the Contractor; any Subcontractor; the Contractor or Subcontractor's respective agents, employees; or other persons performing any of the Work. The Construction Manager shall have free access to any or all parts of Work at any time.

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

5. INSPECTOR, INSPECTIONS, AND TESTS

5.1 Project Inspector

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

5.1.2 No Work shall be carried on except with the knowledge and under the inspection of the Project Inspector(s). The Project Inspector(s) shall have free access to any or all parts of Work at any time. Contractor shall furnish Project Inspector(s) reasonable opportunities for obtaining such information as may be necessary to keep Project Inspector(s) fully informed respecting progress and manner of work and character of materials, including, but not limited to, submission of form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector at least 48 hours in advance of the commencement and completion of construction of each and every aspect of the Work. Forms are available on the DSA's website at: http://www.dgs.ca.gov/dsa/Forms.aspx. Inspection of Work shall not relieve Contractor from an obligation to fulfill this Contract. Project Inspector(s) and the DSA are authorized to suspend work whenever the Contractor and/or its Subcontractor(s) are not complying with the Contract Documents. Any work stoppage by the Project Inspector(s) and/or DSA shall be without liability to the District. Contractor shall instruct its Subcontractors and employees accordingly.

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

5.2 Tests and Inspections

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

5.2.2 The District will select an independent testing laboratory to conduct the tests. Selection of the materials required to be tested shall be by the laboratory or the District's representative and not by the Contractor. The Contractor shall notify

the District's representative a sufficient time in advance of its readiness for required observation or inspection.

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

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

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

5.3 Costs for After Hours and/or Off Site Inspections

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

6. CONTRACTOR

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

6.1 Status of Contractor

6.1.1 Contractor represents and warrants that Contractor is an independent contractor or business entity that is: (i) free from the control and direction of the District in connection with the performance of the Services, (ii) performing Services that are outside the usual course of the District's business, and (iii) customarily engaged in an independently established trade, occupation, or business of the same nature as that involved in the Services performed, District being interested only in the results obtained. Contractor understands and agrees that it and all of its employees and its Subcontractors shall not be considered officers, employees, agents, partner, or joint venture of the District, and are not entitled to benefits of any kind or nature normally provided employees of the District and/or to which

District's employees are normally entitled, including, but not limited to, State Unemployment Compensation or Worker's Compensation. Contractor shall assume full responsibility for payment of all federal, state, and local taxes or contributions, including unemployment insurance, social security, and income taxes with respect to Consultant's employees. Contractor is and shall at all times be wholly responsible for the manner in which it, its agents, and its Subcontractors perform the services required of it by the Contract Documents. Nothing herein contained shall be construed as creating the relationship of employer and employee, or principal and agent, between the District, or any of the District's employees or agents, and Contractor or any of Contractor's Subcontractors, agents or employees. District shall be permitted to monitor the Contractor's activities to determine compliance with the terms of this Contract.

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

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

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

6.1.5 [RESERVED]

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

6.1.7 [RESERVED]

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

6.2 Project Inspection Card(s)

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

6.3 Contractor's Supervision

6.3.1 During progress of the Work, Contractor shall keep on the Premises, and at all other locations where any Work related to the Contract is being performed, an experienced and competent project manager and construction superintendent who

are employees of the Contractor, to whom the District does not object and at least one of whom shall be fluent in English, written and verbal.

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

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

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

6.4 Duty to Provide Fit Workers

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

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

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

6.4.4 Fingerprinting. Contractor shall comply with the provisions of Education Code section 45125.2 regarding the submission of employee fingerprints to the California Department of Justice and the completion of criminal background investigations of its employees, its subcontractor(s), and its subcontractors' employees. Contractor shall not permit any employee to have any contact with District pupils until such time as Contractor has verified in writing to the governing board of the District, (A) that such employee has not been convicted of a violent or

serious felony, as defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). Contractor shall fully complete and perform all tasks required pursuant to the Criminal Background Investigation/ Fingerprinting Certification.

6.5 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.

6.6 Documents on Work

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

6.6.2 Daily Job Reports.

6.6.2.1 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:

- **6.6.2.1.1** A brief description of all Work performed on that day.
- **6.6.2.1.2** A summary of all other pertinent events and/or occurrences on that day.
- **6.6.2.1.3** The weather conditions on that day.
- **6.6.2.1.4** A list of all Subcontractor(s) working on that day, including DIR registration numbers.
- **6.6.2.1.5** A list of each Contractor employee working on that day and the total hours worked for each employee.
- **6.6.2.1.6** A complete list of all equipment on Site that day, whether in use or not.
- **6.6.2.1.7** A complete list of all materials, supplies, and equipment delivered on that day.
- **6.6.2.1.8** A complete list of all inspections and tests performed on that day.

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

6.7 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.

6.8 Integration of Work

6.8.1 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.

6.8.2 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.

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

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

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

6.8.5 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.

6.9 Notifications

6.9.1 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.

6.9.2 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.

6.10 Obtaining of Permits, Licenses and Registrations

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

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

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

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

6.10.2.3 Contractor shall provide a Qualified Storm Water Practitioner ("QSP") at no additional cost to the District, who shall perform on-site inspections and implement and monitor any and all SWPPP requirements applicable to the Project, including required visual observations, sampling, analysis, reporting and record keeping, including of Total Maximum Daily Loads ("TMDL") of pollutants and construction dewatering and discharge, and Best Management Practices ("BMPs").

6.11 Royalties and Patents

6.11.1 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.

6.11.2 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.

6.12 Work to Comply With Applicable Laws and Regulations

6.12.1 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.

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

6.12.1.2 National Board of Fire Underwriters' Regulations

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

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

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

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

6.12.1.7 Americans with Disabilities Act

6.12.1.8 Education Code of the State of California

6.12.1.9 Government Code of the State of California

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

6.12.1.11 Public Contract Code of the State of California

6.12.1.12 California Art Preservation Act

6.12.1.13 U. S. Copyright Act

6.12.1.14 U. S. Visual Artists Rights Act

6.12.2 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.).

6.12.3 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.

6.12.4 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.

6.12.5 [RESERVED]

6.13 Safety/Protection of Persons and Property

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

6.13.2 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.

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

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

6.13.5 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.

6.13.6 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.

6.13.7 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.

6.13.8 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.

6.13.9 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.

6.13.10 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.

6.13.11 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.

6.13.12 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.

6.13.13 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.

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

6.13.15 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.

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

6.13.17 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.

6.13.18 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.

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

6.13.20 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.

6.13.21 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.

6.14 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.

6.15 Cleaning Up

6.15.1 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.

6.15.2 Contractor at all times shall keep Premises, including property immediately adjacent thereto, free from debris such as waste, rubbish (including personal rubbish of workers, e.g., food wrappers, etc.), and excess materials and equipment caused by the Work. Contractor shall not leave debris under, in, or about the Premises (or surrounding property or neighborhood), but shall promptly remove same from the Premises on a daily basis. If Contractor fails to clean up, District may do so and the cost thereof shall be charged to Contractor. If Contract is for work on an existing facility, Contractor shall also perform specific clean-up on or about the Premises upon request by the District as it deems necessary for continued operations. Contractor shall comply with all related provisions of the Specifications.

6.15.3 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.

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

6.16 No Relief from Obligations Based on Review by Other Persons

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

7. SUBCONTRACTORS

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

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

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

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

7.5 Contractor is directed to familiarize itself with sections 4100 through 4114 of the Public Contract Code of the State of California, as regards subletting and subcontracting, and to comply with all applicable requirements therein. In addition, Contractor is directed to familiarize itself with sections 1720 through 1861 of the Labor Code of the State of California, as regards the payment of prevailing wages and related issues, and to comply with all applicable requirements therein including, without limitation, section 1775 and the Contractor's and Subcontractors' obligations and liability for violations of prevailing wage law and other applicable laws.

7.6 No Contractor whose Bid is accepted shall, without consent of the awarding authority and in full compliance with section 4100 et seq. of the Public Contract Code,

including, without limitation, sections 4107, 4107.5, and 4109 of the Public Contract Code, and section 1771.1 of the Labor Code, either:

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

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

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

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

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

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

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

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

8. OTHER CONTRACTS/CONTRACTORS

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

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

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

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

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

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

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

9. DRAWINGS AND SPECIFICATIONS

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

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

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

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

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

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

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

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

9.9 Ownership of Drawings

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

10. CONTRACTOR'S SUBMITTALS AND SCHEDULES

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

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

10.1.1 Within **TEN (10)** calendar days after the date of the Notice to Proceed (unless otherwise specified in the Specifications), the Contractor shall prepare and submit to the District for review, in a form supported by sufficient data to substantiate its accuracy as the District may require:

10.1.1.1 Preliminary Schedule. A preliminary schedule of construction indicating the starting and completion dates of the various stages of the Work, including any information and following any form as may be specified in the Specifications. Once approved by District, this shall become the Construction

Schedule. This schedule shall include and identify all tasks that are on the Project's critical path with a specific determination of the start and completion of each critical path task as well as all Contract milestones and each milestone's completion date(s) as may be required by the District.

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

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

10.1.1.2.1 Divided into at least the following categories:

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

10.1.1.2.2 And also divided by each of the following areas:

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

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

10.1.1.2.3.1 Mobilization and layout combined to equal not more than 1%;

10.1.1.2.3.2 Submittals, samples and shop drawings combined to equal not more than 3%;

10.1.1.2.3.3 Bonds and insurance combined to equal not more than 2.5%.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

10.2 Monthly Progress Schedule(s)

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

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

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

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

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

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

10.3 Material Safety Data Sheets (MSDS)

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

10.4 Submittals

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

11. SITE ACCESS, CONDITIONS, AND REQUIREMENTS

11.1 Site Investigation

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

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

11.2 Soils Investigation Report

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

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

11.3 Access to Work

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

11.4 Layout and Field Engineering

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

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

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

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

11.5 Utilities

Utilities shall be provided as indicated in the Specifications.

11.6 Sanitary Facilities

Sanitary facilities shall be provided as indicated in the Specifications.

11.7 Surveys

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

11.8 Regional Notification Center

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

11.9 Existing Utility Lines

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

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

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

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

11.10 Notification

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

11.11 Hazardous Materials

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

11.12 No Signs

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

12. TRENCHES

12.1 Trenches Greater Than Five Feet

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

12.2 Excavation Safety

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

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

12.3 No Tort Liability of District

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

12.4 No Excavation without Permits

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

12.5 Discovery of Hazardous Waste and/or Unusual Conditions

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

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

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

12.5.1.3 Unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

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

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

13. INSURANCE AND BONDS

13.1 Insurance

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

13.1.1 Commercial General Liability and Automobile Liability Insurance

13.1.1.1 Contractor shall procure and maintain, during the life of this Contract, Commercial General Liability Insurance and Automobile Liability Insurance in a form at least as broad as Insurance Services (ISO) Form CG 00 01 that shall protect Contractor, its agents, representative, employees, or subcontractors, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for products and completed operations, property damage, bodily injury and personal injury, death, advertising injury, and medical payments arising from, or in connection with, the performance of the Work of the Project within the Contract Documents at the required limits, or Contractor shall procure and maintain these coverages separately. Contractor shall procure and maintain Automobile Liability Insurance in a form at least as broad as ISO Form CA 0001 covering Code 1 (any auto) at the required limits, or Contractor shall procure and maintain these coverages separately.

13.1.1.2 Contractor's deductible or self-insured retention for its Commercial General Liability Insurance policy shall not exceed five thousand dollars ($5,000) for deductible or twenty-five thousand dollars ($25,000) for self-insured retention, respectively, unless approved in writing by District.

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

13.1.2 Excess Liability Insurance

13.1.2.1 If Contractor's underlying policy limits are less than required, subject to the District's sole discretion, Contractor may procure and maintain, during the life of this Contract, an Excess Liability Insurance Policy to meet the policy limit requirements of the required policies in order to satisfy, in the aggregate with its underlying policy, the insurance requirements herein including, but not limited to, primary and non-contributory, additional insured, Self-Insured Retentions (SIRs), indemnity, and defense requirements. The Excess Liability Insurance Policy shall be provided on a true "following form" or broader coverage basis, with coverage at least as broad as provided on the underlying Commercial General Liability insurance. No insurance policies maintained by the Additional Insureds, whether primary or excess, and which also apply to a loss covered hereunder, shall be called upon to contribute to a loss until Contractor's primary and excess liability policies are exhausted.

13.1.2.2 There shall be no gap between the per occurrence amount of any underlying policy and the start of the coverage under the Excess Liability Insurance Policy. Any Excess Liability Insurance Policy shall be written on a following form and shall protect Contractor, District, its trustees, employees, and agents, the State, Construction Manager(s), Program 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.

13.1.3 Subcontractor(s): Contractor shall require its Subcontractor(s), if any, to procure and maintain Commercial General Liability Insurance, Automobile Liability Insurance, and Excess Liability Insurance (if Subcontractor elects to satisfy, in part the insurance required herein by procuring and maintaining an Excess Liability Insurance Policy) with minimum limits at least equal to the amount required of Contractor except where smaller minimum limits are permitted as set forth below. For Commercial General Liability coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

13.1.4 Workers' Compensation and Employers' Liability Insurance

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

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

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

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

Contractor shall procure and maintain, during the life of this Contract, Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the Project and no coinsurance penalty provisions. The cost value basis shall be consistent with the total replacement cost of all insurable Work of the Project included within the Contract Documents. Coverage is to insure against all risks of accidental physical loss and shall include without limitation the perils of vandalism and/or malicious mischief (both without any limitation regarding vacancy or occupancy), sprinkler leakage, civil authority, theft, sonic disturbance, earthquake, flood, collapse, wind, rain, dust, fire, war, terrorism, lightning, smoke, and rioting. Coverage shall include debris removal, demolition, increased costs due to enforcement of all applicable ordinances and/or

laws in the repair and replacement of damaged and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project, including completed Work and Work in progress, to the full insurable value thereof.

13.1.6 Pollution Liability Insurance

13.1.6.1 Contractor shall procure and maintain Pollution Liability Insurance in a form at least as broad as ISO Form CG 2415 that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, including natural resource damage, cleanup costs, removal, storage, disposal, and/or use of the pollutant arising from operations under this Contract, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims, or Contractor shall procure and maintain these coverages separately. Coverage shall apply to sudden and/or gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos.

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

13.1.6.3 If the services involve lead-based paint or asbestos identification/ remediation, Contractor's Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/ remediation, Contractor's Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

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

13.1.7 Proof of Insurance and Other Requirements: Endorsements and Certificates

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

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

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

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

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

13.1.7.2.3 All endorsements, certificates and insurance policies shall state that District, its trustees, employees and agents, the State of California, Construction Manager(s), Program Manager(s), Inspector(s) and Architect(s) are named additional insureds under all policies except Workers' Compensation Insurance and Employers' Liability Insurance. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).

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

13.1.7.2.5 Contractor's and Subcontractors' insurance coverage at least as broad as ISO CG 20 01 04 13 shall be primary and non-contributory to any insurance or self-insurance maintained by District, its trustees, employees and/or agents, the State of California, Construction Manager(s), Program Manager(s), Inspector(s), and/or Architect(s). This requirement shall also apply to any Excess liability policies.

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

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

13.1.7.4 Insurance written on a "claims made" basis shall be retroactive to a date that coincides with or precedes Contractor's commencement of Work, including subsequent policies purchased as renewals or replacements. Said policy is to be renewed by the Contractor and all Subcontractors for a period of five (5) years following completion of the Work or termination of this Agreement. Such insurance must have the same coverage and limits as the policy that was in effect during the term of this Agreement and will cover the Contractor and all Subcontractors for all claims made. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy from with a retroactive date prior

to the effective date of this Agreement, or the start of Work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work. A copy of the claims reporting requirements must be submitted to the District for review.

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

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

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

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

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13.1.8 Insurance Policy Limits

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

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	$1,000,000 per occurrence; $2,000,000 aggregate
Automobile Liability	Any Auto – Combined Single Limit	$1,000,000
Workers' Compensation		Statutory limits pursuant to State law
Employers' Liability		$1,000,000 per accident for bodily injury or disease
Builder's Risk (Course of Construction)		Full replacement value for scope of Work
Pollution Liability		$1,000,000 per claim; $2,000,000 aggregate

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

13.2 Contract Security - Bonds

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

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

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

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

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

14. WARRANTY/GUARANTEE/INDEMNITY

14.1 Warranty/Guarantee

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

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

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

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

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

proceed to have defects repaired and made good at expense of Contractor and/or Surety who hereby agree to pay costs and charges therefore immediately on demand.

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

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

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

14.2 Indemnity and Defense

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

14.2.2 To the furthest extent permitted by California law, Contractor shall also defend Indemnitees, at its own expense, including but not limited to attorneys' fees and costs, against all Claims caused by, arising out of, resulting from, or incidental to the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers. However, without impacting Contractor's

obligation to provide an immediate and ongoing defense of Indemnitees, the Contractor's defense obligation shall be retroactively reduced by the proportion of the Indemnitees' and/or Architect's liability to the extent caused by the active negligence or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the Indemnitees. If a conflict-of-interest bars joint representation of Contractor and Indemnitees, District shall have the right to select its own counsel, subject to Contractor's reasonable right of rejection. If any Indemnitee provides its own defense due to failure to timely respond to tender of defense, rejection of tender of defense, or conflict of interest of proposed counsel, Contractor shall reimburse such Indemnitee for any expenditures. Even if the Contractor assumes the defense of the District with acceptable counsel, the District, at its sole option, may participate in the defense, at its own expense, with counsel of its own choice without relieving the Contractor of any of its obligations hereunder. Contractor's defense obligation shall not be construed to negate, abridge, or otherwise reduce any right or obligation of defense that would otherwise exist as to any Indemnitee or other person described herein. Contractor's defense obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the DIR. The Contractor shall give prompt notice to the District in the event of any Claim(s).

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

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

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

14.2.6 The District may retain so much of the moneys due the Contractor as shall be considered necessary, until disposition of any such Claims or until the District, Architect(s) and Construction Manager(s) have received written agreement from the Contractor that they will unconditionally defend the District, Architect(s) and

Construction Manager(s), their respective officers, agents and employees, and pay any damages due by reason of settlement or judgment.

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

15. TIME

15.1 Notice to Proceed

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

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

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

15.2 Computation of Time / Adverse Weather

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

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

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

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

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

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

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

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

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

15.3 Hours of Work

15.3.1 Sufficient Forces

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

15.3.2 Performance During Working Hours

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

15.3.3 No Work during State Testing

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

15.4 Progress and Completion

15.4.1 Time of the Essence

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

15.4.2 No Commencement Without Insurance or Bonds

The Contractor shall not commence operations on the Project or elsewhere prior to the effective date of insurance and bonds. The date of commencement of the Work shall not be changed by the effective date of such insurance or bonds. If Contractor commences Work without insurance and bonds, all Work is performed at Contractor's

peril and shall not be compensable until and unless Contractor secures bonds and insurance pursuant to the terms of the Contract Documents and subject to District claim for damages.

15.5 Schedule

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

15.6 Expeditious Completion

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

16. EXTENSIONS OF TIME – LIQUIDATED DAMAGES

16.1 Liquidated Damages

Contractor and District hereby agree that the exact amount of damages for failure to complete the Work within the time specified is extremely difficult or impossible to determine. If the Work is not completed within the time specified in the Contract Documents, it is understood that the District will suffer damage. It being impractical and unfeasible to determine the amount of actual damage, it is agreed the Contractor shall pay to District as fixed and liquidated damages, and not as a penalty, the amount set forth in the Agreement for each calendar day of delay in completion. Contractor and its Surety shall be liable for the amount thereof pursuant to Government Code section 53069.85.

16.2 Excusable Delay

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

16.2.2 Contractor's Notice of Delay and request for a time extension pursuant to subparagraph 16.2 is a condition precedent to Contractor's submittal of and/or entitlement to a claim pursuant to Article 25 of these Construction Provisions. Contractor shall notify the District pursuant to the Claims Process provisions in these General Conditions of any anticipated delay and its cause. Following submission of a claim, the District may determine whether the delay is to be considered avoidable or

unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

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

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

16.2.3.2 Specific logical ties to the Contract Schedule for the proposed changes and/or delay showing the activity/activities in the Construction Schedule that are affected by the change and/or delay. In particular, Contractor must show an actual impact to the schedule, after making a good faith effort to mitigate the delay by rescheduling the work, by providing an analysis of the schedule ("Time Impact Analysis"). Such Time Impact Analysis shall describe in detail the cause and effect of the delay and the impact on the critical dates in the Project schedule and main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path. (This information must be provided for any portion of any delay of seven (7) days or more.) The Contractor shall be responsible for all costs associated with the preparation of Time Impact Analyses.

16.2.4 A recovery schedule must be submitted within twenty (20) calendar days of written notification to the District of causes of delay to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

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

16.2.6 Contractor's failure to timely submit a written Notice of Delay and/or provide the justification required in subparagraph 16.2 shall constitute Contractor's

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

16.3 No Additional Compensation for Delays Within Contractor's Control

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

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

16.3.2.1 The District is responsible for the delay;

16.3.2.2 The delay is unreasonable under the circumstances involved;

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

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

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

16.3.3 Where an event for which District is responsible impacts the projected Completion Date, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment, and material the Contractor would expend to mitigate District-caused time impact. The Contractor shall submit its mitigation plan to District within fourteen (14) calendar days from the date of discovery of the impact. The Contractor is responsible for the cost to prepare the mitigation plan.

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

16.3.4.1 Actually incurred performing the Work;

16.3.4.2 Not compensated by the Markup allowed; and

16.3.4.3 Directly result from the extended Contract Time.

16.3.5 Contractor shall comply with all required procedures, documentation and time requirements in the Contract Documents. Contractor may not seek or recover such costs using formulas (e.g. Eichleay, labor factors). No time will be granted under this Contract for cumulative effect of changes.

16.4 Force Majeure

"Force Majeure" means any event or circumstance unknown at the time of contracting that is beyond the parties' control and makes performance of the contract impractical or impossible. The Party seeking to have its performance obligation(s) excused must demonstrate that there was such an insuperable interference occurring without the party's intervention as could not have been prevented by the exercise of prudence, diligence, and care, by providing prompt notice to the other Party, including full particulars of such event, of its inability to perform its obligations due to such event, following commencement of the claiming Party's inability to so perform its obligations. To the extent satisfying these conditions, Force Majeure events include the following: acts of God, war, civil unrest, epidemic, fire, smoke, volcanic eruption, earthquake, strike, unusually severe weather, flood, or shortage of transportation facilities, lock out, or commandeering of materials, product, plant, or facilities by the government. Force Majeure shall not be based on a Party's financial inability to perform under this Agreement unless there exists extreme and unreasonable difficulty, expense, injury, or loss involved. Costs imposed by the government on sales or importation of goods or materials including, without limitation, tariffs or taxes, are not Force Majeure. A Force Majeure event does not include an act of negligence or intentional wrongdoing by a Party. Any Party claiming a Force Majeure event shall use reasonable diligence to remove the condition that prevents performance and shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Force Majeure event. Each Party shall use its best efforts to mitigate the effects of such Force Majeure event, remedy its inability to perform, and resume full performance of its obligations hereunder. No obligation that arose before the Force Majeure event that could and should have been fully performed before such Force Majeure event is excused as a result of such Force Majeure event.

16.5 Float or Slack in the Schedule

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

17. CHANGES IN THE WORK

17.1 No Changes Without Authorization

17.1.1 There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order or a written Construction Change Directive authorized by the District as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or

deviations from the Drawings and Specifications unless the District's governing board has authorized the same and the cost thereof has been approved in writing by Change Order or Construction Change Directive in advance of the changed Work being performed. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted and approved in writing in the Change Order or Construction Change Directive. Contractor shall be responsible for any costs incurred by the District for professional services and DSA fees and/or delay to the Project Schedule, if any, for DSA to review any request for changes to the DSA approved plans and specifications for the convenience of the Contractor and/or to accommodate the Contractor's means and methods. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications.

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

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

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

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

17.2 Architect Authority

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

17.3 Price Request

17.3.1 Definition of Price Request

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

17.3.2 Scope of Price Request

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

17.4 Change Orders

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

17.4.1.1 A description of a change in the Work;

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

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

17.5 Proposed Change Order

17.5.1 Definition of Proposed Change Order

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

17.5.2 Changes in Contract Price

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

17.5.3 Changes in Time

A PCO shall also include any changes in time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change but must be based upon the impact to the Construction Schedule as defined in the Contract Documents. The Contractor shall justify the proposed change in time by submittal of a schedule analysis that accurately shows the impact of the change on the critical path of the Construction Schedule ("Time Impact Analysis"). If

Contractor fails to request a time extension in a PCO, including the Time Impact Analysis, then the Contractor is thereafter precluded from requesting, and waives any right to request, additional time and/or claim a delay. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional time for Change Order Work. A PCO that leaves the amount of time requested blank, or states that such time requested is "to be determined", is not permitted and shall also constitute a waiver of any right to request additional time and/or claim a delay.

17.5.4 Allowances

If there is an Allowance, then Contractor shall not bill for or be due any portion of an Allowance unless the District has identified specific work, Contractor has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has executed an Allowance Expenditure Directive incorporating that work. If Allowance was included in Contract Price before mark-up ("above the line"), Allowance Expenditure Directives shall be based on Contractor's costs, without overhead and profit, for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Allowance Expenditure Directive authorizing expenditure of funds from the Allowance. No overhead and profit shall be added to the Allowance Expenditure Directive unless Allowance was included in the Contract Price after mark-up ("below the line"). Allowance will only be treated as "below the line" if shown in the Bid Documents and the Bid Documents are escrowed.

Any unused portion of the Allowance, and related mark-up if Allowance was included above the line, will revert to the District documented by a deductive Change Order. Contractor authorizes the District to execute a unilateral deductive Change Order at or near the end of the Project for all or any portion of the Allowance not allocated.

17.5.5 Unknown and/or Unforeseen Conditions

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

17.5.6 Time to Submit Proposed Change Order

Contractor shall submit its PCO, using Document 00 63 57 (Proposed Change Order Form), within five (5) working days of the date Contractor discovers, or reasonably should have discovered, the circumstances giving rise to the PCO, unless additional time to submit a PCO is granted in writing by the District. Time is of the essence in Contractor's submission of PCOs so that the District can promptly investigate the basis for the PCO. Accordingly, if Contractor fails to submit its PCO within this timeframe, Contractor waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Contract Price and/or Time based on circumstances giving rise to the PCO.

17.5.7 Proposed Change Order Certification

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

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

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17.6 Format for Proposed Change Order

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

	WORK PERFORMED OTHER THAN BY CONTRACTOR	**ADD**	**DEDUCT**
(a)	**Material** (attach suppliers' invoice or itemized quantity and unit cost plus sales tax)		
(b)	**Add Labor** (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	**Add Equipment** (attach suppliers' invoice)		
(d)	**Subtotal**		
(e)	**Add Overhead and Profit for any and all Tiers of Subcontractor**, the total not to exceed ten percent (10%) of Item (d)		
(f)	**Subtotal**		
(g)	**Add General Conditions Cost** (if Time is Compensable) (attach supporting documentation)		
(h)	**Subtotal**		
(i)	**Add Overhead and Profit for Contractor**, not to exceed five percent (5%) of Item (h)		
(j)	**Subtotal**		
(k)	**Add Bond and Insurance**, not to exceed two and one-half percent (2.5%) of Item (j)		
(l)	**TOTAL**		
(m)	**Time** (zero unless indicated; "TBD" not permitted)	**_____ Calendar Days**	

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	WORK PERFORMED BY CONTRACTOR	**ADD**	**DEDUCT**
(a)	**Material** (attach itemized quantity and unit cost plus sales tax)		
(b)	**Add Labor** (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	**Add Equipment** (attach suppliers' invoice)		
(d)	**Add General Conditions Cost** (if Time is Compensable) (attach supporting documentation)		
(e)	**Subtotal**		
(f)	**Add Overhead and Profit for Contractor**, not to exceed fifteen percent (15%) of Item (e)		
(g)	**Subtotal**		
(h)	**Add Bond and Insurance**, not to exceed two and one-half percent (2.5%) of Item (g)		
(i)	**TOTAL**		
(j)	**Time** (zero unless indicated; "TBD" not permitted)	**_____ Calendar Days**	

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

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

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

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

17.6.6 General Conditions Cost. The phrase "General Conditions Cost" shall mean, other than expressly limited or excluded herein, the costs of Contractor during the construction phase, including but not limited to: payroll costs for project

manager for Work conducted at the Site, payroll costs for the superintendent and full-time general foremen, workers not included as direct labor costs engaged in support functions (e.g., loading/unloading, clean-up), costs of offices and temporary facilities including office materials, office supplies, office equipment, minor expenses, utilities, fuel, sanitary facilities and telephone services at the Site, costs of consultants not in the direct employ of Contractor or Subcontractors, and fees for permits and licenses.

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

17.7 Change Order Certification

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

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

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

17.7.2 Accord and Satisfaction: Contractor's execution of any Change Order shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim.

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

17.8 Determination of Change Order Cost

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

17.8.1.1 District acceptance of a PCO;

17.8.1.2 By unit prices contained in Contractor's original bid;

17.8.1.3 By agreement between District and Contractor.

17.8.2 Mark-up for overhead and profit and bonds and insurance shall be based on the net increase or decrease to the Contract Price; Contractor shall not split Change Orders to artificially increase markup and/or decrease credit.

17.9 Deductive Change Orders

All deductive Change Order(s) must be prepared pursuant to the provisions herein. Where a portion of the Work is deleted from the Contract, the reasonable value of the deducted work less the value of work performed shall be considered the appropriate deduction. The value submitted on the Schedule of Values shall be used to calculate the credit amount unless the bid documentation is being held in escrow as part of the Contract Documents. Unit Prices, if any, may be used in District's discretion in calculating reasonable value. If Contractor offers a proposed amount for a deductive Change Order(s), Contractor shall include a minimum of five percent (5%) total profit and overhead to be deducted with the amount of the work of the Change Order(s). If Subcontractor work is involved, Subcontractors shall also include a minimum of ten percent (10%) profit and overhead to be deducted with the amount of its deducted work. Any deviation from this provision shall not be allowed.

17.10 Addition or Deletion of Alternate Bid Item(s)

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

17.11 Discounts, Rebates, and Refunds

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

17.12 Construction Change Directives

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

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

17.13 Force Account Directives

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

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

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

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

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

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

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

17.14 Accounting Records

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

17.15 Notice Required

If the Contractor desires to make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the provisions herein including, without limitation, Article 25 Claims Process provisions. No claim shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

17.16 Applicability to Subcontractors

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

17.17 Alteration to Change Order Language

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

17.18 Failure of Contractor to Execute Change Order

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

18. REQUEST FOR INFORMATION

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

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

19. PAYMENTS

19.1 Contract Price

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

19.2 Applications for Progress Payments

19.2.1 Procedure for Applications for Progress Payments

19.2.1.1 Application for Progress Payment

19.2.1.1.1 Not before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the District and the Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required by District, and supported by the following or each portion thereof unless waived by the District in writing:

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

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

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

19.2.1.1.1.4 A certification that the As-Built Drawings and annotated Specifications are current;

19.2.1.1.1.5 Itemized breakdown of work done for the purpose of requesting partial payment;

19.2.1.1.1.6 An updated and acceptable construction schedule in conformance with the provisions herein;

19.2.1.1.1.7 The additions to and subtractions from the Contract Price and Contract Time;

19.2.1.1.1.8 A total of the retentions held;

19.2.1.1.1.9 Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;

19.2.1.1.1.10 The percentage of completion of the Contractor's Work by line item;

19.2.1.1.1.11 Schedule of Values updated from the preceding Application for Payment;

19.2.1.1.1.12 A duly completed and executed conditional waiver and release upon progress payment compliant with Civil Code section 8132 from the Contractor and each subcontractor of any tier and supplier to be paid from the current progress payment;

19.2.1.1.1.13 A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134 from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payment(s); and

19.2.1.1.1.14 A certification by the Contractor of the following:

The Contractor warrants title to all Work performed as of the date of this payment application has been completed in accordance with the Contract Documents for the Project. The Contractor further warrants that all amounts have been paid for work which previous Certificates for Payment

were issued and payments received and all Work performed as of the date of this payment application is free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, workers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work, except those of which the District has been informed. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

19.2.1.1.1.15 The Contractor shall be subject to the False Claims Act set forth in Government Code section 12650 et seq. for information provided with any Application for Progress Payment.

19.2.1.1.1.16 All remaining certified payroll records ("CPR(s)") for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work for the period of the Application for Payment. As indicated herein, the District shall not make any payment to Contractor until:

19.2.1.1.1.16.1 Contractor and/or its Subcontractor(s) provide electronic CPRs directly to the DIR on no less than every 30 days while Work is being performed and within 30 days after the final day of Work performed on the Project for any journeyman, apprentice, worker or other employee was employed in connection with the Work, or within ten (10) days of any request by the District or the DIR to the requesting entity, and

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

19.2.1.1.2 Applications received after June 20th will not be paid until the second week of July and applications received after December 12th will not be paid until the first week of January.

19.2.2 <u>Prerequisites for Progress Payments</u>

19.2.2.1 <u>First Payment Request</u>: The following items, if applicable, must be completed before the District will accept and/or process the Contractor's first payment request:

19.2.2.1.1 Installation of the Project sign;

19.2.2.1.2 Installation of field office;

19.2.2.1.3 Installation of temporary facilities and fencing;

19.2.2.1.4 Schedule of Values;

19.2.2.1.5 Contractor's Construction Schedule;

19.2.2.1.6 Schedule of unit prices, if applicable;

19.2.2.1.7 Submittal Schedule;

19.2.2.1.8 Receipt by Architect of all submittals due as of the date of the payment application;

19.2.2.1.9 Copies of necessary permits;

19.2.2.1.10 Copies of authorizations and licenses from governing authorities;

19.2.2.1.11 Initial progress report;

19.2.2.1.12 Surveyor qualifications;

19.2.2.1.13 Written acceptance of District's survey of rough grading, if applicable;

19.2.2.1.14 List of all Subcontractors, with names, license numbers, telephone numbers, and Scope of Work;

19.2.2.1.15 All bonds and insurance endorsements; and

19.2.2.1.16 Resumes of Contractor's project manager, and if applicable, job site secretary, record documents recorder, and job site superintendent.

19.2.2.2 Second Payment Request: The District will not process the second payment request until and unless all submittals and Shop Drawings have been accepted for review by the Architect.

19.2.2.3 No Waiver of Criteria: Any payments made to Contractor where criteria set forth herein have not been met shall not constitute a waiver of said criteria by District. Instead, such payment shall be construed as a good faith effort by District to resolve differences so Contractor may pay its Subcontractors and suppliers. Contractor agrees that failure to submit such items may constitute a breach of contract by Contractor and may subject Contractor to termination.

19.3 Progress Payments

19.3.1 District's Approval of Application for Payment

19.3.1.1 Upon receipt of an Application for Payment, The District shall act in accordance with both of the following:

19.3.1.1.1 Each Application for Payment shall be reviewed by the District as soon as practicable after receipt for the purpose of determining that the Application for Payment is a proper Application for Payment.

19.3.1.1.2 Any Application for Payment determined not to be a proper Application for Payment suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days, after

receipt. An Application for Payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the Application for Payment is not proper. The number of days available to the District to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the District exceeds this seven-day return requirement.

19.3.1.1.3 An Application for Payment shall be considered properly executed if funds are available for payment of the Application for Payment, and payment is not delayed due to an audit inquiry by the financial officer of the District.

19.3.1.2 The District's review of the Contractor's Application for Payment will be based on the District's and the Architect's observations at the Site and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the District's and the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to:

19.3.1.2.1 Observation of the Work for general conformance with the Contract Documents,

19.3.1.2.2 Results of subsequent tests and inspections,

19.3.1.2.3 Minor deviations from the Contract Documents correctable prior to completion, and

19.3.1.2.4 Specific qualifications expressed by the Architect.

19.3.1.3 District's approval of the certified Application for Payment shall be based on Contractor complying with all requirements for a fully complete and valid certified Application for Payment.

19.3.2 Payments to Contractor

19.3.2.1 Within thirty (30) days after approval of the Application for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as verified by Architect and Inspector and certified by Contractor) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The value of the Work completed shall be Contractor's best estimate. No inaccuracy or error in said estimate shall operate to release the Contractor, or any Surety upon any bond, from damages arising from such Work, or from the District's right to enforce each and every provision of this Contract, and the District shall have the right subsequently to correct any error made in any estimate for payment.

19.3.2.2 The Contractor shall not be entitled to have any payment requests processed or be entitled to have any payment made for Work performed, so long as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

19.3.2.3 If the District fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Payment from the Contractor, the District shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

19.3.3 No Waiver

No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Notwithstanding any payment, the District may enforce each and every provision of this Contract. The District may correct or require correction of any error subsequent to any payment.

19.4 Decisions to Withhold Payment

19.4.1 Reasons to Withhold Payment

The District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required herein cannot be made. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to any of the following:

19.4.1.1 Defective Work not remedied within **FORTY-EIGHT (48)** hours of written notice to Contractor.

19.4.1.2 Stop Payment Notices or other liens served upon the District as a result of the Contract. Contractor agrees that the District may withhold up to 125% of the amount claimed in the Stop Payment Notice to answer the claim and to provide for the District's reasonable cost of any litigation pursuant to the stop payment notice.

19.4.1.3 Written notice to withhold payment from Contractor by payment and/or performance bond surety(ies).

19.4.1.4 Liquidated damages assessed against the Contractor.

19.4.1.5 The cost of completion of the Contract if there exists a reasonable doubt that the Work can be completed for the unpaid balance of the Contract Price or by the completion date.

19.4.1.6 Damage to the District or other contractor(s).

19.4.1.7 Unsatisfactory prosecution of the Work by the Contractor.

19.4.1.8 Failure to store and properly secure materials.

19.4.1.9 Failure of the Contractor to submit, on a timely basis, proper, sufficient, and acceptable documentation required by the Contract Documents, including, without limitation, a Construction Schedule, Schedule of Submittals, Schedule of Values, Monthly Progress Schedules, Shop Drawings, Product Data

and samples, Proposed product lists, executed Change Orders, and/or verified reports.

19.4.1.10 Failure of the Contractor to maintain As-Built Drawings.

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

19.4.1.12 Unauthorized deviations from the Contract Documents.

19.4.1.13 Failure of the Contractor to prosecute the Work in a timely manner in compliance with the Construction Schedule, established progress schedules, and/or completion dates.

19.4.1.14 Failure to provide acceptable electronic certified payroll records, as required by the Labor Code, by these Contract Documents, or by written request; for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or by each Subcontractor in connection with the Work for the period of the Application for Payment or if payroll records are delinquent or inadequate.

19.4.1.15 Failure to properly pay prevailing wages as required in Labor Code section 1720 et seq., failure to comply with any other Labor Code requirements, and/or failure to comply with labor compliance monitoring and enforcement by the DIR.

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

19.4.1.17 Failure to comply with any applicable federal statutes and regulations regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon Act and related requirements, Contract Work Hours and Safety Standards Act requirements, if applicable.

19.4.1.18 Failure to properly maintain or clean up the Site.

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

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

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

19.4.1.22 Failure to pay any royalty, license or similar fees.

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

19.4.1.24 Failure to perform any implementation and/or monitoring required by any SWPPP for the Project and/or the imposition of any penalties or fines therefore whether imposed on the District or Contractor.

19.4.2 Reallocation of Withheld Amounts

19.4.2.1 District may, in its discretion, apply any withheld amount to pay outstanding claims or obligations as defined herein. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then that amount shall be considered a payment made under Contract by District to Contractor and District shall not be liable to Contractor for any payment made in good faith. These payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of funds disbursed on behalf of Contractor.

19.4.2.2 If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after **FORTY-EIGHT (48)** hours' written notice to the Contractor and, without prejudice to any other remedy, make good such deficiencies. The District shall adjust the total Contract Price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work that is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract Price (of at least one hundred fifty percent (150%) of the estimated reasonable value of the nonconforming Work) shall be made therefor.

19.4.3 Payment After Cure

When Contractor removes the grounds for declining approval, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

19.5 Subcontractor Payments

19.5.1 Payments to Subcontractors

No later than seven (7) days after receipt, or pursuant to Business and Professions Code section 7108.5 and Public Contract Code section 7107, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its Sub-subcontractors in a similar manner.

19.5.2 No Obligation of District for Subcontractor Payment

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

19.5.3 Joint Checks

District shall have the right in its sole discretion, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and/or material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, or a material or equipment supplier, any obligation from the District to such Subcontractor or a material or equipment supplier, or rights in such Subcontractor or a material or equipment supplier against the District.

20. COMPLETION OF THE WORK

20.1 Completion

20.1.1 District will accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District.

20.1.2 The Work may only be accepted as complete by action of the governing board of the District.

20.1.3 District, at its sole option, may accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District, except for minor corrective items, as distinguished from incomplete items. If Contractor fails to complete all minor corrective items within fifteen (15) days after the date of the District's acceptance of completion, District shall withhold from the final payment one hundred fifty percent (150%) of an estimate of the amount sufficient to complete the corrective items, as determined by District, until the item(s) are completed.

20.1.4 At the end of the 15-day period, if there are any items remaining to be corrected, District may elect to proceed as provided herein related to adjustments to Contract Price, and/or District's right to perform the Work of the Contractor.

20.2 Close-Out/Certification Procedures

20.2.1 Punch List

The Contractor shall notify the Architect when Contractor considers the Work complete. Upon notification, Architect will prepare a list of minor items to be completed or corrected ("Punch List"). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct items on the Punch List. Failure to include an item on Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

20.2.2 Close-Out/Certification Requirements

20.2.2.1 Utility Connections

Buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected.

20.2.2.2 Record Drawings and Record Specifications

20.2.2.2.1 Contractor shall provide exact Record Drawings of the Work ("As-Builts") and Record Specifications upon completion of the Project and as a condition precedent to approval of final payment.

20.2.2.2.2 Contractor shall obtain the Inspector's approval of the corrected prints and employ a competent draftsman to transfer the Record Drawings information to the most current version of AutoCAD that is, at that time, currently utilized for plan check submission by either the District, the Architect, OPSC, and/or DSA, and print a complete set of transparent sepias. When completed, Contractor shall deliver to the District corrected sepias and data storage device acceptable to District with AutoCAD file.

20.2.2.2.3 Contractor is liable and responsible for any and all inaccuracies in the Record Drawings and Record Specifications, even if inaccuracies become evident at a future date.

20.2.2.3 Construction Storm Water Permit, if applicable

Contractor shall submit to District all electronic or hard copy records required by the Construction Storm Water Permit, if applicable, within seven (7) days of Completion of the Project.

20.2.2.4 Spare Parts and Maintenance Manuals:

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

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

20.2.2.5 Instruction of District Personnel:

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

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

20.2.2.5.3 Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

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

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

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

20.2.2.7 Verified Reports: Contractor shall completely and accurately fill out and file forms DSA 6-C or DSA 152 (or current form), as appropriate. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

20.3 Final Inspection

20.3.1 Contractor shall comply with Punch List procedures as provided herein and maintain the presence of a Project superintendent and project manager until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Contractor demobilize its forces prior to completion of the Punch List without District's prior written approval. Upon receipt of Contractor's written notice that all of the Punch List items have been fully completed and the Work is ready for final inspection and District acceptance, Architect and Project Inspector will inspect the Work and shall submit to Contractor and District a final inspection report noting the Work, if any, required in order to complete in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punch List items not yet satisfactorily completed.

20.3.2 Upon Contractor's completion of all items on the Punch List and any other uncompleted portions of the Work, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the Architect finds the Work complete and acceptable under the Contract Documents, the Architect will notify Contractor, who shall then jointly submit to the Architect and the District its final Application for Payment.

20.3.3 Final Inspection Requirements

20.3.3.1 Before calling for final inspection, Contractor shall determine that the following have been performed:

20.3.3.1.1 The Work has been completed.

20.3.3.1.2 All life safety items are completed and in working order.

20.3.3.1.3 Mechanical and electrical Work including, without limitation, security system, data, and fire alarm, are complete and tested, fixtures are in place, connected, and ready for tryout.

20.3.3.1.4 Electrical circuits scheduled in panels and disconnect switches labeled.

20.3.3.1.5 Replace filters of operating equipment.

20.3.3.1.6 Painting and special finishes complete.

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

20.3.3.1.8 Tops and bottoms of doors sealed.

20.3.3.1.9 Floors waxed and polished as specified.

20.3.3.1.10 Carpeted and soft surfaces vacuumed.

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

20.3.3.1.12 Equipment and fixtures cleaned to a sanitary condition.

20.3.3.1.13 Grounds cleared of Contractor's equipment, raked clean of debris, and remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

20.3.3.1.14 Site cleaned, paved areas swept, and clean landscaped surfaces raked.

20.3.3.1.15 Roofs, gutters, down spouts, and drainage systems cleaned of debris.

20.3.3.1.16 Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material replaced.

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

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

20.3.3.1.19 Final cleanup, as provided herein.

20.4 Costs of Multiple Inspections

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

20.5 Partial Occupancy or Use Prior to Completion

20.5.1 District's Rights to Occupancy

The District may occupy or use any completed or partially completed portion of the Work at any stage, and such occupancy shall not constitute the District's Final Acceptance of any part of the Work. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein. In the event that the District occupies or uses

any completed or partially completed portion of the Work, the Contractor shall remain responsible for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents unless the Contractor requests in writing, and the District agrees, to otherwise divide those responsibilities. Any dispute as to responsibilities shall be resolved pursuant to the Claims Process provisions herein, with the added provision that during the dispute process, the District shall have the right to occupy or use any portion of the Work that it needs or desires to use.

20.5.2 Inspection Prior to Occupancy or Use

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

20.5.3 No Waiver

Unless otherwise agreed upon, partial or entire occupancy or use of a portion or portions of the Work shall not constitute beneficial occupancy or District's acceptance of the Work not complying with the requirements of the Contract Documents.

21. FINAL PAYMENT AND RETENTION

21.1 Final Payment

Upon receipt and approval of a valid and final Application for Payment, the Architect will issue a final Certificate of Payment. The District shall thereupon jointly inspect the Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon District's acceptance of the Work of the Contractor as fully complete by the Governing Board of the District (that, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of final payment from the District, pay the amount due Subcontractors.

21.2 Prerequisites for Final Payment

The following conditions must be fulfilled prior to Final Payment:

21.2.1 A full release of all Stop Payment Notices served in connection with the Work shall be submitted by Contractor.

21.2.2 A duly completed and executed conditional waiver and release upon final payment compliant with Civil Code section 8136, from the Contractor and each subcontractor of any tier and supplier to be paid from the final payment.

21.2.3 A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134, from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payments.

21.2.4 A duly completed and executed Document 00 65 19.26, "AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS" from the Contractor.

21.2.5 The Contractor shall have made all corrections to the Work that are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.

21.2.6 Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.

21.2.7 Contractor must have completed all requirements set forth under "Close-Out/Certification Procedures," including, without limitation, submission of an approved set of complete Record Drawings.

21.2.8 Architect shall have issued its written approval that final payment can be made.

21.2.9 The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents, which must be approved by the District.

21.2.10 The Contractor shall have completed final clean-up as provided herein.

21.3 Retention

21.3.1 The retention, less any amounts disputed by the District or that the District has the right to withhold pursuant to provisions herein, shall be paid:

21.3.1.1 After approval by the Architect of the Application and Certificate of Payment,

21.3.1.2 After the satisfaction of the conditions set forth herein, and

21.3.1.3 After forty-five (45) days after the recording of the Notice of Completion by District.

21.3.2 No interest shall be paid on any retention, or on any amounts withheld due to a failure of the Contractor to perform, in accordance with the terms and conditions of the Contract Documents, except as provided to the contrary in any Escrow Agreement between the District and the Contractor pursuant to Public Contract Code section 22300.

21.4 Substitution of Securities

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

22. UNCOVERING OF WORK

If a portion of the Work is covered without Inspector or Architect approval or not in compliance with the Contract Documents, it must, if required in writing by the District, the Project Inspector, or the Architect, be uncovered for the Project Inspector's or the Architect's observation and be corrected, replaced, and/or recovered at the Contractor's expense without change in the Contract Price or Contract Time.

23. NONCONFORMING WORK AND CORRECTION OF WORK

23.1 Nonconforming Work

23.1.1 Contractor shall promptly remove from Premises all Work identified by District as failing to conform to the Contract Documents whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract Documents without additional expense to the District and shall bear the expense of making good all work of other contractors destroyed or damaged by any removal or replacement pursuant hereto and/or any delays to the District or other Contractors caused thereby.

23.1.2 If Contractor does not remove Work that District has identified as failing to conform to the Contract Documents within a reasonable time, not to exceed **FORTY-EIGHT (48)** hours, District may remove it and may store any material at Contractor's expense. If Contractor does not pay expense(s) of that removal within ten (10) days' time thereafter, District may, upon ten (10) days' written notice, sell any material at auction or at private sale and shall deduct all costs and expenses incurred by the District and/or District may withhold those amounts from payment(s) to Contractor.

23.2 Correction of Work

23.2.1 Correction of Rejected Work

Pursuant to the notice provisions herein, the Contractor shall immediately correct the Work rejected by the District, the Architect, or the Project Inspector as failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not fabricated, installed, or completed. The Contractor shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby.

23.2.2 One-Year Warranty Corrections

If, within one (1) year after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established hereunder, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so. This period of one (1) year shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation hereunder shall survive District's acceptance of the Work

under the Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

23.3 District's Right to Perform Work

23.3.1 If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this contract, the District, after **FORTY-EIGHT (48)** hours' written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

23.3.2 If it is found at any time, before or after completion of the Work, that Contractor has varied from the Drawings and/or Specifications, including, but not limited to, variation in material, quality, form, or finish, or in the amount or value of the materials and labor used, District may require at its option:

23.3.2.1 That all such improper Work be removed, remade or replaced, and all work disturbed by these changes be made good by Contractor at no additional cost to the District;

23.3.2.2 That the District deduct from any amount due Contractor the sum of money equivalent to the difference in value between the work performed and that called for by the Drawings and Specifications; or

23.3.2.3 That the District exercise any other remedy it may have at law or under the Contract Documents, including but not limited to the District hiring its own forces or another contractor to replace the Contractor's nonconforming Work, in which case the District shall either issue a deductive Change Order, a Construction Change Directive, or invoice the Contractor for the cost of that work. Contractor shall pay any invoices within thirty (30) days of receipt of same or District may withhold those amounts from payment(s) to Contractor.

24. TERMINATION AND SUSPENSION

24.1 District's Request for Assurances

If District at any time reasonably believes Contractor is or may be in default under this Contract, District may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Work and a written plan from Contractor to remedy any potential default under the terms this Contract that the District may advise Contractor of in writing. Contractor shall, within ten (10) calendar days of District's request, deliver a written cure plan that meets the District's requirements in its request for assurances. Contractor's failure to provide such written assurances of performance and the required written plan, within ten (10) calendar days of request, will constitute a material breach of this Contract sufficient to justify termination for cause.

24.2 District's Right to Terminate Contractor for Cause

24.2.1 Grounds for Termination: The District, in its sole discretion, may terminate the Contract and/or terminate the Contractor's right to perform the work of the Contract based upon any of the following:

24.2.1.1 Contractor refuses or fails to execute the Work or any separable part thereof with sufficient diligence as will ensure its completion within the time specified or any extension thereof, or

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

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

24.2.1.4 Contractor persistently refuses, or repeatedly fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the Work in the time specified; or

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

24.2.1.6 Contractor persistently disregards laws, or ordinances, or instructions of District; or

24.2.1.7 Contractor fails to supply labor, including that of Subcontractors, that is sufficient to prosecute the Work or that can work in harmony with all other elements of labor employed or to be employed on the Work; or

24.2.1.8 Contractor or its Subcontractor(s) is/are otherwise in breach, default, or in substantial violation of any provision of this Contract, including but not limited to a lapse in licensing or registration.

24.2.2 Notification of Termination

24.2.2.1 Upon the occurrence at District's sole determination of any of the above conditions, District may, without prejudice to any other right or remedy, serve written notice upon Contractor and its Surety of District's termination of this Contract and/or the Contractor's right to perform the work of the Contract. This notice will contain the reasons for termination. Unless, within three (3) days after the service of the notice, any and all condition(s) shall cease, and any and all violation(s) shall cease, or arrangement satisfactory to District for the correction of the condition(s) and/or violation(s) be made, this Contract and/or the Contractor's right to perform the Work of the Contract shall cease and terminate. Upon termination, Contractor shall not be entitled to receive any further payment until the entire Work is finished.

24.2.2.2 Upon termination, District may immediately serve written notice of tender upon Surety whereby Surety shall have the right to take over and perform this Contract only if Surety:

24.2.2.2.1 Within three (3) days after service upon it of the notice of tender, gives District written notice of Surety's intention to take over and perform this Contract; and

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

24.2.2.3 Surety shall not utilize Contractor in completing the Project if the District notifies Surety of the District's objection to Contractor's further participation in the completion of the Project. Surety expressly agrees that any contractor which Surety proposes to fulfill Surety's obligations is subject to District's approval. District's approval shall not be unreasonably withheld, conditioned or delayed.

24.2.2.4 If Surety fails to notify District or begin performance as indicated herein, District may take over the Work and execute the Work to completion by any method it may deem advisable at the expense of Contractor and/or its Surety. Contractor and/or its Surety shall be liable to District for any excess cost or other damages the District incurs thereby. Time is of the essence in this Contract. If the District takes over the Work as herein provided, District may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plan, and other property belonging to Contractor as may be on the Site of the Work, in bonded storage, or previously paid for.

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

24.2.3 In the event of a termination for cause, if the expense to the District to finish the Work exceeds the unpaid Contract Price, Contractor and Surety shall pay difference to District within twenty-one (21) days of District's request.

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

24.3 Termination of Contractor for Convenience

24.3.1 District in its sole discretion may terminate the Contract in whole or in part upon three (3) days' written notice to the Contractor.

24.3.2 Upon notice, Contractor shall:

24.3.2.1 Cease operations as directed by the District in the notice;

24.3.2.2 Take necessary actions for the protection and preservation of the Work as soon as possible; and

24.3.2.3 Terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

24.3.3 Within 30 days of the notice, Contractor submit to the District a payment application for the actual cost for labor, materials, and services performed, including all Contractor's and Subcontractor(s)' mobilization and/or demobilization costs, that is unpaid. Contractor shall have no claims against the District except for the actual cost for labor, materials, and services performed that adequately documented through timesheets, invoices, receipts, or otherwise. District shall pay all undisputed invoice(s) for work performed until the notice of termination.

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

24.4 Effect of Termination

24.4.1 Contractor shall, only if ordered to do so by the District, immediately remove from the Site all or any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The District retains the right, but not the obligation, to keep and use any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The Contractor and its Surety shall be liable upon the Performance Bond for all damages caused to the District by reason of the Contractor's failure to complete the Contract.

24.4.2 In the event that the District shall perform any portion of, or the whole of the Work, pursuant to the provisions of the General Conditions, the District shall not be liable nor account to the Contractor in any way for the time within which, or the manner in which, the Work is performed by the District or for any changes the District may make in the Work or for the money expended by the District in satisfying claims and/or suits and/or other obligations in connection with the Work.

24.4.3 In the event that the Contract is terminated for any reason, no allowances or compensation will be granted for the loss of any anticipated profit by the Contractor or any impact or impairment of Contractor's bonding capacity.

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

24.5 Emergency Termination of Public Contracts Act of 1949

24.5.1 This Contract is subject to termination as provided by sections 4410 and 4411 of the Government Code of the State of California, being a portion of the Emergency Termination of Public Contracts Act of 1949.

24.5.1.1 Section 4410 of the Government Code states:

In the event a national emergency occurs, and public work, being performed by contract, is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor, as the result of an order or a proclamation of the President of the United States, or of an order of any federal authority, and the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the public agency and the contractor may, by written agreement, terminate said contract.

24.5.1.2 Section 4411 of the Government Code states:

Such an agreement shall include the terms and conditions of the termination of the contract and provision for the payment of compensation or money, if any, which either party shall pay to the other or any other person, under the facts and circumstances in the case.

24.5.2 Compensation to the Contractor shall be determined at the sole discretion of District on the basis of the reasonable value of the Work done, including preparatory work. As an exception to the foregoing and at the District's discretion, in the case of any fully completed separate item or portion of the Work for which there is a separate previously submitted unit price or item on the accepted schedule of values, that price shall control. The District, at its sole discretion, may adopt the Contract Price as the reasonable value of the work done or any portion thereof.

24.6 Suspension of Work

24.6.1 District in its sole discretion may suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine upon three (3) days written notice to the Contractor.

24.6.1.1 An adjustment may be made for changes in the cost of performance of the Work caused by any such suspension, delay or interruption. No adjustment shall be made to the extent:

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

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

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

24.6.1.2 Any adjustments in cost of performance may have a fixed or percentage fee as provided in the section on Format for Proposed Change Order herein. This amount shall be full compensation for all Contractor's and its Subcontractor(s)' changes in the cost of performance of the Contract caused by any such suspension, delay or interruption.

25. CLAIMS PROCESS

25.1 Obligation to File Claims for Disputes

25.1.1 Should Contractor otherwise seek extra time or compensation for any reason whatsoever, then Contractor shall first follow procedures set forth in the Contract Documents including, without limitation, Articles 15, 16 and 17, all of which are conditions precedent to submitting a Claim pursuant to Article 25. A Notice of Delay or Proposed Change Order are less formal procedures that proceed the formal claim and do not constitute a Claim. A Claim also does not include correspondence, RFIs, vouchers, invoices, progress payment applications, or other routine or authorized form of requests for progress payments in compliance with the Contract. If a dispute remains, then Contractor shall give written notice to District that expressly invokes this Article 25 within the time limits set forth herein.

25.1.2 Contractor's sole and exclusive remedy for a Dispute is to file a written claim setting forth Contractor's position as required herein within the time limits set forth herein.

25.2 Duty to Perform during Claim Process

Contractor and its subcontractors shall continue to perform its Work under the Contract including the disputed work and shall not cause a delay of the Work during any dispute, claim, negotiation, mediation, or arbitration proceeding, except by written agreement by the District.

25.3 Definition of Claim

25.3.1 Pursuant to Public Contract Code section 9204, the term "Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

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

25.3.1.2 Payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or to which Contractor is not otherwise entitled to; or

25.3.1.3 An amount of payment disputed by the District.

25.4 Claims Presentation

25.4.1 Form and Contents of Claim

25.4.1.1 If Contractor intends to submit a Claim for an increase in the Contract Price and/or Contract Time for any reason including, without limitation, the acts of District or its agents, Contractor shall, within thirty (30) days after the event giving rise to the Claim, give notice of the Claim ("Notice of Potential Claim") in writing specifically identifying Contractor is invoking this Article 25 Claims Presentation. The Notice of Potential Claim shall provide Contractor's preliminary request for an adjustment to the Contract Price and/or Contract Time, with a description of the grounds therefore.

25.4.1.2 Within thirty (30) days after serving the written Notice of Potential Claim, Contractor shall provide a Claim including an itemized statement of the details and amounts of its Claim for any increase in the Contract Price of Contract Time as provided below, including a Time Impact Analysis and any and all other documentation substantiating Contractor's claimed damages:

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

25.4.1.2.2 Citation to provisions in the Contract Documents, statute sections, and/or case law entitling Contractor to an increase in the Contract Price or Contract Time;

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

25.4.1.2.4 The Time Impact Analysis of all time delays that shows actual time impact on the critical path; and

25.4.1.2.5 The line-item costs for labor, material, and/or equipment, if applicable, for all cost impacts priced like a change order according to Article 17 and must be updated monthly as to cost and entitlement if a continuing claim.

25.4.1.3 The Claim shall include the following certification by the Contractor:

25.4.1.3.1 The undersigned Contractor certifies under penalty of perjury that the attached dispute is made in good faith; that the supporting data is accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the adjustment for which Contractor believes the District is liable; and that I am duly authorized to certify the dispute on behalf of the Contractor.

25.4.1.3.2 Furthermore, Contractor understands that the value of the attached dispute expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from the Work performed on the Project, additional time required on the Project and/or resulting from delay to

the Project including, without limitation, cumulative impacts. Contractor may not separately recover for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

25.4.2 Contractor shall bear all costs incurred in the preparation and submission of a Claim.

25.4.3 Failure to timely submit a Claim and the requisite supporting documentation shall constitute a waiver of Contractor's claim(s) against the District and Contractor's Claim(s) for compensation or an extension of time shall be deemed waived, released, and discharged as to any entitlement for adjustment to Contract Price and/or Contract Time.

25.5 Claim Resolution pursuant to Public Contract Code section 9204

The Parties may mutually agree in writing to waive the claims procedure under Public Contract Code section 9204 and proceed directly to the commencement of a civil action or binding arbitration. Absent prior mutual waiver, Contractor shall comply with the following steps:

25.5.1 STEP 1:

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

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

25.5.1.2 Upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable. In this instance, District and Contractor must comply with the sections below regarding Public Contract Code section 20104, et seq. and Government Code Claim Act Claims.

25.5.1.3 If the District fails to issue a written statement, or to otherwise meet the time requirements of this section, this shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the District's failure

to have responded to a Claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of Contractor.

25.5.2 STEP 2:

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

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

25.5.3 STEP 3:

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

25.5.3.1.1 For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

25.5.3.2 Unless otherwise agreed to by the District and Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code section 20104.4 to mediate after litigation has been commenced.

25.5.4 STEP 4:

25.5.4.1 If mediation under this section does not resolve the parties' dispute, the District may, but does not require arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program.

25.6 Subcontractor Pass-Through Claims

25.6.1 If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a District because privity of contract does not exist, the contractor may present to the District a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that Contractor present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the Claim be presented to the District shall furnish reasonable documentation to support the Claim.

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

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

25.7 Government Code Claim Act Claim

25.7.1 If a claim, or any portion thereof, remains in dispute upon satisfaction of all applicable Claim Resolution requirements the Contractor shall comply with all claims presentation requirements as provided in Chapter 1 (commencing with section 900) and Chapter 2 (commencing with section 910) of Part 3 of Division 3.6 of Title 1 of Government Code as a condition precedent to the Contractor's right to bring a civil action against the District.

25.7.2 Contractor shall bear all costs incurred in the preparation, submission and administration of a Claim. Any claims presented in accordance with the Government Code must affirmatively indicate Contractor's prior compliance with the claims procedure herein of the claims asserted.

25.7.3 For purposes of those provisions, the running of the time within which a claim pursuant to Public Contract Code section 20104.2 only must be presented to the District shall be tolled from the time the claimant submits his or her written claim until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

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

25.8.1 In the event of a disagreement between the parties as to performance of the Work, the interpretation of this Contract, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve all claims of three

hundred seventy-five thousand dollars ($375,000) or less which arise between Contractor and District by those procedures set forth in Public Contract Code section 20104, et seq., to the extent applicable.

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

25.8.1.2 For claims of less than fifty thousand dollars ($50,000), the District shall respond in writing within forty-five (45) days of receipt of the Claim or may request in writing within thirty (30) days of receipt of the Claim any additional documentation supporting the Claim or relating to defenses or claims the District may have against the Contractor.

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

25.8.1.2.2 District's written response to the documented Claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor to produce the additional information, whichever is greater.

25.8.1.3 For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the District shall respond in writing to all written Claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the Claim any additional documentation supporting the Claim or relating to defenses or claims the District may have against the Contractor.

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

25.8.1.3.2 The District's written response to the Claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor to produce the additional information or requested documentation, whichever is greater.

25.8.1.4 If Contractor disputes the District’s written response, or the District fails to respond within the time prescribed, Contractor may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

25.8.1.5 Following the meet and confer conference, if the Claim or any portion of it remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions the running of the time within which a claim must be filed shall be tolled from the time the Contractor submits its written Claim until the time the

Claim is denied, including any period of time utilized by the meet and confer process.

25.8.1.6 For any civil action filed to resolve claims filed pursuant to this section, within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

25.8.1.7 If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of the Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986, (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

25.8.1.8 The District shall not fail to pay money as to any portion of a Claim which is undisputed except as otherwise provided in the Contract Documents. In any suit filed pursuant to this section, the District shall pay interest due at the legal rate on any arbitration award or judgment. Interest shall begin to accrue on the date the suit is filed in a court of law.

25.8.2 Contractor shall bind its Subcontractors to the provisions of this Article and will hold the District harmless against disputes by Subcontractors.

25.9 Claim Procedure Compliance

25.9.1 Failure to submit and administer claims as required in Article 25 shall waive Contractor's right to claim on any specific issues not included in a timely submitted claim. Claim(s) not raised in a timely protest and timely claim submitted under this Article 25 may not be asserted in any subsequent litigation, Government Code Claim, or legal action.

25.9.2 District shall not be deemed to waive any provision under this Article 25, if at District's sole discretion, a claim is administered in a manner not in accord with this Article 25. Waivers or modifications of this Article 25 may only be made by a signed change order approved as to form by legal counsel for both District and Contractor; oral or implied modifications shall be ineffective.

25.10 Claim Resolution Non-Applicability

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

25.10.1.1 Personal injury, wrongful death or property damage claims;

25.10.1.2 Latent defect or breach of warranty or guarantee to repair;

25.10.1.3 Stop payment notices;

25.10.1.4 District's rights set forth in the Article on Suspension and Termination;

25.10.1.5 Disputes arising out of labor compliance enforcement by the Department of Industrial Relations; or

25.10.1.6 District rights and obligations as a public entity set forth in applicable statutes; provided, however, that penalties imposed against a public entity by statutes, including, but not limited to, Public Contract Code sections 20104.50 and 7107, shall be subject to the Claim Resolution requirements provided in this Article.

25.11 Attorney's Fees

25.11.1 Should litigation be necessary to enforce any terms or provisions of this Agreement, then each party shall bear its own litigation and collection expenses, witness fees, court costs, and attorney's fees.

26. STATE LABOR, WAGE & HOUR, APPRENTICE, AND RELATED PROVISIONS

26.1 Labor Compliance and Enforcement

Since this Project is subject to labor compliance and enforcement by the Department of Industrial Relations ("DIR"), Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code and Title 8 of the California Code of Regulations, including, without limitation, the requirement that the Contractor and all Subcontractors shall timely furnish complete and accurate electronic certified payroll records directly to the DIR. The District may not issue payment if this requirement is not met.

26.2 Wage Rates, Travel, and Subsistence

26.2.1 Pursuant to the provisions of Article 2 (commencing at section 1770), Chapter 1, Part 7, Division 2, of the Labor Code, the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute this Contract are on file at the District's principal office and copies will be made available to any interested party on request or available online at http://www.dir.ca.gov/. Contractor shall obtain and post a copy of these wage rates at the job site.

26.2.2 Holiday and overtime work, when permitted by law, shall be paid for at the general prevailing rate of per diem wages for holiday and overtime work on file with the Director of the Department of Industrial Relations, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the

holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

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

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

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

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

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

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

26.3 Hours of Work

26.3.1 As provided in article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by Contractor or by any Subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract shall be limited and restricted by Contractor to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set

forth, Work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

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

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

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

26.4 Payroll Records

26.4.1 Contractor shall upload, and shall cause each Subcontractor performing any portion of the Work under this Contract to upload, an accurate and complete certified payroll record ("CPR") electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online on no less than every thirty (30) days while Work is being performed and within thirty (30) days after the final day of Work performed on the Project and within ten (10) days of any request by the District or Labor 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/they is employed, and shall be employed only at the work of the craft or trade to which he/she/they is registered.

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

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

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

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

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

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

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

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

26.7 Non-Discrimination

26.7.1 Contractor herein agrees to comply with the provisions of the California Fair Employment and Housing Act as set forth in part 2.8 of division 3 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Contractor and Subcontractor.

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

26.8 Labor First Aid

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

27. [RESERVED]

28. MISCELLANEOUS

28.1 Assignment of Antitrust Actions

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

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

28.1.2 Section 4552 of the Government Code states:

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

28.1.3 Section 4553 of the Government Code states:

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

28.1.4 Section 4554 of the Government Code states:

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

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

28.2 Excise Taxes

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

28.3 Taxes

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

28.4 Shipments

Contractor is responsible for any or all damage or loss to shipments until delivered and accepted on Site, as indicated in the Contract Documents. There must be no charge for containers, packing, unpacking, drayage, or insurance. The total Contract Price shall be all inclusive (including sales tax) and no additional costs of any type will be considered.

28.5 Compliance with Government Reporting Requirements

If this Contract is subject to federal or other governmental reporting requirements because of federal or other governmental financing in whole or in part for the Project of which it is part, or for any other reason, Contactor shall comply with those reporting requirements at the request of the District at no additional cost.

END OF DOCUMENT

DOCUMENT 00 73 13

SPECIAL CONDITIONS

1. Occupied Site

1.1 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.

1.2 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.

1.3 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.

1.4 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.

1.5 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.

1.6 Work during Instructional Time. By submitting its bid, Contractor acknowledges that the Project may overlap with 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. If Contractor cannot adequately minimize the disruption to District's satisfaction, District reserves the

right to require that Contractor perform Work outside of school operation hours at no additional cost to District.

2. Substitutions for Specified Items

Replace Section 1.7 in the General Conditions with the following provisions:

1.7.1 Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified.

1.7.1.1 If the material, process, or article offered by Contractor is not, in the opinion of the District, substantially equal or better in every respect to that specified, then Contractor shall furnish the material, process, or article specified in the Specifications without any additional compensation or change order.

1.7.1.2 This provision shall not be applicable with respect to any material, product, thing or service for which District made findings and gave notice in accordance with Public Contract Code section 3400(c); therefore, Contractor shall not be entitled to request a substitution with respect to those materials, products or services.

1.7.2 A request for a substitution shall be submitted as follows:

1.7.2.1 Contractor shall notify the District in writing of any request for a substitution at least ten (10) days prior to bid opening as indicated in the Instructions to Bidders.

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

1.7.3 Within 35 days after the date of the Notice of Award, Contractor shall provide data substantiating a request for substitution of "an equal" item, including but not limited to the following:

1.7.3.1 All variations of the proposed substitute from the material specified including, but not limited to, principles of operation, materials, or construction finish, thickness or gauge of materials, dimensions, weight, and tolerances;

1.7.3.2 Available maintenance, repair or replacement services;

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

1.7.3.4 Whether or not acceptance of the substitute will require other changes in the Work (or in work performed by the District or others under Contract with the District); and

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

1.7.4 No substitutions shall be made until approved, in writing, by the District. The burden of proof as to equality of any material, process, or article shall rest with Contractor. The Contractor warrants that if substitutes are approved:

1.7.4.1 The proposed substitute is equal or superior in all respects to that specified, and that such proposed substitute is suitable and fit for the intended purpose and will perform adequately the function and achieve the results called for by the general design and the Contract Documents;

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

1.7.4.3 The Contractor shall be fully responsible for the installation of the substitute and any changes in the Work required, either directly or indirectly, because of the acceptance of such substitute, with no increase in Contract Price or Contract Time. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time;

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

1.7.4.5 The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit.

1.7.5 In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.

1.7.6 In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

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

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3. As-Builts and Record Drawings

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

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

4. Disabled Veteran Business Enterprises

This Project uses or may plan to use funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings. Therefore, Section 17076.11 of the Education Code requires the District to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%), per year, of the overall dollar amount expended each year by the District on projects that receive state funding. The Contractor must submit the Disabled Veteran Business Enterprise Participation Certification to the District with its executed Agreement, identifying the steps Contractor took to solicit DVBE participation in conjunction with this Contract.

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

5.1 Minimum Wages

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5.3 Payrolls and basic records.

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

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

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

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

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

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

5.3.3.3 That such information is correct and complete;

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

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

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

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

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

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

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

5.4 Apprentices and trainees

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

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

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

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

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

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

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

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

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

5.10 Certification of Eligibility.

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

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

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

5.11 <u>Clauses Mandated by Contract Work Hours and Safety Standards Act.</u>

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

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

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

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

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

Subcontractor with the clauses set forth in paragraphs 5.11.1 through 5.11.4 of this section.

END OF SECTION

DOCUMENT 00 73 56

HAZARDOUS MATERIALS
PROCEDURES & REQUIREMENTS

1. Summary

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

2. Notice of Hazardous Waste or Materials

a. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:

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

(2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.

b. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.

c. In response to Contractor's written notice, the District shall investigate the identified conditions.

d. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.

e. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

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

3. Additional Warranties and Representations

a. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).

b. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.

c. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

4. Monitoring and Testing

a. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.

b. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these

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

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

5. Compliance with Laws

a. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.

b. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:

(1) The protection of the public health, welfare and environment;

(2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;

(3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and

(4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

6. Disposal

a. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.

b. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.

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

7. Permits

a. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:

(1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and

(2) are in compliance with all such permits, approvals and the regulations.

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

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

8. Indemnification

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 960l *et seq*.).

9. Termination

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

END OF DOCUMENT

DOCUMENT 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Site Access Conditions and Requirements;

B. Special Conditions.

1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of this Contract consists of the following:

The Redwood High School Ghilotti Field Site Improvements consists of replacement and addition of concrete curbs and flatwork, safety netting, 5- row non-elevated bleachers and stormwater mitigation. Included in the scope of work will also be improvements to the accessible /egress routes and improvements to the existing field.

1.03 CONTRACTS

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

1.04 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.

1.05 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.

1.06 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.

1.07 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.

1.08 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.

1.09 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.

1.10 STRUCTURAL INTEGRITY

A. Contractor shall be responsible for and supervise each operation and work that could affect structural integrity of various building elements, both permanent and temporary.

B. Contractor shall include structural connections and fastenings as indicated or required for complete performance of the Work.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 21 00

ALLOWANCE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-specified work.

1.2 RELATED SECTIONS

A. Document 01 10 00 (Summary of Work)

B. Document 01 29 00 (Payments and Completion)

C. Document 01 32 19 (Submittal Procedures)

1.3 ALLOWANCES

A. Included in the Contract, a stipulated sum/price of **$25,000.00** as an allowance for Unforeseen Conditions within the limits set forth in the Contract Documents. This Allowance shall not be utilized without written approval by the District.

B. Contractor's costs, without overhead and profit, for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Allowance Expenditure Directive authorizing expenditure of funds from this Allowance. No overhead and profit shall be added to the Allowance Expenditure Directive.

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

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

E. Whenever costs are more than the Allowance, the amount covered by the Allowance will be approved at cost (i.e., only the amount within the Allowance will be approved for payment). Contractor must follow the Change Order procedure to adjust the Contract Price for amounts in excess of the Allowance.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF DOCUMENT

DOCUMENT 01 25 13

PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. Instructions to Bidders;

B. General Conditions, including, without limitation, Substitutions For Specified Items; and

C. Special Conditions.

1.02 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

A. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be reviewed subject to the provisions of the General Conditions.

B. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District and/or the Architect, Contractor shall assume all costs required to make necessary revisions and modifications of the design resulting from the substitutions requested by the Contractor.

C. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or approved equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions. The District's Board has found and determined that certain item(s) shall be used on this Project based on the purpose(s) indicated pursuant to Public Contract Code section 3400(c). These findings, as well as the products and brand or trade names, have been identified in the Notice to Bidders.

D. The Contractor will not be allowed to substitute specified items unless the request for substitution is submitted as follows:

(1) District must receive any notice of request for substitution of a specified item a minimum of ten (10) calendar days prior to bid opening.

(2) Within 35 days after the date of the Notice of Award, the Contractor shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the technical Specifications. Insufficient information shall be grounds for rejection of substitution.

E. If the District and/or Architect, in reviewing proposed substitute materials and equipment, require revisions or corrections to be made to previously accepted Shop Drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by the District and/or Architect to be unacceptable, the specified material or equipment shall be provided.

F. Samples may be required. Tests required by the District and/or Architect for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by the District.

G. In reviewing the supporting data submitted for substitutions, the District and/or Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Contract Documents. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract Price. The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute.

H. The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit. In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.

I. In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 26 00

CHANGES IN THE WORK

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS IN THE AGREEMENT, GENERAL CONDITIONS, AND SPECIAL CONDITIONS, IF USED, RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES.

END OF DOCUMENT

DOCUMENT 01 29 00

APPLICATION FOR PAYMENT AND CONDITIONAL AND UNCONDITIONAL WAIVER AND RELEASE FORMS

CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS IN THE GENERAL CONDITIONS RELATED TO APPLICATIONS FOR PAYMENT AND/OR PAYMENTS.

CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8132)

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Conditional Waiver and Release

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

Maker of Check: _____

Amount of Check: $_____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

(1) Retentions.

(2) Extras for which the claimant has not received payment.

(3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:

Date(s) of waiver and release: _____

Amount(s) of unpaid progress payment(s): $_____

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

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Unconditional Waiver and Release

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

Exceptions

This document does not affect any of the following:

(1) Retentions.

(2) Extras for which the claimant has not received payment.

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

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Conditional Waiver and Release

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

Maker of Check:

Amount of Check: $_____

Check Payable to: _____

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: $_____

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Unconditional Waiver and Release

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

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: $_____

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

DOCUMENT 01 33 00

SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Contractor's Submittals and Schedules, Drawings and Specifications;

B. Special Conditions.

1.02 SECTION INCLUDES:

A. Definitions:

(1) Shop Drawings and Product Data are as indicated in the General Conditions and include, but are not limited to, fabrication, erection, layout and setting drawings, formwork and falsework drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams. In addition, there are other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and all positions conform to the requirement of the Contract Documents, including, without limitation, the Drawings.

(2) "Manufactured" applies to standard units usually mass-produced; "fabricated" means specifically assembled or made out of selected materials to meet design requirements. Shop Drawings shall establish the actual detail of manufactured or fabricated items, indicated proper relation to adjoining work and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.

(3) Manufacturer's Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed, at a minimum, in accordance with a specified product manufacturer's instructions, the Contractor shall procure and distribute copies of these to the District, the Architect, and all other concerned parties and shall furnish, install, or perform the work, at a minimum, in accordance with those instructions.

B. Samples, Shop Drawings, Product Data, and other items as specified, in accordance with the following requirements:

(1) Contractor shall submit all Shop Drawings, Product Data, and Samples to the District, the Architect, the Project Inspector, and the Construction Manager.

(2) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall submit required information in sufficient time to permit proper consideration and action before ordering any materials or items represented by such Shop Drawings, Product Data, and/or Samples.

(3) Contractor shall allow sufficient time so that no delay occurs due to required lead time in ordering or delivery of any item to the Site. Contractor shall be responsible for any delay in progress of Work due to its failure to observe these requirements.

(4) Time for completion of Work shall not be extended on account of Contractor's failure to promptly submit Shop Drawings, Product Data, and/or Samples.

(5) Reference numbers on Shop Drawings shall have Architectural and/or Engineering Contract Drawings reference numbers for details, sections, and "cuts" shown on Shop Drawings. These reference numbers shall be in addition to any numbering system that Contractor chooses to use or has adopted as standard.

(6) When the magnitude or complexity of submittal material prevents a complete review within the stated time frame, Contractor shall make this submittal in increments to avoid extended delays.

(7) Contractor shall certify on submittals for review that submittals conform to Contract requirements. Also certify that Contractor-furnished equipment can be installed in allocated space. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Submittals shall not be used as a means of requesting a substitution.

(8) Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standard of the American Society for Testing and Materials.

(9) Upon demand by Architect or District, Contractor shall submit samples of materials and/or articles for tests or examinations and consideration before Contractor incorporates same in Work. Contractor shall be solely responsible for delays due to sample(s) not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples that are of value after testing will remain the property of Contractor.

C. Submittal Schedule:

(1) Contractor shall prepare its proposed submittal schedule that is coordinated with the proposed construction schedule and submit both to the District within ten (10) days after the date of the Notice to Proceed. Contractor's proposed schedules shall become the Project Construction Schedule and the Project Submittal Schedule after each is approved by the District.

(2) Contractor is responsible for all lost time should the initial submittal be rejected, marked "revise and resubmit", etc.

(3) All Submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those Submittals shall be forwarded to the District so as not to delay the Construction Schedule.

(4) Contractor may be assessed $100 a day for each day it is late in submitting a shop drawing or sample. No extensions of time will be granted to Trade Contractor or any Subcontractor because of its failure to have shop drawings and samples submitted in accordance with the Schedule.

1.03 SHOP DRAWINGS:

A. Contractor shall submit one reproducible transparency and six (6) opaque reproductions. The District will review and return the reproducible copy and one (1) opaque reproduction to Contractor.

B. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.

C. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.

D. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.

E. District shall not review Shop Drawings for quantities of materials or number of items supplied.

F. District's and/or Architect’s review of Shop Drawing will be general. District and/or Architect review does not relieve Contractor of responsibility for dimensions, accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. The District’s and/or Architect’s review of Shop Drawings is not to be construed as approving departures from Contract Documents.

G. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or utilities having jurisdiction.

H. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work

contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.

I. Submitted drawings and details must bear stamp of approval of Contractor:

(1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.

(2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked, the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.

J. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.

K. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.

L. Shop Drawings must clearly delineate the following information:

(1) Project name and address.

(2) Specification number and description.

(3) Architect's name and project number.

(4) Shop Drawing title, number, date, and scale.

(5) Names of Contractor, Subcontractor(s) and fabricator.

(6) Working and erection dimensions.

(7) Arrangements and sectional views.

(8) Necessary details, including complete information for making connections with other Work.

(9) Kinds of materials and finishes.

(10) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.

M. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.

(1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.

(2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

1.04 PRODUCT DATA OR NON-REPRODUCIBLE SUBMITTALS:

A. Contractor shall submit manufacturer's printed literature in original form. Any fading type of reproduction will not be accepted. Contract must submit a minimum of six (6) each, to the District. District shall return one (1) to the Contractor, who shall reproduce whatever additional copies it requires for distribution.

B. Contractor shall submit six (6) copies of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.

C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.

D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.

E. Imported Materials Certification must be submitted at least ten (10) days before material is delivered.

1.05 SAMPLES:

A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.

B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.

(1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.

(2) Samples must show full range of texture, color, and pattern.

C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.

D. Samples to be shipped prepaid or hand-delivered to the District.

E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.

F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.

G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.

H. After a material has been approved, no change in brand or make will be permitted.

I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.

J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.

K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:

(1) Size: As Specified.

(2) Furnish catalog numbers and similar data, as requested.

1.06 REVIEW AND RESUBMISSION REQUIREMENTS:

A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.

B. One (1) copy of product or materials data will be returned to Contractor with the review status.

C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.

D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review. Such resubmittal shall not delay the Work.

E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.

F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.

G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.

H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.

I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 35 13.23

SITE STANDARDS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including without limitation, Site Access, Conditions, and Regulations;

B. Special Conditions;

C. Drug-Free Workplace Certification;

D. Tobacco-Free Environment Certification;

E. Criminal Background Investigation/Fingerprinting Certification;

F. Temporary Facilities and Controls.

1.02 REQUIREMENTS OF THE DISTRICT:

A. Drug-Free Schools and Safety Requirements:

(1) All school sites and other District Facilities have been declared "Drug-Free Zones." No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, or contractors are to use drugs on these sites.

(2) Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. Contractor shall post: "Non-Smoking Area" in a highly visible location in each work area, staging area, and parking area. Contractor may designate a smoking area outside of District property within the public right-of-way, provided that this area remains quiet and unobtrusive to adjacent neighbors. This smoking area is to be kept clean at all times.

(3) Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances enter or are used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee(s) found in violation of this provision.

B. Language: Profanity or other unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students, staff, volunteers, parents or public will not be allowed.

C. Disturbing the Peace (Noise and Lighting):

(1) Contractor shall observe the noise ordinance of the Site at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations regarding noise and allowable noise levels.

(2) The use of radios, etc., shall be controlled to keep all sound at a level that cannot be heard beyond the immediate area of use. District reserves the right to prohibit the use of radios at the Site, except for mobile phones or other handheld communication radios.

(3) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

D. Traffic:

(1) Driving on the Premises shall be limited to periods when students and public are not present. If driving or deliveries must be made during the school hours, two (2) or more ground guides shall lead the vehicle across the area of travel. In no case shall driving take place across playgrounds or other pedestrian paths during recess, lunch, and/or class period changes. The speed limit on-the Premises shall be five (5) miles per hour (maximum) or less if conditions require.

(2) All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and approved by District in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.

(3) District shall designate a construction entry to the Site. If Contractor requests, District determines it is required, and to the extent possible, District shall designate a staging area so as not to interfere with the normal functioning of school facilities. Location of gates and fencing shall be approved in advance with District and at Contractor's expense.

(4) Parking areas shall be reviewed and approved by District in advance. No parking is to occur under the drip line of trees or in softscape areas that could otherwise be damaged.

E. All of the above shall be observed and complied with by the Contractor and all workers on the Site. Failure to follow these directives could result in individual(s) being suspended or removed from the work force at the discretion of the District. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the Site.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 41 00

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Obtaining of Permits, Licenses and Registrations and Work to Comply with All Applicable Laws and Regulations;

B. Special Conditions; and

C. Quality Control.

1.02 DESCRIPTION:

This section covers the general requirements for regulatory requirements pertaining to the Work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the Contract Documents.

1.03 REQUIREMENTS OF REGULATORY AGENCIES:

A. All statutes, ordinances, laws, rules, codes, regulations, standards, and the lawful orders of all public authorities having jurisdiction over the Work, are hereby incorporated into these Contract Documents as if repeated in full herein and are intended to be included in any reference to Code or Building Code, unless otherwise specified, including, without limitation, the references in the list below. Contractor shall make available at the Site copies of all the listed documents applicable to the Work as the District and/or Architect may request, including, without limitation, applicable portions of the California Code of Regulations ("CCR").

(1) California Building Standards Administrative Code, Part 1, Title 24, CCR.

(2) California Building Code (CBC), Part 2, Title 24, CCR; (International Building Code volumes 1-2 and California Amendments).

(3) California Electrical Code (CEC), Part 3, Title 24, CCR; (National Electrical Code and California Amendments).

(4) California Mechanical Code (CMC), Part 4, Title 24, CCR; (Uniform Mechanical Code and California Amendments).

(5) California Plumbing Code (CPC), Part 5, Title 24, CCR; (Uniform Plumbing Code and California Amendments).

(6) California Fire Code (CFC), Part 9, Title 24, CCR; (International Fire Code and California Amendments).

(7) California Green Building Standards Code (CALGreen), Part 11, Title 24, CCR.

(8) California Referenced Standards Code, Part 12, Title 24, CCR.

(9) State Fire Marshal Regulations, Public Safety, Title 19, CCR.

(10) Partial List of Applicable National Fire Protection Association (NFPA) Standards:

(a) NFPA 13 - Automatic Sprinkler System.

(b) NFPA 14 - Standpipes Systems.

(c) NFPA 17A - Wet Chemical System

(d) NFPA 24 - Private Fire Mains.

(e) (California Amended) NFPA 72 - National Fire Alarm Codes.

(f) NFPA 253 - Critical Radiant Flux of Floor Covering System.

(g) NFPA 2001 - Clean Agent Fire Extinguishing Systems.

(11) California Division of the State Architect interpretation of Regulations ("DSA IR"), including, without limitation:

(a) DSA IR A-6 — Construction Change Document Submittal and Approval Processes.

(b) DSA IR A-7 — Project Inspector Certification and Approval.

(c) DSA IR A-8 — Project Inspector and Assistant Inspector Duties and Performance.

(d) DSA IR A-12 — Assistant Inspector Approval.

(12) DSA Procedures ("DSA PR")

(a) DSA PR 13-01 – Construction Oversight Process

(b) DSA PR 13-02 – Project Certification Process

B. This Project shall be governed by applicable regulations, including, without limitation, the State of California's Administrative Regulations for the Division of the State Architect-Structural Safety (DSA/SS), Chapter 4, Part 1, Title 24, CCR, and the most current version on the date the bids are opened and as it pertains to school construction including, without limitation:

(1) Test and testing laboratory per Section 4-335. District shall pay for the testing laboratory.

(2) Special inspections per Section 4-333(c).

(3) Deferred Approvals per section 4-317(g).

(4) Verified reports per Sections 4-336 & 4-343(c).

(5) Duties of the Architect & Engineers shall be per Sections 4-333(a) and 4-341.

(6) Duties of the Contractor shall be per Section 4-343.

(7) Duties of Project Inspector shall be per Section 4-334.

(8) Addenda and Construction Change Documents per Section 4-338.

Contractor shall keep and make available all applicable parts of the most current version of Title 24 referred to in the plans and specifications at the Site during construction.

C. Items of deferred approval shall be clearly marked on the first sheet of the Architect's and/or Engineer's approved Drawings. All items later submitted for approval shall be per Title 24 requirements to the DSA.

(1) Contractor shall submit the following to Architect for review and endorsement:

(a) Product information on proposed material/system supplier.

(b) Drawings, specifications, and calculations prepared, signed, and stamped by an architect or engineer licensed in the State of California for that portion of the Work.

(c) All other requirements as may be required by DSA.

(2) Cost of preparing and submitting documentation per DSA Deferred Approval requirements including required modifications to Drawings and Specifications, whether or not indicated in the Contract Documents, shall be borne by Contractor.

(3) Contractor shall not begin fabrication and installation of deferred approval items without first obtaining DSA approval of Drawings and Specifications.

(4) Schedule of Work Subject to DSA Deferred Approval: Window wall systems exceeding 10 feet in span.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 42 13

ABBREVIATIONS AND ACRONYMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions including without limitation, Definitions;

B. Special Conditions.

1.02 DOCUMENT INCLUDES:

A. Abbreviations used throughout the Contract Documents.

B. Reference to a technical society, organization, or body is by abbreviation, as follows:

1.	AA	The Aluminum Association
2.	AABC	Associated Air Balance Council
3.	AASHTO	American Association of State Highway and Transportation Officials
4.	ACI	American Concrete Institute
5.	AGA	American Gas Association
6.	AGC	Associated General Contractors of America
7.	AHC	Architectural Hardware Consultant
8.	AHRI	Air Conditioning, Heating, Refrigeration Institute
9.	AI	Asphalt Institute
10.	AIA	American Institute of Architects
11.	AISC	American Institute of Steel Construction
12.	AISI	American Iron and Steel Institute
13.	AMCA	Air Movement and Control Association
14.	ANSI	American National Standards Institute
15.	APA	APA – The Engineered Wood Association
16.	ASA	Acoustical Society of America
17.	ASCE	American Society of Civil Engineers
18.	ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
19.	ASME	American Society of Mechanical Engineers
20.	ASTM	American Society of Testing and Materials International
21.	AWPA	American Wood Protection Association
22.	AWS	American Welding Society
23.	AWSC	American Welding Society Codes & Standards
24.	AWI	Architectural Woodwork Institute
25.	AWWA	American Water Works Association
26.	BIA	The Brick Industry Association
27.	BHMA	Builders Hardware Manufacturers Association
28.	CCR	California Code of Regulations

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

79.	WEUSER	Western Electric Utilities Service Engineering Requirements
80.	WIC	Woodwork Institute of California

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 42 16

DEFINITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions including without limitation, Definitions;

B. Special Conditions.

1.02 QUALITY ASSURANCE

A. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified in the Contract Documents, or are required by applicable codes.

B. Contractor shall conform to current reference standard publication date in effect on the date of bid opening.

C. Contractor shall obtain copies of standards unless specifically required not to by the Contract Documents.

D. Contractor shall maintain a copy of all standards at jobsite during submittals, planning, and progress of the specific Work, until final completion, unless specifically required not to by the Contract Documents.

E. Should specified reference standards conflict with Contract Documents, Contractor shall request clarification from the District and/or the Architect before proceeding.

F. The contractual relationship of the parties to the Contract shall not be altered from the contractual relationship as indicated in the Contract Documents by mention or inference otherwise in any referenced document.

G. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

END OF DOCUMENT

DOCUMENT 01 43 00

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Purchase of Materials and Equipment;

B. Special Conditions;

C. Imported Materials Certification.

1.02 MATERIAL AND EQUIPMENT

A. Only items approved by the District and/or Design Professional shall be used.

B. Contractor shall submit lists of products and other product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

1.03 MATERIAL AND EQUIPMENT COLORS

A. The District and/or Architect will provide a schedule of colors.

B. No individual color selections will be made until after approval of all pertinent materials and equipment and after receipt of appropriate samples in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

C. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer.

B. Contractor shall deliver fabrications in as large assemblies as practicable; where specified as shop-primed or shop-finished, package or crate as required to preserve such priming or finish intact and free from abrasion.

C. Contractor shall store materials in such a manner as necessary to properly protect them from damage. Materials or equipment damaged by handling, weather, dirt, or from any other cause will not be accepted.

D. Materials are not acceptable that have been warehoused for long periods of time, stored or transported in improper environment, improperly packaged, inadequately labeled, poorly protected, excessively shipped, deviated from normal distribution pattern, or reassembled.

E. Contractor shall store material so as to cause no obstructions of sidewalks, roadways, access to the Site or buildings, and underground services. Contractor shall protect material and equipment furnished under Contract.

F. Contractor may store materials on Site with prior written approval by the District, all material shall remain under Contractor's control and Contractor shall remain liable for any damage to the materials. Should the Project Site not have storage area available, the Contractor shall provide for off-site storage at a bonded warehouse and with appropriate insurance coverage at no cost to District.

G. When any room in Project is used as a shop or storeroom, the Contractor shall be responsible for any repairs, patching, or cleaning necessary due to that use. Location of storage space shall be subject to prior written approval by District.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers listed in various sections of Contract Documents are names of those manufacturers that are believed to be capable of supplying one or more of items specified therein.

B. The listing of a manufacturer does not imply that every product of that manufacturer is acceptable as meeting the requirements of the Contract Documents.

2.02 FACILITIES AND EQUIPMENT

Contractor shall provide, install, maintain, and operate a complete and adequate facility for handling, the execution, disposal, and distribution of material and equipment as required for proper and timely performance of Work connected with Contract.

2.03 MATERIAL REFERENCE STANDARDS

Where material is specified solely by reference to "standard specifications" and if requested by District, Contractor shall submit for review data on actual material proposed to be incorporated into Work of Contract listing name and address of vendor, manufacturer, or producer, and trade or brand names of those materials, and data substantiating compliance with standard specifications.

PART 3 - EXECUTION

3.01 WORKMANSHIP

A. Where not more specifically described in any other Contract Documents, workmanship shall conform to methods and operations of best standards and accepted practices of trade or trades involved and shall include items of fabrication, construction, or installation regularly furnished or required for completion (including finish and for successful operation, as intended).

B. Work shall be executed by tradespersons skilled in their respective lines of Work. When completed, parts shall have been durably and substantially built and present a neat appearance.

3.02 COORDINATION

A. Contractor shall coordinate installation of Work so as to not interfere with installation of others. Adjustment or rework because of Contractor's failure to coordinate will be at no additional cost to District.

B. Contractor shall examine in-place work for readiness, completeness, fitness to be concealed or to receive other work, and in compliance with Contract Documents. Concealing or covering Work constitutes acceptance of additional cost which will result should in-place Work be found unsuitable for receiving other Work or otherwise deviating from the requirements of the Contract Documents.

3.03 COMPLETENESS

Contractor shall provide all portions of the Work, unless clearly stated otherwise, installed complete and operational with all elements, accessories, anchorages, utility connections, etc., in manner to assure well-balanced performance, in accordance with manufacturer's recommendations and by Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain system; sinks fit within countertop, etc. Terms such as "installed complete," "operable condition," "for use intended," "connected to all utilities," "terminate with proper cap," "adequately anchored," "patch and refinish," "to match similar," should be assumed to apply in all cases, except where completeness of functional or operable condition is specifically stated as not required.

3.04 APPROVED INSTALLER OR APPLICATOR

Installation by a manufacturer's approved installer or applicator is an understood part of Specifications and only approved installer or applicator is to provide on-site Work where specified manufacturer has on-going program of approving (i.e. certifying, bonding, re-warranting) installers or applicators. Newly established relationships between a manufacturer and an installer or applicator who does not have other approved applicator work in progress or completed is not approved for this Project.

3.05 MANUFACTURER'S RECOMMENDATIONS

All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should Contract Documents differ from recommendations of manufacturer or directions of his representative, Contractor shall analyze differences, make recommendations to the District and the Architect in writing, and shall not proceed until interpretation or clarification has been issued by the District and/or the Architect.

END OF DOCUMENT

DOCUMENT 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Inspector, Inspections and Tests, Uncovering of Work and Non-conforming of Work and Correction of Work;

B. Special Conditions.

1.02 RELATED CODES:

A. The Work is governed by requirements of Title 24, California Code of Regulations ("CCR"), and the Contractor shall keep a copy of these available at the job Site for ready reference during construction.

B. The Division of the State Architect ("DSA") shall be notified at or before the start of construction.

1.03 OBSERVATION AND SUPERVISION:

A. The District and Architect or their appointed representatives will review the Work and the Contractor shall provide facilities and access to the Work at all times as required to facilitate this review. Administration by the Architect and any consulting Structural Engineer will be in accordance with applicable regulations, including, without limitation, CCR, Part 1, Title 24, Section 4-341.

B. One or more Project Inspector(s) approved by DSA and employed by or in contract with the District, referred to hereinafter as the "Project Inspector", will observe the work in accordance with CCR, Part 1, Title 24, Sections 4-333(b) and 4-342:

(1) The Project Inspector and Special Inspector(s) shall have access to the Work wherever it is in preparation or progress for ascertaining that the Work is in accordance with the Contract Documents and all applicable code sections. The Contractor shall provide facilities and operation of equipment as needed, and access as required and shall provide assistance for sampling or measuring materials.

(2) The Project Inspector will notify the District and Architect and call the attention of the Contractor to any observed failure of Work or material to conform to Contract Documents.

(3) The Project Inspector shall observe and monitor all testing and inspection activities required.

The Contractor shall conform with all applicable laws as indicated in the Contract Documents, including, without limitation, to CCR, Part 1, Title 24, Section 4-343. The Contractor shall supervise and direct the Work and maintain a competent superintendent on the job who is authorized to act in all matters pertaining to the Work. The Contractor's superintendent shall also inspect all materials, as they arrive, for compliance with the Contract Documents. Contractor shall reject defective Work or materials immediately upon delivery or failure of the Work or material to comply with the Contract Documents. The Contractor shall submit verified reports as indicated in the Contract Documents, including, without limitation, the Specifications and as required by Part 1, Title 24, Section 4-336.

1.04 TESTING AGENCIES:

A. Testing agencies and tests shall be in conformance with the General Documents and the requirements of Part 1, Title 24, Section 4- 335.

B. Testing and inspection in connection with earthwork shall be under the direction of the District's consulting soils engineer, if any, referred to hereinafter as the "Soils Engineer."

C. Testing and inspection of construction materials and workmanship shall be performed by a qualified laboratory, referred to hereinafter as the "Testing Laboratory." The Testing Laboratory shall be under direction of an engineer registered in the State of California, shall conform to requirements of ASTM E329, and shall be employed by or in contract with the District.

1.05 TESTS AND INSPECTIONS:

A. The Contractor shall be responsible for notifying the District and Project Inspector of all required tests and inspections. Contractor shall notify the District and Project Inspector at least seventy-two hours (72) hours in advance of performing any Work requiring testing or inspection.

B. The Contractor shall provide access to Work to be tested and furnish incidental labor, equipment, and facilities to facilitate all inspections and tests.

C. The District will pay for first inspections and tests required by the "CCR", and other inspections or tests that the District and/or the Architect may direct to have made, including the following principal items:

(1) Tests and observations for earthwork and paving.

(2) Tests for concrete mix designs, including tests of trial batches.

(3) Tests and inspections for structural steel work.

(4) Field tests for framing lumber moisture content.

(5) Additional tests directed by the District that establish that materials and installation comply with the Contract Documents.

(6) Tests and observations of welding and expansion anchors.

D. The District may at its discretion, pay and then back charge the Contractor for:

(1) Retests or reinspections, if required, and tests or inspections required due to Contractor error or lack of required identifications of material.

(2) Uncovering of work in accordance with Contract Documents.

(3) Testing done on weekends, holidays, and overtime will be chargeable to the Contractor for the overtime portion.

(4) Testing done off Site.

E. Testing and inspection reports and certifications:

(1) If initially received by Contractor, Contractor shall provide to each of the following a copy of the agency or laboratory report of each test or inspection or certification.

(a) The District;

(b) The Construction Manager, if any;

(c) The Architect;

(d) The Consulting Engineer, if any;

(e) Other engineers on the Project, as appropriate;

(f) The Project Inspector; and

(g) The Contractor.

(2) When the test or inspection is one required by the CCR, a copy of the report shall also be provided to the DSA.

PART 2 - PRODUCTS

2.01 TYPE OF TESTS AND INSPECTIONS

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

B. Specific types of tests to be provided by District/Architect/Construction Manager.

PART 3 - EXECUTION Not Used.

PART 4

END OF DOCUMENT

DOCUMENT 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions;

B. Special Conditions;

C. Site Standards; and

D. Construction Waste Management and Disposal.

1.02 TEMPORARY UTILITIES:

A. Electric Power and Lighting:

(1) To the extent power is available in the building(s) or on the Site, Contractor may use the District's existing utilities. 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 coordinate and pay for installation or use of water meter in compliance with local water agency requirements if required as part of the Work. To the extent water is then available in the building(s) or on the Site, Contractor may use the District's existing utilities. Contractor shall be responsible for providing temporary facilities required to deliver such utility service from its existing location in the building(s), on the Site, or other location approved by the local water agency, to point of intended use.

(2) Contractor shall use backflow preventers on water lines at point of connection to District's water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.

(3) Contractor shall make potable water available for human consumption.

D. Sanitary Facilities:

(1) Contractor shall provide sanitary temporary facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition at all times and shall be left at the Site until removal is directed by the Inspector or Contractor completes all other work at the Site.

(2) Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the District.

E. Telephone Service:

(1) Contractor shall arrange with local telephone service company for telephone service as required for the performance of the Work. Contractor shall, at a minimum, provide in its field office one line for telephone and one line for fax machine.

(2) Contractor shall pay the costs for telephone and fax lines installation, maintenance, service, and removal.

F. Fire Protection:

(1) Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.

(2) Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces.

G. Trash Removal:

(1) Contractor shall provide trash removal on a timely basis**.** Under no circumstance shall Contractor use District trash service.

H. Field Office:

(1) If Contractor chooses to provide a field office, it shall be an acceptable construction trailer that is well-lit and ventilated. The construction trailer shall be equipped with shelves, desks, filing cabinet, chairs, and such other items of equipment needed. Trailer and equipment are the property of the Contractor and must be removed from the Site upon completion of the Work.

(2) Contractor shall provide any additional electric lighting and power required for the trailer. Contractor shall make adequate provisions for heating and cooling as required.

I. Temporary Facilities:

(1) To be provided by District (if applicable).

1.03 CONSTRUCTION AIDS:

A. Plant and Equipment:

(1) Contractor shall furnish, operate, and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment; and for conveyances for transporting workers. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.

(2) Contractor shall maintain plant and equipment in safe and efficient operating condition. Damages due to defective plant and equipment, and uses made thereof, shall be repaired by Contractor at no expense to the District.

B. None of the District's tools and equipment shall be used by Contractor for the performance of the Work.

1.04 BARRIERS AND ENCLOSURES:

A. Contractor shall obtain the District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.

B. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises, the public, and workers. Contractor shall also protect the Work and existing facilities from the elements, and adjacent construction and improvements, persons, and trees and plants from damage and injury from demolition and construction operations.

C. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, the public, and for deliveries and other services and activities.

D. Tree and Plant Protection:

(1) Contractor shall preserve and protect existing trees and plants on the Premises that are not designated or required to be removed, and those adjacent to the Premises.

(2) Contractor shall provide barriers to a minimum height of 4'-0" around drip line of each tree and plant, around each group of trees and plants, as applicable, in the proximity of demolition and construction operations, or as denoted on the Plans.

(3) Contractor shall not park trucks, store materials, perform Work or cross over landscaped areas. Contractor shall not dispose of paint thinners, water from cleaning, plastering or concrete operations, or other deleterious materials in landscaped areas, storm drain systems, or sewers. Plant materials damaged as a result of the performance of the Work shall, at the option of the District and at Contractor's expense, either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged materials as determined by the District.

(4) Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.

(5) Excavation around Trees:

(a) Excavation within drip lines of trees shall be done only where absolutely necessary and with written permission from the District.

(b) Where trenching for utilities is required within drip lines, tunneling under and around roots shall be by hand digging and shall be approved by the District. Main lateral roots and

taproots shall not be cut. All roots 2 inches in diameter and larger shall be tunneled under and heavily wrapped with wet burlap so as to prevent scarring or excessive drying. Smaller roots that interfere with installation of new work may be cut with prior approval by the District. Roots must first be cut with a Vermeer, or equivalent, root cutter prior to any trenching.

(c) Where excavation for new construction is required within drip line of trees, hand excavation shall be employed to minimize damage to root system. Roots shall be relocated in backfill areas wherever possible. If encountered immediately adjacent to location of new construction, roots shall be cut approximately 6 inches back from new construction.

(d) Approved excavations shall be carefully backfilled with the excavated materials approved for backfilling. Backfill shall conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities. Do not use mechanical equipment to compact backfill. Tamp carefully using hand tools, refilling and tamping until Final Acceptance as necessary to offset settlement.

(e) Exposed roots shall not be allowed to dry out before permanent backfill is placed. Temporary earth cover shall be provided, or roots shall be wrapped with four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill.

(f) Accidentally broken roots should be sawed cleanly 3 inches behind ragged end.

1.05 SECURITY:

The Contractor shall be responsible for project security for materials, tools, equipment, supplies, and completed and partially completed Work.

1.06 TEMPORARY CONTROLS:

A. Noise Control:

(1) Contractor acknowledges that adjacent facilities may remain in operation during all or a portion of the Work period, and it shall take all reasonable precautions to minimize noise as required by applicable laws and the Contract Documents.

(2) Notice of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, concrete saws, and other equipment, shall be submitted to the District a minimum of forty-eight (48) hours in advance of their performance.

B. Noise and Vibration:

(1) Equipment and impact tools shall have intake and exhaust mufflers.

(2) Contractor shall cooperate with District to minimize and/or cease the use of noisy and vibratory equipment if that equipment becomes objectionable by its longevity.

C. Dust and Dirt:

(1) Contractor shall conduct demolition and construction operations to minimize the generation of dust and dirt, and prevent dust and dirt from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.

(2) Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.

(3) Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.

(4) Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.

D. Water:

(1) Contractor shall not permit surface and subsurface water, and other liquids, to accumulate in or about the vicinity of the Premises. Should accumulation develop, Contractor shall control the water or other liquid, and suitably dispose of it by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or other methods.

E. Pollution:

(1) No burning of refuse, debris, or other materials shall be permitted on or in the vicinity of the Premises.

(2) Contractor shall comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of the Work including, without limitation, demolition, construction, and disposal operations.

F. Lighting:

(1) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

1.07 JOB SIGN(S):

A. General:

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

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

B. Materials:

(1) Structure and Framing: Structurally sound, new or used wood or metal; wood shall be nominal 3/4-inch exterior grade plywood.

(2) Sign Surface: Minimum 3/4-inch exterior grade plywood.

(3) Rough Hardware: Galvanized.

(4) Paint: Exterior quality, of type and colors selected by the District and/or the Design Professional.

C. Fabrication:

(1) Contractor shall fabricate to provide smooth, even surface for painting.

(2) Size: 4'-0" x 8'-0", unless otherwise indicated.

(3) Contractor shall paint exposed surfaces of supports, framing, and surface material with exterior grade paint: one coat of primer and one coat of finish paint.

(4) Text and Graphics: As indicated.

1.08 PUBLICITY RELEASES:

A. Contractor shall not release any information, story, photograph, plan, or drawing relating information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s) without the written permission of the District.

PART 2 – PRODUCTS Not used.

PART 3 – EXECUTION Not used.

END OF DOCUMENT

DOCUMENT 01 50 13

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions;

B. Special Conditions; and

C. Temporary Facilities and Controls.

1.02 SECTION INCLUDES:

A. Administrative and procedural requirements for the following:

(1) Salvaging non-hazardous construction waste.

(2) Recycling non-hazardous construction waste.

(3) Disposing of non-hazardous construction waste.

1.03 DEFINITIONS:

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.04 QUALITY ASSURANCE:

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 PLAN IMPLEMENTATION:

A. General: Provide handling, containers, storage, signage, transportation, and other items as required for waste management during the entire duration of the Contract.

(1) Comply with Document 01 50 00 for operation, termination, and removal requirements.

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

C. 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) Comply with Document 01 50 00 for controlling dust and dirt, environmental protection, and noise control.

3.02 RECYCLING CONSTRUCTION WASTE:

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Contractor.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

(1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.

(a) Inspect containers and bins for contamination and remove contaminated materials if found.

(2) Stockpile processed materials on site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

(3) Stockpile materials away from construction area. Do not store within drip line of remaining trees.

(4) Store components off the ground and protect from the weather.

(5) Remove recyclable waste off District property and transport to recycling receiver or processor.

D. Packaging:

(1) Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.

(2) Polystyrene Packaging: Separate and bag material.

(3) Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on Site, break down pallets into component wood pieces and comply with requirements for recycling wood.

(4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

E. Site-Clearing Wastes: Chip brush, branches, and trees on site.

F. Wood Materials:

(1) Clean Cut-Offs of Lumber: Grind or chip into small pieces.

(2) Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.

(1) Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.03 DISPOSAL OF WASTE:

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

(1) Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on site.

(2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off District property and legally dispose of them.

END OF DOCUMENT

DOCUMENT 01 64 00

OWNER-FURNISHED PRODUCTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions;

B. Special Conditions; and

C. Materials and Equipment.

1.02 SECTION INCLUDES

A. Requirements for the following:

(1) Installing Owner-furnished materials and equipment.

(2) Providing necessary utilities, connections and rough-ins.

1.03 DEFINITIONS

A. Owner: District, who is providing/furnishing materials and equipment.

B. Installing Contactor: Contractor, who is installing the materials and equipment furnished by the Owner.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Receive, store and handle products in accordance with the manufacturer's instructions.

B. Protect equipment items as required to prevent damage during storage and construction.

PART 2 – PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

A. Installing Contractor's Responsibilities:

(1) Verify mounting and utility requirements for Owner-furnished materials and equipment items.

(2) Provide mounting and utility rough in for all items where required.

(a) Rough in locations, sizes, capacities, and similar type items shall be as indicated and required by product manufacturer.

B. Owner and Installing Contractor(s) Responsibilities:

(1) Owner-Furnished/Contractor Installed ("OFCI"): Furnished by the Owner; installed by the Installing Contractor.

(a) General: Owner and Installing Contractor(s) will coordinate deliveries of materials and equipment to coincide with the construction schedule.

(b) Owner will furnish specified materials and equipment delivered to the site. Owner/vendor's representative shall be present on Site at the time of delivery to comply with the contract requirements.

(c) The Owner furnishing specified materials and equipment is responsible to provide manufacturer guarantees as required by the Contract to the Installing Contractor.

(d) The Installing Contractor shall:

1) Review, verify and accept the approved manufacturer's submittal/Shop Drawings for all materials and equipment required to be installed by the Installer Contractor and furnished by the Owner. Any discrepancies, including but not limited to possible space conflicts, should be brought to the attention of the Project Manager and/or Program Manager, if applicable.

2) Coordinate timely delivery. Installing Contractor shall receive materials and equipment at Site when delivered and give written receipt at time of delivery, noting visible defects or omissions; if such declaration is not given, the Installing Contractor shall assume responsibility for such defects and omissions.

3) Store materials and equipment until ready for installation and protect from loss and damage. Installing Contractor is responsible for providing adequate storage space.

4) Coordinate with other bid package contractors and field measurement to ensure complete installation.

5) Uncrate, assemble, and set in place.

6) Provide adequate supports.

7) Install materials and equipment in accordance with manufacturer's recommendations, instructions, and Shop Drawings, supply labor and material required, and

make mechanical, plumbing, and electrical connections required to operate equipment.

8) Be certified by equipment manufacturer for installation of the specific equipment supplied by the Owner.

9) Provide anchorage and/or bracing as required for seismic restraint per Title 24, UBC Standard 27-11 and all other applicable codes.

10) Provide the contract-required warranty and guarantee for all work, materials and equipment, and installation upon its completion and acceptance by the District. Guarantee includes all costs associated with the removal, shipping to and from the Site, and re-installation of any equipment found to be defective.

C. Compatibility with Space and Service Requirements:

(1) Equipment items shall be compatible with space limitations indicated and as shown on the Contract Documents and specified in other sections of the Specifications.

(2) Modifications to equipment items required to conform to space limitations specified for rough in shall not cause additional cost to the District.

D. Manufacturer's printed descriptions, specifications, and instructions shall govern the Work unless specifically indicated or specified otherwise.

2.02 FURNISHED MATERIALS AND EQUIPMENT

A. All furnished materials and equipment are indicated or scheduled on the Contract Documents.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Install equipment items in accordance with the manufacturer's instructions.

B. Set equipment items securely in place, rigidly or flexibly mounted in accordance with manufacturers' directions.

C. Make electrical and mechanical connections as indicated and required.

D. Touch-up and restore damaged or defaced finishes to the Owner's satisfaction.

3.02 CLEANING AND PROTECTION

A. Repair or replace items not acceptable to the Architect or Owner.

B. Upon completion of installation, clean equipment items in accordance with manufacturer's recommendations, and protect from damage until final acceptance of the Work by the Owner.

END OF DOCUMENT

SECTION 01 66 00

PRODUCT DELIVERY, STORAGE AND HANDLING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Site Access, Conditions and Requirements;

B. Special Conditions.

1.02 PRODUCTS

A. Products are as defined in the General Conditions.

B. Contractor shall not use and/or reuse materials and/or equipment removed from existing Premises, except as specifically permitted by the Contract Documents.

C. Contractor shall provide interchangeable components of the same manufacturer, for similar components.

1.03 TRANSPORTATION AND HANDLING

A. Contractor shall transport and handle Products in accordance with manufacturer's instructions.

B. Contractor shall promptly inspect shipments to confirm that Products comply with requirements, quantities are correct, and products are undamaged.

C. Contractor shall provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.04 STORAGE AND PROTECTION

A. Contractor shall store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Contractor shall store sensitive products in weather-tight, climate controlled enclosures.

B. For exterior storage of fabricated Products, Contractor shall place on sloped supports, above ground.

C. Contractor shall provide off-site storage and protection when Site does not permit on-site storage or protection.

D. Contractor shall cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.

E. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.

F. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.

G. Contractor shall arrange storage of Products to permit access for inspection and periodically inspect to assure Products are undamaged and are maintained under specified conditions.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 76 00

ALTERATION PROJECT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Integration of Work, Purchase of Materials and Equipment, Uncovering of Work and Non-conforming Work and Correction of Work and Trenches;

B. Special Conditions.

PART 2 - PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK:

A. New Materials: As specified in the Contract Documents including, without limitation, in the Specifications, Contractor shall match existing products, conditions, and work for patching and extending work.

B. Type and Quality of Existing Products: Contractor shall determine by inspection, by testing products where necessary, by referring to existing conditions and to the Work as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION:

A. Contractor shall verify that demolition is complete and that areas are ready for installation of new Work.

B. By beginning restoration Work, Contractor acknowledges and accepts the existing conditions.

3.02 PREPARATION:

A. Contractor shall cut, move, or remove items as necessary for access to alterations and renovation Work. Contractor shall replace and restore these at completion.

B. Contractor shall remove unsuitable material not as salvage unless otherwise indicated in the Contract Documents. Unsuitable material may include, without limitation, rotted wood, corroded metals, and deteriorated masonry and concrete. Contractor shall replace materials as specified for finished Work.

C. Contractor shall remove debris and abandoned items from all areas of the Site and from concealed spaces.

D. Contractor shall prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.

E. Contractor shall close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity. Contractor shall insulate ductwork and piping to prevent condensation in exposed areas. Contractor shall insulate building cavities for thermal and/or acoustical protection, as detailed.

3.03 INSTALLATION:

A. Contractor shall coordinate Work of all alternations and renovations to expedite completion and to accommodate District occupancy.

B. Designated Areas and Finishes: Contractor shall complete all installations in all respects, including operational, mechanical work and electrical work.

C. Contractor shall remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original or specified condition.

D. Contractor shall refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat and square or straight transition to adjacent finishes.

E. Contractor shall install products as specified in the Contract Documents, including without limitation, the Specifications.

3.04 TRANSITIONS:

A. Where new Work abuts or aligns with existing, Contractor shall perform a smooth and even transition. Patched Work must match existing adjacent work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new Work is not possible, Contractor shall terminate existing surface along a straight line at a natural line of division and make a recommendation for resolution to the District and the Architect for review and approval.

3.05 ADJUSTMENTS:

A. Where removal of partitions or walls results in adjacent spaces becoming one, Contractor shall rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.

B. Where a change of plane of 1/4 inch or more occurs, Contractor shall submit a recommendation for providing a smooth transition to the District and the Architect for review and approval.

C. Contractor shall trim and seal existing wood doors and shall trim and paint metal doors as necessary to clear new floor finish and refinish trim as required.

D. Contractor shall fit Work at penetrations of surfaces.

3.06 REPAIR OF DAMAGED SURFACES:

A. Contractor shall patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections, in the area where the Work is performed.

B. Contractor shall repair substrate prior to patching finish.

3.07 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS:

A. Cultivated or planted areas and other surface improvements which are damaged by actions of the Contractor shall be restored by Contractor to their original condition or better, where indicated.

B. Contractor shall protect and replace, if damaged, all existing guard posts, barricades, and fences.

C. Contractor shall give special attention to avoid damaging or killing trees, bushes and/or shrubs on the Premises and/or identified in the Contract Documents, including without limitation, the Drawings.

3.08 FINISHES:

A. Contractor shall finish surfaces as specified in the Contract Documents, including without limitations, the provisions of all Divisions of the Specifications.

B. Contractor shall finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, Contractor shall refinish entire surface to nearest intersections.

3.09 CLEANING:

A. Contractor shall continually clean the Site and the Premises as indicated in the Contract Documents, including without limitation, the provisions in the General Conditions and the Specifications regarding cleaning.

END OF DOCUMENT

DOCUMENT 01 77 00

CONTRACT CLOSEOUT AND FINAL CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Completion of Work;

B. Special Conditions;

C. Temporary Facilities and Controls.

1.02 CLOSEOUT PROCEDURES

Contractor shall comply with all closeout provisions as indicated in the General Conditions.

1.03 FINAL CLEANING

A. Contractor shall execute final cleaning prior to final inspection.

B. Contractor shall clean interior and exterior glass and all surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.

C. Contractor shall clean equipment and fixtures to a sanitary condition.

D. Contractor shall replace filters of operating equipment.

E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.

F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.

G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

1.04 ADJUSTING

Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.

1.05 RECORD DOCUMENTS AND SHOP DRAWINGS

A. Contractor shall legibly mark each item to record actual construction, including:

(1) Measured depths of foundation in relation to finish floor datum.

(2) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.

(3) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.

(4) Field changes of dimension and detail.

(5) Details not on original Contract Drawings

(6) Changes made by modification(s).

(7) References to related Shop Drawings and modifications.

B. Contractor will provide one set of Record Drawings to District.

C. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

1.06 INSTRUCTION OF DISTRICT PERSONNEL

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

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

C. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

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

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

1.07 SPARE PARTS AND MAINTENANCE MATERIALS

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

B. Contractor shall provide District with all required Operation and Maintenance Data at one time. Partial or piecemeal submissions of Operation and Maintenance Data will not be accepted.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Completion of the Work;

B. Special Conditions.

1.02 QUALITY ASSURANCE:

Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03 FORMAT:

A. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").

B. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. When multiple binders are used, Contractor shall correlate data into related consistent groupings.

C. Cover: Contractor shall identify each binder with typed or printed title "OPERATION AND MAINTENANCE MANUAL & INSTRUCTIONS"; and shall list title of Project and identify subject matter of contents.

D. Contractor shall arrange content by systems process flow under section numbers and sequence of Table of Contents of the Contract Documents.

E. Contractor shall provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

F. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.

G. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

1.04 CONTENTS, EACH VOLUME:

A. Table of Contents: Contractor shall provide title of Project; names, addresses, and telephone numbers of the Architect, any engineers, subconsultants, Subcontractor(s), and Contractor with name of responsible parties; and schedule of products and systems, indexed to content of the volume.

B. For Each Product or System: Contractor shall list names, addresses, and telephone numbers of Subcontractor(s) and suppliers, including local source of supplies and replacement parts.

C. Product Data: Contractor shall mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

D. Drawings: Contractor shall supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Contractor shall not use Project Record Documents as maintenance drawings.

E. Text: Contractor shall include any and all information as required to supplement product data. Contractor shall provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

F. Warranties and Bonds: Contractor shall bind in one copy of each.

1.05 MANUAL FOR MATERIALS AND FINISHES:

A. Building Products, Applied Materials, and Finishes: Contractor shall include product data, with catalog number, size, composition, and color and texture designations. Contractor shall provide information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Contractor shall include Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture Protection and Weather Exposed Products: Contractor shall include product data listing applicable reference standards, chemical composition, and details of installation. Contractor shall provide recommendations for inspections, maintenance, and repair.

D. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.

E. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:

A. Each Item of Equipment and Each System: Contractor shall include description of unit or system, and component parts and identify function, normal operating characteristics, and limiting conditions. Contractor shall include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.

B. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.

C. Contractor shall include color coded wiring diagrams as installed.

D. Operating Procedures: Contractor shall include start-up, break-in, and routine normal operating instructions and sequences. Contractor shall include regulation, control, stopping, shut-down, and emergency instructions. Contractor shall include summer, winter, and any special operating instructions.

E. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.

G. Contractor shall include manufacturer's printed operation and maintenance instructions.

H. Contractor shall include sequence of operation by controls manufacturer.

I. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

J. Contractor shall provide control diagrams by controls manufacturer as installed.

K. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.

L. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).

O. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.07 SUBMITTAL:

A. Contractor shall submit to the District for review two (2) copies of preliminary draft or proposed formats and outlines of the contents of the Manual within thirty (30) days of Contractor’s start of Work.

B. For equipment, or component parts of equipment put into service during construction and to be operated by District, Contractor shall submit draft content for that portion of the Manual within ten (10) days after acceptance of that equipment or component.

C. Contractor shall submit two (2) copies of a complete Manual in final form prior to final Application for Payment. Copy will be returned with Architect/Engineer comments. Contractor must revise the content of the Manual as required by District prior to District's approval of Contractor's final Application for Payment.

D. Contractor must submit two (2) copies of revised Manual in final form within ten (10) days after final inspection.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 78 36

WARRANTIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Warranty/Guarantee Information;

B. Special Conditions.

1.02 FORMAT

A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.

B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.

C. Table of Contents: Contractor shall provide title of Project; name, address, and telephone number of Contractor and equipment supplier; and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the product or work item is specified.

D. Contractor shall separate each warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).

1.03 PREPARATION:

A. Contractor shall obtain warranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within ten (10) days after completion of the applicable item or work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty blank until the date of completion is determined.

B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.

C. Contractor shall co-execute submittals when required.

D. Contractor shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS:

A. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft warranty for that equipment or component within ten (10) days after acceptance of that equipment or component.

B. Contractor shall submit for District approval all warranties and related documents within ten (10) days after date of completion. Contractor must revise the warranties as required by the District prior to District's approval of Contractor's final Application for Payment.

C. For items of work delayed beyond date of completion, Contractor shall provide an updated submittal within ten (10) days after acceptance, listing the date of acceptance as start of warranty period.

PART 2 - PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 78 39

RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

A. General Conditions, including, without limitation, Documents on Work;

B. Special Conditions.

PART 2 - RECORD DRAWINGS

2.01 GENERAL:

A. As indicated in the Contract Documents, the District will provide Contractor with one set of reproducible, full size original Contract Drawings (mylars).

B. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of reproducible vellums of the Project Record Drawings ("As-Builts") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Builts shall be available at the Project Site. The Contractor shall submit reproducible vellums at the conclusion of the Project following review of the blueline prints.

C. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.

D. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.

E. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

2.02 RECORD DRAWING INFORMATION:

A. Contractor shall record the following information:

(1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.

(2) Actual numbering of each electrical circuit to match panel schedule.

(3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.

(4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.

(5) Installed location of all cathodic protection anodes.

(6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.

(7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.

(8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.

B. Contractor shall provide additional drawings as necessary for clarification.

C. Contractor shall provide reproducible record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."

D. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide electronic copies of the drawings (in PDF format) with one file with all of the sheets and one set of individual sheet files at the conclusion of the Project.

PART 3 - RECORD SPECIFICATIONS

3.01 GENERAL:

A. Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.

B. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide one electronic copy of the specifications (in PDF format) at the conclusion of the Project.

PART 4 - MAINTENANCE OF RECORD DOCUMENTS

4.01 GENERAL

A. Contractor shall store Record Documents apart from documents used for construction as follows:

(1) Provide files and racks for storage of Record Documents.

(2) Maintain Record Documents in a clean, dry, legible condition and in good order.

B. Contractor shall not use Record Documents for construction purposes.

PART 5 – PRODUCTS Not Used.

END OF DOCUMENT

SECTION 02 40 00

DEMOLITION, REMOVALS, AND/OR ABANDONMENTS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Demolition, removal, or abandonment of existing artificial materials such as structures, vaults and foundations, fences, asphalt concrete, concrete, curbs, walks, piping, poles, etc.

B. Dust alleviation and control.

C. Cleanup and disposal of demolished or removed materials.

1.2 QUALITY ASSURANCE

A. All demolition, removals, and/or abandonments shall meet with the approval of the Project Inspector and the District.

B. Use of explosives for demolition will not be permitted.

C. Backfill density testing shall be performed in accordance with Section 31 00 00 titled Earthwork.

D. Contractor shall coordinate with the Owners of the specific utility regarding proper demolition, removal or abandonment procedure required by the Owner of each utility.

PART 2 - PRODUCTS

2.1 BACKFILL MATERIAL

A. Backfill material shall be as specified in Section 31 00 00 titled Earthwork.

PART 3 - EXECUTION

3.1 LOCATION

A. The location of removals shall be as shown on the drawings either by identifying specified items or by indicating an area within which demolition, removals and abandonments shall be accomplished.

3.2 SURFACE FACILITIES

A. Remove all obstructions including existing fences, debris, asphalt concrete or concrete surfacing such as paving, curbs, gutters, dikes, etc. where so designated on the plans.

3.3 UNDERGROUND FACILITIES

A. Existing abandoned underground structures below new structures or new roadways shall be removed entirely. In all other areas, existing structures or portions of structures below

grade shall be removed to a depth of at least 3 feet below finish grade and broken in a manner that will prevent entrapment of water.

B. Existing abandoned pipelines below new structures or new roadways shall be removed entirely. In all other areas, abandoned pipelines within 3 feet of finish grade shall be removed entirely. Existing abandoned pipelines, or portions thereof, 3 feet below finish grade shall be sealed with a 6” minimum thick tight fitting plug of concrete or a tight brick wall not less then 8” thick with cement mortar joints.

C. If asbestos cement pipe is encountered during the course of the work, it shall be properly handled and disposed of offsite in accordance with all applicable laws and regulations dealing with hazardous materials.

3.4 DISPOSAL OF DEMOLISHED OR REMOVED MATERIALS

A. Removed pavements and other asphalt concrete and Portland cement concrete may be used as fill provided it is broken up to meet the size requirements for structural fill in Section 31 00 00 titled Earthwork and is approved by the Geotechnical Engineer. The broken up material shall be mixed with other native and/or imported fill as directed by the Geotechnical Engineer.

B. All other demolished or removed materials not acceptable for use as fill material shall become the property of the Contractor and shall be lawfully disposed of off the project site by the Contractor.

C. Holes resulting from the removal of underground obstructions extending below the proposed finish grade shall be cleared and backfilled with suitable material compacted to the requirements of Section 31 00 00 titled Earthwork.

END OF SECTION

SECTION 02 41 00

SITE PREPARATION & PLANT PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Protecting existing trees, electrical equipment, electrical and communication conduits, water lines, irrigation mainline and quick coupling valves, fencing, storm drainage system, sanitary sewer system, utilities, improvements, bleachers, dugouts, paving and vegetation to remain.

B. Removal of, fencing, concrete, asphalt, retaining walls, and other materials.

C. Salvage materials, as noted on the drawings, for reuse as part of the project or for Owner's separate use.

D. Clearing and grubbing.

E. Preserve and protect adjoining properties and school property during removal work, site preparation work and construction.

F. Provide video record of existing storm drainage facilities and utilities within and connected to the area within the limit of work prior to commencing work. Provide record information of existing storm drainage facilities including lines, material, condition, cleanliness, sizes, invert elevations, rim elevations and utilities to remain prior to commencing work.

G. Clean and flush existing storm drainage facilities to remain prior to commencing work.

1.2 RELATED SECTIONS

A. Section 00 31 19 Existing Conditions

B. Section 00 31 32 Geotechnical Data

C. Section 01 11 00 Summary of Work

D. Section 01 50 13 Construction Waste Management

E. Section 01 56 16 Dust Control

F. Section 01 56 19 Noise Control

G. Section 01 71 23 Field Engineering

H. Section 26 00 10 General Electrical Requirements

I. Section 31 00 00 Earthwork

J. Section 31 25 00 Erosion Control

K. Section 32 11 13 Subgrade Preparation and Base Material

L. Section 32 13 13 Landscape Concrete

1.3 QUALITY ASSURANCE

A. Stipulations

1. Plant Protection:

a. References and Standards: American National Standard for Tree Care Operations; ANSI Z133.1-1988 International Society of Arboriculture l (ISA).

b. Protect trees against cutting, breaking, skinning and bruising of bark; permit no traffic or stockpiling within drip line.

c. Do not change earth surface within drip line of trees.

d. Do not park vehicles or store materials, supplies and construction equipment within drip line of trees.

e. Install a temporary 6-foot high metal chain link fence at the "drip line" of the tree(s) as directed by the Landscape Architect.

f. Obtain specific instruction from Landscape Architect for pruning of trees, or disturbance of soil within spread of tree branches and for removal of roots.

g. Any trenching required within the root zone shall be done by hand and as directed by the Landscape Architect.

h. Protect existing athletic field. Do not park cars or vehicles, or store materials or equipment on athletic field. Allow school district access to field. Keep field irrigation system fully operable.

2. Plant Replacement

a. Contractor shall replace any damaged planting in kind using "specimen" plants as follows and at no cost to Owner:

1) Trees: Any protected trees that perish during construction or lost during the maintenance period, shall be replaced by contractor. Tree value shall be determined by school district using formula adopted by the "Guide For Plant Appraisal", Latest Edition, International Society Of Arboriculture. An International Society of Arboriculture or National Arborist's Association qualified tree surgeon may be retained by the school district to determine the condition of trees in question as to their ability to survive.

2) Shrubs, 15-gallon can size.

3) Lawn, sand-based athletic field quality Bayside Blend sod from West Coast Turf.

b. Coordinate shutoff of irrigation, water, electrical, communication and storm drainage systems with the Owner and be responsible for any damage caused to adjacent landscaping by Contract work.

3. Site Preparation and Demolition

a. Work shall be executed in accordance with the Drawings and Specifications and includes but is not necessarily limited to the following:

1) Clearing and grubbing.

2) Identification and protection of vegetation indicated to remain.

3) Removal of existing site improvements, such as, paving and bases, concrete curbs, fences, footings, foundations, irrigation system, overhead utilities, underground pipes and utilities and structures.

b. Locate and identify existing utility services and protect or disconnect, remove and cap as required for new work.

c. Remove, clean, store and protect all items designated and directed to be salvaged to Owner.

d. Remove, store and protect all items designated and directed to be reinstalled.

e. Obtain and pay for permits required for execution of this work.

1.4 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. Provide video record of existing storm drainage facilities and utilities where noted on drawings prior to commencing work.

C. Provide record drawings of existing storm drainage facilities and utilities to remain prior to commencing work.

1.5 PROJECT CONDITIONS

A. Notify the Underground Service Alert Center (usanorth811.org) 48 hours in advance of performing any excavation work by calling 811.

B. Before proceeding with work, field verify the materials, sizes and elevations of existing storm drainage facilities and utilities to remain and be connected to. Perform specified tree protection work before commencing site preparation, excavation, trenching and construction.

C. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.

D. 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 flooding or contaminated run-off.

E. 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.

1. Do not close or obstruct streets, sidewalks, or other public passageways without permission from authorities having jurisdiction.

2. If required, by governing authorities, provide alternate routes around closed and obstructed traffic ways.

F. Dispose of cleared, grubbed and removed material that will not be salvaged or recycled on site. Burning on site is prohibited.

G. Salvable Improvements: Carefully remove items indicated to be salvaged and store where designed by Owner. Avoid damaging salvage material. Photograph prior to removal.

H. 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 Owner. Do not resume operations until safety is restored.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Construction/Tree Protection Fence: Minimum of a temporary fence 6-foot high metal chain link fence. Refer to drawings.

B. References and Standards: American National Standard for Tree Care Operations; ANSI Z133.1-1988 International Society of Arboriculture I (ISA).

2.2 SOILS MATERIALS

A. Satisfactory Soil Materials. See Section 31 00 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 Owner'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 all 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 Construction Manager.

3.2 GEOTECHNICAL REQUIREMENTS

A. Any existing foundations, underground utilities, tree root bulbs, as well as any other site improvements which are to be removed should be cleared from the proposed construction areas. Any below grade obstructions, such as buried tanks or old foundations, should then be removed to their full depth and extent and hauled from the site. The building sites and other improvement areas should then be stripped to a sufficient depth to remove any remaining organic laden topsoil. Any areas of loose or soft materials that are exposed during the grading should also be removed or recompacted, as determined by the geotechnical representative.

B. Holes resulting from the removal of underground obstructions (such as abandoned utilities or tree root bulbs) that extend below the planned finished grade should be cleared of loose soil and debris, then backfilled with suitable material compacted to the requirements for engineered fill.

3.2 CLEARING

A. Prior to commencing work, meet with Owner's Representative and identify and mark all existing trees that are within the construction zone and are likely to require protection measures as specified herein.

B. Perform work in accordance to applicable section of the standard specifications.

3.3 GRUBBING

A. Remove 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. Grass and their roots: Remove completely. Dispose of at a green waste composting facility.

C. Existing Infield soil in Existing Baseball Bullpens: To the extent practical, strip and reuse existing soil from the existing baseball (not softball) bullpens for the new bullpens. The visitor bullpen is being relocated, so the soil would need to be stripped and stockpiled for reuse. The home bullpen will be renovated in place and expanded.

3.5 UTILITIES

A. Contractor's attention is directed to Section 8-1.10 "Utility - Non-Highway Facilities", of the Standard Specifications and these Specifications.

B. Contact 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.

C. Cooperate with the Owner'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.

D. 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.

E. Utilities may be abandoned in place in many cases provided that low strength cement grout completely fills any void in the utility.

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 Owner. Repair or replacement shall match and equal construction, condition and finish existing at time of award of Contract.

3. Backfill voids from removed materials with clean fill as defined in Section 31 00 00 Earthwork.

B. Remove following from locations to the extent required or directed for new construction.

1. Clear all structures, concrete slabs, asphalt pavement, over-size debris and organic matter.

2. Fencing, including posts, and footings. Be careful of soil caving.

3. Electric underground wires and conduits occurring within removal areas except those shown as reused or protected on Drawings.

5. Miscellaneous structural elements that interfere with the new construction and as directed.

6. Underground pipes and utilities.

7. Other items noted on the drawings and required to be removed to install the new improvements.

8. Rocks or concrete pieces larger than 6 inches encountered during demolition shall be removed from the site.

9. Natural turf: Remove and dispose of complete, including irrigation system.

C. Cutting asphalt, concrete curbs and concrete pavement:

1. Sawcut paving where required.

2 All lines shall be marked and accepted by Owner's Representative before the cutting operation.

3. 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 in Section 31 00 00 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 General Conditions.

A. Transport trash, rubbish and debris daily from site and legally dispose of:

1. Demolished 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 Geotechnical Engineer, if it does not adversely affect specified finish grades. Coordinate with Section 31 00 00 Earthwork, List of Drawings 00 01 15 and Section 32 11 13 Subgrade Preparation & Base Material.

C. Excess soil may need to be legally disposed of off-site. Refer to Section 00 31 19 Existing Conditions. Coordinate with Section 31 00 00 Earthwork, List of Drawings 00 01 15 and Section 32 11 13 Subgrade Preparation & Base Material.

D. Upon completion of work under this Section, remove all tools, equipment and temporary enclosures and structures.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Urethane joint sealants.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Sustainable Design Submittals:

1. Product Data: For sealants, indicating VOC content.

2. Laboratory Test Reports: For sealants, indicating compliance with requirements for low-emitting materials.

C. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

D. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

E. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.

2. Joint-sealant manufacturer and product name.

3. Joint-sealant formulation.

4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.

2. When joint substrates are wet.

3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content: Sealants and sealant primers shall comply with the following:

1. Architectural sealants shall have a VOC content of 250 g/L or less.

2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.

3. Sealants and sealant primers for nonporous substrates shall have a VOC content of 775 g/L or less.

4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

D. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

F. Colors of Exposed Joint Sealants: Match Architect's samples.

2.2 URETHANE JOINT SEALANTS

A. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Building Systems; Sonolastic NP 2.

b. May National Associates, Inc.; Bondaflex PUR 2 NS.

c. Pecora Corporation; Dynatred.

d. Sika Corporation, Construction Products Division; Sikaflex - 2c NS.

e. Tremco Incorporated; Vulkem 227.

2.3 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

A. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

B. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

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

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

    a. Unglazed surfaces of ceramic tile.

    b. Cement plaster.

3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

    a. Metal.

    b. Glass.

    c. Porcelain enamel.

    d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or

by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.

2. Do not stretch, twist, puncture, or tear sealant backings.

3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.

2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.

1. Joint Locations:

    a. Joints between metal panels.

    b. Joints between different materials listed above.

    c. Perimeter joints between materials listed above and frames of doors, windows and louvers.

    d. Control and expansion joints in ceilings and other overhead surfaces.

    e. Other joints as indicated.

2. Urethane Joint Sealant: Multicomponent, nonsag, Class 25.

3. Joint-Sealant Color: Match Architect's samples.

B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non-traffic surfaces.

1. Joint Locations:

    a. Control and expansion joints on exposed interior surfaces of exterior walls.

    b. Perimeter joints of exterior openings where indicated.

    c. Perimeter joints between interior wall surfaces and frames of interior doors and windows.

    d. Other joints as indicated.

2. Joint Sealant: Multicomponent, nonsag, Class 25.

3. Joint-Sealant Color: Match Architect's samples.

C. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Sealant Location:

   a. Joints between plumbing fixtures and adjoining walls, floors, and counters.

   b. Tile control and expansion joints where indicated.

   c. Other joints as indicated.

2. Joint Sealant: Mildew resistant, single component, acid curing, Silicone.

3. Joint-Sealant Color: Match Architect's samples.

END OF SECTION

SECTION 12 93 05

SITE FURNISHINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnish and install all manufactured items shown on drawings and specified.

B. Scope of work: The general extent of work contained in this section is shown on the Drawings and can include, but may not be limited to, installation of the following:

1. Items specified here in and shown on the drawings

C. Related sections can include, but may not be limited to the following:

1. Section 00 31 19 Existing Conditions
2. Section 00 31 32 Geotechnical Data
3. Section 01 11 00 Summary of Work
4. Section 02 41 00 Site Preparation and Plant Protection
5. Section 31 00 00 Earthwork
6. Section 32 11 13 Subgrade Preparation and Base Material
7. Section 32 18 13 Synthetic Turf Playing Field
8. Section 32 18 15 Synthetic Landscape Turf
9. Section 33 40 10 Storm Drainage

1.2 REFERENCES AND REGULATORY REQUIREMENTS

A. State of California Department of Transportation Standard Specifications, current edition.

B. Perform all work in accordance with all applicable laws, codes, and regulations required by State of California and the City of San Mateo and County of San Mateo.

1.3 SUBMITTALS

A. Conform to applicable specifications, General Conditions and/or Special Provisions.

B. Product Data: Submit catalog “cut sheets” and installation instructions of all materials and equipment proposed to be furnished and/or installed under this portion of the work. Include the manufacturers and distributors name, sub-contractor as applicable. Insure that the “cut sheets” clearly describe the specific product by catalog number and that additional non-specified products that may appear on the same “cut sheet” are cross out where applicable.

C. Samples: Submit samples of colors and finishes for all applicable products and furnishings for selection by District. Submit sample of sand.

D. Shop Drawings: Submit complete shop drawings for all materials or furnishings requiring field or shop fabrication. Provide complete drawings for sand catchers.

1.4 QUALITY ASSURANCE

A. All Site Furnishings sub-contractors bidding on this project must have a California license and be experienced in the installation, in Northern California, of synthetic track surfacing, athletic field installation and synthetic turf systems for at least 5 years and have completed five (5) projects in Northern California of comparable size, type and complexity, in the past three (3) years.

B. Review: All equipment shall be reviewed for conformance with the intent of the Contract Documents and accepted by the contractor prior to installation. All site furnishings shall be in a new, “first-class” condition, per the discretion of the District’ Representative, prior to Final Acceptance.

1.5 DELIVERY, STORAGE AND HANDLING

A. The contractor is responsible for coordination of the delivery, acceptance, handling and storage of all site furnishings.

B. Store and handle site furnishings as acceptable to the Construction Manager and so that work or access of others is not impeded.

C. The contractor shall protect all site furnishings from theft or damage at all times until the District’s Representative has accepted such items.

1.6 SOILS REPORT

A. A soil investigation reports has been prepared for the project. See Section 00 31 32 Geotechnical Data.

B. The reports are available in the office of the Landscape Architect and the Construction Manager for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of these reports.

C. Drilled piers may encounter ground water. Excavations for drilled piers may require casings and installation of concrete by means of pumping under the direction of the Geotechnical Engineer.

1.7 SOILS BORINGS

A. Subsurface soils investigations have been made at the site and logs of the test holes are available with the Soils Report. Such investigations have been made for the purposes of design only, and neither the Landscape 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.

PART 2 - MATERIALS

2.1 SITE FURNISHINGS

A. Distributor / Contact Information:

1. Sportsfield Specialties, Alex Fletcher: (408) 728-0482 or (888) 975-3343.

Description	Mfr,	Model No.	Finish/Color	Distributor/ Contact
Field Net Posts	Sports Field Specialties or Gill Athletics	Ball safety system. BSS210 (TFBSS210P) 10' ball safety system	NA	Sports Field Specialties or Gill Athletics

2.2 OTHER EQUIPMENT

A. As shown on drawings or accepted equal.

2.3 LOCKS and KEYS

A. All lock keys shall be keyed alike. Provide locks keyed alike to what the school uses.

PART 3 - EXECUTION

3.1 SEQUENCING AND SCHEDULING

A. Coordinate construction timing of installation of site furnishings in conformance with all other work.

3.2 INSTALLATION

A. Install as shown in Drawings and per manufacture's requirements unless noted otherwise.

B. Equipment:

1. Conform to layout shown on Drawings.

2. Erect site furnishings in strict conformance with details, accepted Shop Drawings, and manufacturer's instructions. If specified equipment and/or materials are revised, plans and Drawings are subject to revisions based on manufactures.

3. If specified equipment and/or materials are revised, plan and Drawings are subject to revisions based on manufacturers' recommendations.

C. Install manufactured items in accordance with the manufacturer's instruction and as shown in the drawings and as specified herein.

D. Set all work true and square, plumb and level.

E. Size bolts to fit flush with nuts. Countersink nuts and bolts as detailed. Vandal proof bolts as directed by Project Inspector.

F. Securely fasten and/or anchor all equipment with bolts, angles, plates, flanges, concrete footings and/or other items required for proper and complete installation and/or erection of the units.

G. Supply all miscellaneous metal units and install as specified herein.

H. Install all equipment in strict conformance with the manufacturer's specifications and/or as accepted by the Landscape Architect.

I. Set all equipment, etc., level as recommended by manufacturer.

J. Transport, store and handle precast units and manufactured items in a manner to avoid hairline cracks, staining or other damage. Store units free of the ground and protected from mud or rain splashes. Cover units, secure covers firmly, and protect the units from dust, dirt or other staining material.

3.3 FIELD QUALITY CONTROL

A. All site furnishings shall be inspected and accepted upon delivery by the Contractor. Final acceptance of site furnishings and locations of site furnishings shall be per the discretion of the Landscape Architect.

3.4 CLEANUP: Per General Conditions.

A. During construction, protect work from damage by accident, staining or otherwise.

B. Upon completion, repair or replace broken, damaged or defective parts.

C. Remove all surplus materials and debris from the premises.

D. All work shall be left in a condition satisfactory to the Landscape Architect.

3.5 CLOSEOUT

A. Include manufacture’s cut sheets and maintenance instructions of specified items in Operations and Maintenance Manual.

B. Include manufacturer’s warranty information of specified items with warranties.

END OF SECTION

SECTION 13 12 50

FRAME-TYPE BLEACHER
NON-ELEVATED CLOSED DECK SYSTEM

PART 1 - GENERAL

1.01 SYSTEM DESCRIPTION

A. Provide labor, material, equipment, and supervision necessary to complete installation of permanent steel grandstand, including the following:

1. Steel Substructure
2. Decking System
3. Concrete Foundation (provided by others)

1.02 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer must have ten years of experience in the manufacture of bleachers and grandstands; welders must be AWS certified.

B. Source Quality Control: Mill Test Certification.

1.03 BUILDING CODES

A. Must meet or exceed all State and Local applicable codes and in compliance with the California Building Code 2022, Title 24, and ICC 300.

1.04 WARRANTY

Manufacturer warrants its frame-type bleacher to be free from defect in material and workmanship while manufacturing for a period of one year beginning at Date of Substantial Completion for Projects installed by manufacturer. This warranty excludes defects resulting from abnormal use, accidental or intentional damage, or any occurrences beyond manufacturer's control.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Basis of Design: Southern Bleacher Company-Graham TX 1 (800) 433-0912

1. Alternate manufacturers seeking to be pre-approved to bid must submit product literature and references (with contact names/numbers) to the Owner/architect, 14 days prior to bid date, for five (5) similar sized DSA approved projects completed within the past two years.

2. Each manufacturer is required to develop and submit their own submittal drawings and calculations if required. Southern Bleacher's information is for their exclusive usage.

3. Alternate manufacturers shall be responsible for obtaining DSA approval for their product and all costs associated (including additional Architect and DSA fees) shall be borne by the manufacturer/contractor, and not by the Owner or Design Team.

4. No time extensions to the schedule will be granted awaiting DSA approval of submittals and liquidated damages apply per the contract documents.

2.02 FRAME-TYPE BLEACHERS

A. Product Description

1. Silver Edition 5 Row Non-Elevated, Closed deck, Frame-type Bleachers:
   a. Rise and Depth Dimensions: Vertical rise and horizontal depth per row: 8” x 24”. Seat is 17 1/4” above its respective tread.
   b. Framework: Prefabricated angle bleacher frames are spaced at 6-foot (max.) intervals and connected by cross-braces. Galvanized steel frames, aluminum frames are not acceptable.
   c. Seats: Nominal 2 x10” clear anodized aluminum plank with 2 x 10” anodized end caps.
   d. Treads: Nose, deck, and heel tongue and groove plank with anodized end caps to create 26” tread depth condition. Shot-blast anodized for increased slip resistance.
   e. Risers: Nominal 1 x 6-1/2 clear anodized aluminum riser plank. Shot blast anodized for increased slip resistance.
   f. Intermediate aisle steps: fully closed constructed with interlocking deck extrusions.
   g. Aisle: Aisle to be provided with 34” high handrail and intermediate rail at approximately 22” above tread. Handrails with rounded ends are discontinuous to allow access to seating through a 24” wide space. Aluminum tread nosing of contrasting color on aisle steps.

2. Wheelchair Area:
   a. Wheelchair area to be 5’ 8” wide for two wheelchairs (34" each) and 36" for single.

B. Materials/Finishes

1. Framework:
   a. Galvanized Steel: Structural fabrication with ASTM-A529 steel. Shop connections are seal welded. After fabrication, all steel is hot-dipped galvanized to ASTM-A123 specification.

2. Extruded Aluminum:
   a. Seat Planks, Riser Planks, Step Risers: Extruded aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II, and a wall thickness of .094”.
   b. Tread Planks: Extruded aluminum alloy 6063-T6, mill finish and wall thickness of .094”.

3. Accessories:
   a. Channel End Caps: Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II.
   b. Hardware:
      (1) Bolts, Nuts: Galvanized or plated.
      (2) Hold-Down Clip Assembly: Aluminum alloy 6061-T6.
      (3) 3/8” Stainless Steel Hilti KBTZ Anchors to secure frames to concrete structural slab where indicated on drawings.
   c. Guard railing: None. Unit is enclosed by concrete walls
   d. Cross-braces: Extruded aluminum angle alloy 6061-T6, mill finish.

e. Aisle Nose: Aluminum alloy, 6063-T6, black powder-coat finish.

C. Manufactured Units: One (1) - 5 Row Model w/Wheelchair Areas
1. 33’ length overall
2. 24” tread depth
3. 8” rise per row
4. Closed deck system
5. 4 total net 34” wheelchair spaces
6. 66 total net 18” seats

D. Fabrication
1. Design Load:
a. Live Load: 100 psf gross horizontal projection
b. Lateral Sway Load: 24 plf seat plank
c. Perpendicular Sway Load: 10 plf seat plank
d. Live Load of Seat and Tread Plank: 120 plf
e. Guardrail: 100 plf vertical and 50 plf horizontal.

2. All connections made in shop to be shop welded.
a. Manufactured by certified welders conforming to AWS Standards.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All work performed by technicians experienced in bleacher seating installation.

B. Project as per approved shop drawings.

3.02 FIELD QUALITY CONTROL

A. Foundation: Structural slab to support the bleacher shall provide enough bearing area at bottom to support all loads. Depth and design of footings shall be determined by Owner supplied soil test. Hot-dipped galvanized anchor bolts shall be secured in the concrete footings. Concrete shall attain working strength of 3,000 psi.

3.03 CLEAN-UP

A. Clean up all debris caused by work of this section. Stand to be left broom clean.

B. Owner, Architect and Contractor acknowledge and accept that mill finish aluminum as specified will have water stains present from transportation and storage during installation. Removal of these stains is not part of this contract. Stand to be left broom cleaned at completion of installation.

SECTION 31 00 00

EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide earthwork complete, including removal work and clearing, grading, excavating, soil treatment and fill, and dewatering.

B. Related work specified elsewhere includes:

1. Section 00 31 19 Existing Conditions
2. Section 00 31 32 Geotechnical Data
3. Section 01 11 00 Summary of Work
4. Section 01 45 00 Quality Control
5. Section 01 71 23 Field Engineering
6. Section 01 56 16 Dust Control
7. Section 01 56 19 Noise Control
8. Section 02 41 00 Site Preparation & Plant Protection
9. Section 31 25 00 Erosion Control
10. Section 32 11 13 Subgrade Preparation & Base Material
11. Section 32 13 13 Landscape Concrete

1.2 QUALITY ASSURANCE

A. Qualifications

1. All general contractors, performing all sub-base preparation, grading and drainage infrastructure work should be experienced in the installation of public site works for at least five (5) years. Failure to meet the requisite qualifications may result in the general contractors and sub-contractors being rejected as non-responsible.

B. Reference standards

1. Perform work in compliance with the rules and regulations of the Division of Industrial Safety and other local and State agencies having jurisdiction. Nothing contained herein shall be construed as permitting work that is contrary to such rules, regulations and codes.
2. Work shall conform to local codes and regulations.
3. References to "Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

4. ASTM Standards.

5. Perform all grading with hydraulically laser-controlled grading machinery.

6. The grading contractor shall visit the site prior to bidding the project.

7. The contractors shall always comply with the recommendations of the Geotechnical Engineer.

8. If unforeseen circumstances are encountered during the grading operations, the Construction Manager shall be contacted immediately for additional recommendations from the Geotechnical Engineer.

9. No deviations from the project specifications shall be made except upon written approval from the Geotechnical Engineer or Landscape Architect.

10. All existing surface and subsurface structures that will not be incorporated in the final development shall be removed prior to any grading operations.

1.3 SUBMITTALS, per General Conditions.

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, if any.

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.

1.4 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 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.

F. Plasticity Index: ASTM 4318-98.

1.5 PROJECT CONDITIONS

A. 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.

B. Underpin adjacent structure(s), including utility service lines, which may be damaged by excavation operations.

C. Promptly repair damage to adjacent facilities caused by earthwork operations. Cost of repair at Contractor's expense.

D. Promptly notify the Inspector of unexpected subsurface conditions.

1.6 FIELD QUALITY CONTROL

A. Contractor shall provide adequate notice, cooperate with, provide access to the work, and assist testing agency and their representatives in execution of their function.

B. The Soil Engineer shall be notified at least two days, prior to commencement of any grading operations so that he may coordinate the work in the field with the contractor.

C. 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. Cost of additional labor, materials, and testing to attain specified density at Contractor's expense.

1.7 EXISTING CONDITIONS

A. A topographic survey of the property has been included in the drawings for reference only. Upon beginning 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 SOILS REPORT

A. A soil investigation report has been prepared for the project. See Section 00 31 32, Geotechnical Data.

B. The report is available in the Project Manual for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of this report.

C. Drilled piers may encounter ground water. Excavations for drilled piers may require casings and installation of concrete by means of pumping under the direction of the Geotechnical Engineer.

1.9 SOILS BORINGS

A. Subsurface soils investigations have been made at the site and logs of the test holes are available with the Soils Report. Such investigations have been made for the purposes of design only, and neither the Landscape 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

1.10 PROTECTION

A. Furnish, place and maintain all supports, shoring and sheet piling which may be required for the sides of the excavation or for the protection of adjacent existing improvements.

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 accepted 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 include review of 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: 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.

1.11 UTILITY TRENCHING

A. Contractor shall conduct operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians, and any adjacent property owners or tenants.

B. Contractor shall protect open excavations, trenches and such with covers, railings, and fences as required together with signs, lights, and other warning devices sufficient to protect and maintain safe pedestrian, bicycle, or vehicular traffic through the work.

C. Contractor shall conduct operations in such a manner that existing facilities and utilities that are to remain in place will not be damaged. Excavation, trenching and other work under or adjacent to existing pipelines, conduit runs, or structures of any kind, shall be prosecuted in such a manner as to not interfere with the safe operation and use of such installations. Contractor, at his expense, shall furnish and install sheet piling, cribbing, shoring, or whatever means may be necessary to adequately support material carrying such facilities or to support the facilities themselves and shall maintain such supports until they are no longer needed. The installation and removal of such supports shall be performed in a manner that does not disturb the line, grade or operation of the facilities or utilities being installed or adjacent to the installation. Should any damage to existing facilities or structures be incurred during the operations of the Contractor, he shall immediately notify the proper owners or authorities, and shall arrange for the immediate repair of the facilities at his own expense. Temporary pavements, facilities, utilities, and other installations shall also be protected until they are no longer required. When temporary supports and other protective means are no longer required, they shall be removed and disposed of by the Contractor.

D. During trenching operations, the Contractor shall furnish, install, and operate adequate pumps or other devices as may be necessary to remove any seepage, storm water, or sewage that may be encountered during the progress of the work. All excavations shall be kept free from water during bedding, pipe laying, backfilling and when concrete is being placed, and thereafter until such water will do no damage to the work.

E. Damage resulting from movement of the sides or bottom of trenches or other excavations, whether sides are braced or not, and any portions of the area and work affected by such movement, shall be repaired or restored by the Contractor at his expense to the satisfaction of the Geotechnical Consultant and the Owner.

F. Contractor shall protect all existing facilities.

PART 2 - MATERIALS

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. Plastic index of not more than 12 - ASTM D424.

2. Resistance R-Value: Not less than 25.

3. Liquid Limit: 30% or less.

4. Expansion Index: 20% or less.

5. Percent Passing #200 Sieve: between 10 and 20%.

6. Minimum laboratory dry weight at optimum moisture content of 110 pounds per cubic foot.

7. Fill soil to be used under planting areas shall be capable of sustaining healthy plant life and shall have a pH value of between 6.0 and 7.5, a boron concentration of the saturation extract of less than 1 ppm, salinity of the saturation extract at 25 degrees C of less than 4.0 millimoles, and a Sodium Absorption Rate (SAR) of less than 8.

8. Provide imported fill material as required to complete the work. Obtain rights and pay all cost for imported materials.

9. Proposed fill material shall be inspected, tested, and laboratory report issued prior to use in the work.

10. Suitable excavated material removed to accommodate new construction may be used as fill material subject to inspection and approval.

11. All fill material is subject to testing and inspection.

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 1" in diameter, and without 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.

C. Herbicide contamination is suspected in areas of topsoil that show no or poor of vegetative ground cover or grass. Do not use topsoil from these areas for use in the planting areas.

2.3 UTILITY TRENCH BACKFILL

A. Sand bedding, native soil and permeable material per Section 33 40 10, Storm Drainage.

2.4 CLASS 2 AGGREGATE BASEROCK

A. Class 2 aggregate baserock should have an R-value of at least 78 and conform to the requirements of Section 26-1.02A of the State of California, CALTRANS Standard Specifications, latest edition.

2.5 CLASS 2 PERMEABLE ROCK

A. Class 2 permeable rock should have an R-value of at least 78 and conform to the requirements of Section 68 of the State of California, CALTRANS Standard Specifications, latest edition.

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, 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 work by calling 811. 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 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 areas 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.

G. The holes, left by the removal of subsurface structures shall be cleaned of all debris, backfilled with clean on site soil, and compacted to not less than 90% relative compaction, using ASTM D1557 test procedure. This backfill must be structural fill and the operation must be conducted under the supervision of the Soil Engineer.

3.3 STRIPPING AND SITE PREPARATION FOR PAVED AREAS

A. The improvement areas should then be stripped to a sufficient depth to remove any remaining organic laden topsoil. Any areas of loose or soft materials or undocumented fills that are exposed during the grading should also be removed or re-compacted, as directed by the geotechnical engineer.

B. Holes resulting from the removal of underground obstructions (such as old foundations, abandoned utilities or tree root bulbs) that extend below the planned finished grade should be cleared of loose soil and debris, then backfilled with suitable material compacted to the requirements for engineered fill.

C. The subgrade should be ripped and cross ripped a minimum depth of 12 inches and statically rolled with a heavy, smooth drum roller to provide a smooth firm surface. Any unstable or pumping subgrade areas should be ripped and cross ripped a minimum depth of 12 inches, or subexcavated, plugged with baserock and overlain with a stabilizing fabric such as Mirafi 600X Fabric installation should be performed in accordance with the manufacturer's recommendations. The method and extent of any required preparation work should be evaluated by the geotechnical engineer.

3.4 FILL PLACEMENT AND COMPACTION FOR PAVEMENTS

A. Existing soils having an organic content of less than three percent by volume, and which are free of construction debris, can be used as engineered fill. Fill material should not, however, contain rocks or lumps greater than six inches in greatest dimension with not more than 15 percent larger than 2.5 inches. Imported fill used to raise grades should be predominantly granular with a maximum plasticity index of 12.

B. Engineered fill should be compacted to at least 90 percent relative compaction, as determined by ASTM Test Designation Dl557. Fill material should be spread and compacted in lifts not exceeding eight inches in uncompacted thickness. The moisture content of both on-site and imported soils utilized as fill should be adjusted at least two percent above their optimum moisture content.

C. In order to achieve satisfactory compaction in the subgrade and fill soils, it may be necessary to adjust the soil moisture content at the time of soil reworking. This may require that water be added and thoroughly mixed into any soils which are too dry or that scarification and aeration be performed in any soils which are too wet. The subgrade will require rescarification and recompaction if it is allowed to dry out and crack prior to placing the required non-expansive material section.

3.5 SLOPE GRADIENTS AND FILL PLACEMENT OVER EXISTING SLOPES

A. New permanent cut slopes, and any fill slopes, should be no steeper than 3:1 (horizontal to vertical). Fill placed on slopes steeper than 6:1 (horizontal to vertical) should be benched a minimum of two feet horizontally for every two vertical feet of new fill. Any undocumented fill material encountered in new slope construction should be removed and replaced as properly engineered fill

3.6 TEMPORARY CUTSLOPES AND SHORING

A. Temporary slope excavations for the walls in the soils encountered during the site investigation are anticipated to be reasonably stable at an inclination of 1.5:1 (horizontal to vertical), and should be benched every five feet vertical.

B. There are a number of factors which can influence the stability of temporary excavations, some of which the contractor can control. The contractor, therefore, should be solely responsible for designing and constructing stable temporary excavations and should shore, slope or bench the excavations as required to maintain their stability and comply with all applicable safety standards, including CAL-OSHA requirements. The temporary shoring system design and performance should be the responsibility of the contractor.

3.7 UTILITY TRENCHES

A. The presently available subsurface information indicates that the required utility trenches can be excavated with conventional and/or heavy-duty backhoe equipment. Trenches deeper than five feet should be properly braced or sloped in accordance with the current requirements of CAL-OSHA or the local governmental agency, whichever is more stringent.

B. Utility trenches should be backfilled with engineered fill placed in lifts not exceeding eight inches in uncompacted thickness, except thicker lifts may be used with the approval of the soil engineer provided satisfactory compaction is achieved. If on-site soil is used, the material should be compacted to at least 90 percent relative compaction by mechanical means only. Imported sand can also be used for backfilling trenches provided it is compacted to at least 90 percent relative compaction. In building, slab, and pavement areas, the upper three feet of trench backfill should be compacted to at least 90 percent relative compaction for on-site soils, and 95 percent where imported clean sand backfill is used. In addition, the upper six inches of all trench backfill materials under pavement areas should be compacted to at least 95 percent relative compaction.

C. Water jetting to achieve the required level of backfill compaction should not be permitted.

3.8 SURFACE DRAINAGE

A. Positive surface gradients should be maintained on new surfaces to prevent ponding of water.

3.9 CONSTRUCTION OBSERVATION

A. Grading and earthwork should be observed and tested by the geotechnical engineer for conformance with the project plans/specifications and the geotechnical engineer recommendations. This work includes site preparation, selection of satisfactory fill materials, and placement and compaction of the sub grades and fills. Sufficient notification prior to commencement of earthwork is essential to make certain that the work will be properly observed.

3.11 SITE GRADING

A. Perform grading with in contract limits, including adjacent transition areas, to new elevations, levels, profiles and contours indicated. Provide subgrade surfaces parallel to finished 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 or scraper operations.

2. Provide subgrade surface free of exposed boulders or stones exceeding 3" in greatest dimension in paved areas.

3. Granular Base: Grade subgrade surface smooth and even, free of voids to the required subgrade elevation. Provide compacted subgrade suitable to receive granular base materials. Tolerance 1/2" in 10'-0". Refer to Section 32 11 13 and for Subgrade Preparation and Base Material.

4. Drainage Swales: Grade as shown on drawings.

3.12 EXCAVATING

A. Excavate for structures 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 Inspector before base rock 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 Construction Manager’s written authorization before performing extra excavation work.

E. Unauthorized Excavation: Backfill and fill all overexcavation to proper grades. Fill overexcavation 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 3/4 cu. yd. capacity power shovel without drilling or solid boulders with a volume of more than 1/2 cu. yd.

2. Rock Excavation: Material excavation of buried boulders and rock in excess of 1/2 cu. yd. that requires continuous systematic drilling or 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.

3.14 DRAINAGE

A. Provide necessary pumps and drainage lines and maintain excavations, including footings and pits, free from water (ice and snow) during excavating and subsequent work operations.

B. Provide drainage of the working area at all times.

3.15 FILLING, BACKFILLING AND COMPACTING

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.

B. No fill placement shall be made without the approval of the Geotechnical Engineer.

C. For voids resulting from the removal of existing subsurface pipes and structures, the bottom of the excavation shall be scarified to a depth of 12 inches (if required), moisture conditioned and then compacted to a minimum of 90% relative compaction. Additional fill material placed in the trenches shall be benched into the supporting material (to minimize differential settlement) with 2:1 criteria (horizontal to vertical) and compacted a minimum of 90% relative compaction.

D. Subgrade Preparation for paving:

1. Topsoil is not permitted as fill or backfill material under paved areas. Remove existing topsoil to the complete satisfaction of the Geotechnical Engineer. Fill holes with approved backfill satisfaction of the Geotechnical Engineer.

3. Prepare subgrade free of any depressions, voids and irregularities to achieve a uniform condition as required and compacted a minimum of 90% relative compaction.

4. If additional fill is required, spread approved engineered fill material uniformly in layers not greater than 8" of loose thickness over entire fill area prior to compaction.

6. Lift thickness requirements may be modified by Inspector to suit equipment and materials or other conditions when required to assure satisfactory compaction.

7. Moisture-condition fill material by aerating or watering and thoroughly mix material to obtain moisture content permitting proper compaction.

8. Place and compact each layer of fill to indicated density before placing additional fill material. Repeat filling until proposed grade, profile or contour is attained.

9. 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.

10. 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.

E. Place backfill materials in uniform layers not greater than 8" 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 walls 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 8" layers.

F. Fill all areas of settlement to proper grade before subsequent construction operations are performed.

G. Compaction under paved areas:

1. Provide minimum and maximum compaction control for all fill and backfill.

2. Engineered Fill

a. Compact top 12" of subgrade and each layer of engineered fill or backfill material at paved area to 90% relative compaction. Extend compaction at t least 3'-0" beyond paved area, structures, slabs and pavements.

b. Compact top 12" of subgrade and each layer of engineered fill or backfill material at foundations, slabs-on-grade, retaining walls, concrete borders, mow bands, curbs, valley gutters, trench drains, concrete, asphalt, and paved areas to 90% relative compaction. Extend compaction at least 5'-0" at both sides of foundations and retaining walls and at least 3'-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 obtain indicated compaction density.

5. Provide proper equipment to achieve consistent and uniform compaction of fill and backfill materials.

H. Maintenance of Finish Grades:

1. Protect finish 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.

3.16 FIELD QUALITY CONTROL

A. The owner will provide and pay for field quality control soils testing and inspection during earthwork operations. Provide a minimum of 48 hours' notice.

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 organic materials.

D. Subgrade Surfaces: Based on visual examination at 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 2,000 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, 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. Cost of additional labor, materials, and testing to attain specified density is at Contractor's expense.

3.17 TRENCHING AND EXCAVATION

A. Where utility trenches are required in existing asphalt concrete or Portland cement concrete roadways, the existing asphalt concrete or Portland cement concrete shall be full depth sawcut a minimum of 12" beyond the edge of the trench, unless otherwise directed by the Construction Manager.

B. Trenches may be excavated either by hand, or by machine. For gravity systems, excavation shall begin at the outlet end and proceed upgrade. Trench sides shall be parallel to and at equal distance from the centerline of the pipe.

C. Pipe trenches shall be excavated below the bottom of the pipe to provide for pipe bedding material.

D. Where a trench has been excavated below the designed grade, the bottom of the trench shall be refilled with approved bedding material, compacted in place in an approved manner and to the satisfaction of the Geotechnical Consultant and the Construction Manager at no additional cost to the Owner.

E. Trenches shall not be left open overnight in existing public street areas. In other areas the Geotechnical Consultant and the Construction Manager shall have the right to limit the amount of trench which is opened or partially opened at any one time, and also to limit the amount of trench left without backfill, at any one time.

F. The bottom of trenches shall be free of loose material at the bottom of the trenches compacted and tested by the assigned Field Engineer to a minimum of 90% relative compaction, prior to placement of the liner or pipes in the trenches.

3.18 CONTROL OF GROUND WATER

A. Contractor shall be solely responsible for dewatering trenches and excavations and subsequent control of ground water. Contractor shall provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage until backfilling is completed.

3.19 BRACING AND SHORING

A. All work shall be in conformance with California and Federal OSHA requirements.

B. The Contractor shall furnish, place, and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the pipes and appurtenances being constructed; and to prevent damage to adjacent structures or facilities. Upon completion of the work, all bracing and shoring shall be removed.

C. The Contractor shall be solely responsible for all bracing and shoring for excavations five feet or more in depth, and shall, if requested by the Project Inspector, submit details and calculations to the Project Inspector for an adequate shoring system. The Project Inspector may forward the submittal to the Geotechnical Engineer, the Construction Manager and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions, and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a Civil Engineer or Structural Engineer registered in California. No excavations in trench section or around structures shall precede a response to the submittal by the Project Inspector.

D. The Contractor is solely responsible for installing and extracting the shoring in a manner, which will not disturb the line, grade, compaction, or operation of the utility being installed or adjacent utilities and facilities.

3.20 PIPE BEDDING

A. Bedding material, from bottom of trench to bottom of pipe, shall be accurately shaped to the line and grade called for on the plans. Bedding material shall be carefully placed and compacted under the haunches of the pipe. Bedding material shall be compacted to at least 90 percent relative compaction. Jetting or ponding of bedding material will not be permitted.

B. Upon completion of bedding operations and prior to the installation of pipe, Contractor shall notify the Geotechnical Engineer, who will then inspect the bedding layer. Pipe laying shall not commence until the Geotechnical Engineer and the Project Inspector representative have approved the bedding.

3.21 BACKFILLING

A. Initial backfill, from top of bedding to 12” above top of pipe, shall be carefully brought up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Initial backfill shall continue to be carefully placed and compacted under the haunches of the pipe. The initial backfill shall be compacted in layers not more than eight (8) inches in uncompacted thickness and in a manner that will preclude moving the pipe. Compaction shall be to at least 90 percent relative compaction. Jetting or ponding of backfill material will not be permitted.

B. Subsequent backfill, from top of initial backfill to pavement structural section subgrade, shall be placed in loose lifts not exceeding eight (8) inches in thickness before compaction, and compacted by the use of pneumatic tampers or other mechanical means approved by the Geotechnical Engineer. Each layer shall be moisture conditioned to 2 to 5 percent of optimum moisture content. Compaction equipment or methods that produce horizontal or vertical earth pressures that may cause excessive displacement or may damage the pipeline will not be permitted. Lifts of subsequent backfill material shall be compacted to 90 percent relative compaction, except that in planted areas compaction may be reduced to 85% of relative compaction. Jetting or ponding of backfill material will not be permitted.

C. Utility backfill shall be inspected and tested by the Geotechnical Engineer during placement. Contractor shall cooperate with the Geotechnical Engineer and shall provide working space for such tests in his operations. Backfill not compacted in accordance with these specifications shall be recompacted or removed as necessary and replaced to meet the specified requirements, all to the satisfaction of the Geotechnical Engineer and the Project Inspector, prior to proceeding with the Work.

3.22 DUST ALLEVIATION AND CONTROL

A. Contractor shall be responsible for and shall provide pollution and dust abatement and control measures satisfactory to the Project Inspector continuously during the course of the work.

3.23 DISPOSAL OF WASTE MATERIALS

A. Perform work in accordance to Section 7, 1.13 “Disposal of Materials Outside the Highway Right of Way” of the Standard Specifications.

B. Stockpile, haul from site, and legally dispose of export and waste materials, including trash, excess soil and debris.

C. Maintain disposal route clear, clean and free of debris.

D. Clean excess soil may be distributed on site as accepted by the Geotechnical Engineer, if it does not adversely affect specified finish grades. Coordinate with Drawings and Section 32 11 13, Subgrade Preparation & Base Material Section 32 11 14 and 32 11 15.

E. Excess soil may need to be legally disposed of off-site. Refer to Section 00 31 19, Existing Conditions. Coordinate with Drawings and Section 32 11 13 Subgrade Preparation & Base Material, Section 32 11 14, and 32 11 15.

3.24 CLEANUP

A. Upon completion of utility earthwork all lines, manholes, catch basins, inlets, utility boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris, and obstructions of any kind. The entire work site shall be cleaned of all waste, rubbish, and construction debris of any nature.

B. Other surplus materials, including soil, remaining upon completion of the work shall become the property of the Contractor unless otherwise specified herein or noted on the plans, and shall be removed from the work site by the Contractor and disposed of outside the project limits in a lawful manner.

C. 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.

3.25 **CLOSEOUT**, per General Conditions.

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.

END OF SECTION

SECTION 31 25 00

EROSION CONTROL

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. General: Provide all materials, equipment, and labor necessary to place and maintain straw wattle barriers and other erosion control measures and supplement with additional straw wattle barriers and other erosion control measures as required. Before completion of the project remove or modify straw wattle barriers and other erosion control measures that are no longer required to be in place. Verify extent of removal and modification with Landscape Architect beforehand.

B. Permit: Because the work is likely to occur between April 18 and October 12, the District will be responsible for hiring a third-party consultant who will prepare an Erosivity Waiver and file it with the State Water Resources Control Board.

C. The Contractor shall tailor the Contractor's operations, methods, and equipment and comply with State Water Resources Control Board, the City of Larkspur and the County of Marin requirements and control erosion, sediment and pollution from the Contractor's operations, methods, and equipment.

D. The District, or “owner”, will pay all necessary fees required for certification.

E. The contractor is required to implement Best Management Practices, and to provide all materials, equipment, and labor necessary to place and maintain straw wattle barriers and other erosion and pollution control measures as required.

F. The name of the person responsible for the daily maintenance of these facilities shall be on record along with a phone number where they can be reached 24 hours a day with the District. These facilities shall control and contain erosion-caused silt deposits and provide for the safe discharge of silt-free storm water into existing storm drain facilities. Design of these must be approved and updated each year prior to September 30.

1.2 SUMMARY

A. This Section includes the following:

1. Permanent and temporary erosion control.

B. Related Sections include the following:

1. Section 01 11 00 Summary of Work

2. Section 31 00 00 Earthwork.

3. Section 32 11 13 Subgrade Preparation and Base Material

4. Section 33 40 10 Storm Drainage

1.3 QUALITY ASSURANCE

A. General: Comply with governing codes and regulations.

1. Perform all work in accordance with all applicable laws, codes and regulations required by the State of California, City of Larkspur and the County of Marin.

1.4 SUBMITTALS, per General Conditions

A. Submit a list of materials with manufacturer's product literature, installation instructions and specifications to be used.

B. 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.

1.5 PROJECT CONDITIONS

A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Straw Wattles: Straw Wattles shall be manufactured from rice straw and be wrapped in a tubular plastic netting. The netting shall have a strand thickness of 0.03 inch, and a knot thickness of 0.055 and a weight of 0.35 ounce per foot (each +/- 10%) and shall be made from 85% high-density polyethylene, 14% ethyl vinyl acetate and 1% color for UV inhibition. Straw Wattles shall be nine inches in diameter (+/- one inch), twenty-five feet long (+/- 0.5 feet) and weigh approximately 35 pounds (+/- 10%).

B. Fiber rolls shall conform to the details shown on the Drawings and to the Specifications.

C. Stakes shall be fir or pine and shall be a minimum of one-inch x one-inch (nominal) and 18 inches in length.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Water Pollution Control Program: The Program shall be provided by the Contractor. The Contractor shall as a minimum address:

1. Cut and fill operations.

2. Temporary stockpiles.

3. Vehicle and equipment storage, maintenance, and fueling operations. Coordinate truck routes with Construction Manager.

4. Concrete disposal.

5. Dust control.

6. Noise control.

7. Tracking of dirt, mud on off-site streets and on school property.

8. Pipe flushing.

9. Protection of adjacent drainage systems from damage due to the operations of this project.

B. Straw Wattles: Straw Wattles shall be installed as shown on the drawings and according to manufacturer's specifications. Individual rolls shall be placed with adjacent ends butted firmly to each other to create a continuous linear roll. They shall be placed on contour and staked with 18 or 24-inch wood stakes at four feet on center. Drive stakes to a depth of approximately two-inches above the roll. The ends of adjacent Straw Wattles shall be abutted to each other snugly. Construct furrows at a slight angle to the slope contour shown on the plans, to a depth of 3 inches, and at a sufficient width to hold the fiber rolls.

3.2 SWPPP AND MONITORING PROGRAM CHECKLIST (USE AS APPLICABLE)

SECTION A: STORM WATER POLLUTION PREVENTION PLAN (SWPPP)				
CHECK IF ADDRESSED N/A IF NOT APPLICABLE	**SWPPP Section**	**ITEM**	**GENERAL PERMIT REF.**	**COMMENTS IMPLEMENTATION DATE**
		Site History (narrative; if possible, indicate location(s) on the Water Pollution Control Drawings)		
		Nature of fill material and data describing the soil. Description of toxic materials treated, stored, disposed, spilled or leaked on site		
		BMPs that minimize contact of contaminants with storm water		
		Location of Areas Designated for:		
		Vehicle storage & service		
		Equipment storage, cleaning, maintenance		
		Soil or waste storage		
		Construction material loading, unloading, storage and access		
		Areas outside of Owners right-of-way (yards, borrow areas, etc.)		
		BMP Locations or Descriptions for:		
		Waste handling and disposal areas		
		On-site storage and disposal of construction materials and waste		
		Minimum exposure of storm water to construction materials, equipment, vehicles, waste		
		Post Construction BMPs		
		Listing or Description of Post-construction BMPs		
		Location of post-construction BMPs		
		Parties responsible for long-term maintenance		

		Additional Information		
		Description of other pollutant sources and BMPs		
		Pre-construction control practices		
		Inventory of materials and activities that may pollute storm water		
		BMPs to reduce/eliminate potential pollutants listed in the inventory		
		Runoff coefficient (before & after)		
		Percent impervious (before & after)		
		Copy of the NOC		
		Construction activity schedule		
		Contact information		
		SOIL STABILIZATION (EROSION CONTROL)		
		The SWPPP shall include:		
		Areas of vegetation on site		
		Areas of soil disturbance that will be stabilized during rainy season		
		Areas of soil disturbance which will be exposed during any part of the rainy season		
		Implementation schedule for erosion control measures		
		BMPs for erosion control		
		BMPs to control wind erosion		
		SEDIMENT CONTROL		
		Description/Illustration of BMPs to prevent increase of sediment load in discharge		
		Implementation schedule for sediment control measures		
		BMPs to control sediment tracking		
		NON-STORM WATER MANAGEMENT		
		Description of non-storm water discharges to receiving waters		
		Locations of discharges		
		Description of BMPs		
		Name and phone number of person responsible for non-storm water management		
		POST-CONSTRUCTION		
		Description of post-construction BMPs		

		Operation/Maintenance of BMPs after project completion (including short-term funding, long-term funding and responsible party)		

		MAINTENANCE, INSPECTIONS, AND REPAIR		
		Name and phone number of person(s) responsible for inspections		
		Complete inspection checklist: date, weather, inadequate BMPs, visual observations of BMPs, corrective action, inspector's name, title, signature		
		OTHER REQUIREMENTS		
		Documentation of all training		
		List of Contractors/Subcontractors		
SECTION B: MONITORING AND REPORTING REQUIREMENTS				
CHECK IF ADDRESSED N/A IF NOT APPLICABLE	**SWPPP Section**	**ITEM**	**GENERAL PERMIT REF.**	**COMMENTS IMPLEMENTATION DATE**
	600.1	Description of Site Inspection Plans		
	100.3	Compliance certification (annually 6/15)		
	600.2	Discharge reporting		
	600.3	Keep records of all inspections, compliance certifications, and noncompliance reports on site for a period of at least three years		
	600.4	Sampling and Analysis Plan for Sediment		
	600.5	Sampling and Analysis Plan for Non-Visible Pollutants		
SECTION C: STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITIES				
CHECK IF ADDRESSED N/A IF NOT APPLICABLE	**SWPPP Section**	**ITEM**	**GENERAL PERMIT REF.**	**COMMENTS IMPLEMENTATION DATE**
	100.1	Signed SWPPP Certification		

3.3 MAINTENANCE AND REMOVAL

A. General: Maintain and repair erosion control facilities throughout the construction period. Remove silt buildup at straw wattles as needed. Repair damage to earth slopes and banks.

B. Before completion of the project remove or modify straw wattle barriers and other erosion control measures that are no longer required to be in place. Verify extent of removal and modification with Construction Manager beforehand.

C. Cleaning: Keep area clean of debris.

END OF SECTION

SECTION 31 63 29

DRILLED PIERS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. This specification covers requirements for drilled pier construction.

B. The provisions of this specification shall govern unless otherwise specified in the contract documents. In case of conflicting requirements, the contract documents shall govern.

1.2 RELATED WORK

A. Section 00 31 32 Geotechnical Data

B. Section 12 93 05 Site Furnishings

C. Section 32 11 13 Subgrade Preparation and Base Material

D. Section 32 13 13 Site Concrete

1.3 REFERENCES

A. ASTM Standards (Latest Edition)

A82 – Standard specification for cold dawn steel wire for concrete reinforcement.

A615 – Standard specification for deformed and plain billet-steel bars for concrete reinforcement.

C33 – Concrete Aggregates.

C39 – Standard Specification for Compressive Strength of Cylindrical Concrete Specimens.

C94 – Ready Mixed Concrete.

C150 – Portland Cement.

E329 – Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction

B. ACI Standards

301 – Specifications for Structural Concrete for Buildings.

318 – Building Code Requirements for Reinforced Concrete.

C. AWS Standards

01.1– Structural Welding Code.

012.1 – Reinforcing Steel Welding Code.

A5.1- Mild Steel Covered Arc-Welding Electrodes

D1.4- Reinforcing Steel Welding Code

D. ICBO International Conference of Building Officials

CBC- California Building Code

1.4 QUALITY ASSURANCE

A. Testing and inspection services will be retained by the owner at his own expense except that when tests or inspections reveal failure of materials to meet Contract requirements, costs for subsequent tests and inspections will be deducted from moneys due to Contractor. Excessive inspection time required by Contractor's failure to provide sufficient workmen or to properly pursue the progress of the work shall likewise be deducted from moneys due to the Contractor.

1. Geotechnical Engineer: Will observe all phases of drilled pier construction.

   Drilling of piers. Final pier depths will be determined and recorded by the Geotechnical Engineer prior to placing concrete. Prior to placing concrete, bottom of each pier will be inspected by Geotechnical Engineer to ensure that proper conditions existing to permit the placement of concrete. No concrete shall be placed until each hole and it's reinforcing steel have been observed and approved. Contractor shall notify the Geotechnical Engineer at least two (2) working days prior to commencing operations to allow for proper scheduling of construction observation.

2. Testing Laboratory: Will provide services conforming to the requirements of ASTM D329, for sampling, testing, inspection, and reporting with respect to reinforcing and concrete.

   One set of four cylinders per day of operation but not less than required by ACI 318 and CBC section 1903A & 1905A. Test one sample at 7 days and two at 28 days; keep one sample in reserve for testing in the event of a low break.

3. Surveyor: Contractor shall provide the services of a qualified surveyor for performing all surveys and layouts and to determine vertical and horizontal alignments. Contractor shall protect reinforcing steel from contamination.

1.5 SOILS REPORT

A. A soil investigation report has been prepared for the project. See Section 00 31 32, Geotechnical Data.

B. The report is available in the office of the Landscape Architect and the Construction Manager for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of these reports.

C. Drilled piers may encounter ground water. Excavations for drilled piers may require casings and installation of concrete by means of pumping under the direction of the Geotechnical Engineer.

1.6 SOILS BORINGS

A. Subsurface soils investigations have been made at the site and logs of the test holes are available with the Soils Report. Such investigations have been made for the purposes of

design only, and neither the Landscape 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

1.7 SUBMITTALS

Contractor shall submit the following:

A. List of products to be used.

B. Concrete Mix designs

C. Reinforcing steel shop drawings.

1. Fully detailed Shop Drawings for pier reinforcement shall be submitted to the Architect for review. Shop Drawings shall show placing and details, and size, spacing and location of reinforcing steel.

2. Reinforcing steel shall not be fabricated or placed before the Shop Drawings have been reviewed by the Architect and returned to the Contractor. Review of Shop Drawings by the Architect will not relieve the Contractor of responsibility for errors or for failure in accuracy and complete placing of the work.

D. Certified mill test reports for reinforcing steel.

E. Evidence that proposed materials and mix designs conform to all requirements of "Specifications for structural Concrete for Buildings (ACI 301)", except as modified by these specifications.

F. Details procedures for casing removal, if any.

G. Detailed procedures for tremie concrete, if any.

H. Notification to Engineer to permit in-place inspection of reinforcing steel prior to placing concrete.

I. Reports of actual location, alignment, elevations, and dimensions of drilled piers.

J. Reports of material quantities.

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

a. Design Mix Number.

b. Signature or initials of ready mix representative.

1.8 CONSTRUCTION TOLERANCES

A. Maximum permissible variation of location – 1/24th of shaft diameter or 3 inches, whichever is less.

B. Pier and reinforcing cage, as set, shall not vary from a straight line drawn between the center of the pier hole at the top and at the bottom by more than 3" at any point.

C. Concrete shafts out of plumb. Not more than 1.5 percent of the length nor exceeding 12.5 percent of shaft diameter or 15 inches, whichever is less.

D. Concrete Cover on Reinforcing Steel: Clear distance between reinforcing steel and the pier hole sidewall shall not be less than 3".

E. Projecting reinforcing steel and anchor bolts shall be set by template and firmly anchored. Allowable deviation shall be +/- ¼"

F. Concrete cutoff elevation tolerances – plus 1 inch to minus 3 inches.

G. Hole diameter: Diameters shall be as shown on Drawings for each individual pier. Diameters shown shall be the diameter of the drilling bucket or auger bit.

H. If the tolerances above are exceeded, furnish and pay for corrective design and construction that may be required.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel casing, if required – ASTM A252, Grade 2, or ASTM A36, as specified. Furnish 100 percent penetration welds for vertical joints in non-corrugated permanent casings.

B. Reinforced steel – ASTM A615, A616, A617, or A706, as specified, or as shown on the contract drawings.

C. Concrete: Concrete work shall conform to requirements of "Specifications for Structural Concrete for Buildings (ACI 301)" and Specifications of Division 03000.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Excavate drilled piers to dimensions and required elevations shown on contract drawings. Maintain sidewall stability during drilling. Closely spaced piers shall be drilled and concrete placed alternately with adjacent holes.

B. Determine suitability of supporting materials for drilled piers, as follows:

1. If directed by the Geotechnical Engineer, explore bearing stratum to depth equal to the diameter of the bearing area below the bottom of the drilled pier with probe hole.

2. Inspection of the bottom of each pier will be by the Geotechnical Engineer.

3. Excavate for drilled pier bells (if required) immediately upon confirmation by the Geotechnical Engineer.

4. If the stratum is not capable of providing the required load bearing, notify the Engineer for a determination of adjustments to be made. These may include, but not be limited to, advancing the shaft length as directed by the Geotechnical Engineer and repeating the above steps, or enlarging the bell diameter as determined by the Engineer for appropriate bearing pressure as determined by the Geotechnical Engineer.

C. Provide gas testing equipment, protective cage, or temporary casing of proper diameter, length, and thickness and other safety equipment called for by law for inspection or testing of drilled piers and to protect workmen during hand belling or other operations necessitating entry into shaft.

D. Check each drilled pier for toxic and explosive gases prior to personnel entering. If gas is found, ventilate with forced air until safe for entry.

E. Remove from bottom of drilled piers, loose material or free water in quantities sufficient to cause settlement or affect concrete strength as determined by the Geotechnical Engineer. Excavate pier bottoms to a level plane. If bottoms are sloping rock, excavate to a level plan or step with maximum step height less than one-quarter the width or diameter of the bearing area.

F. Remove excavated material from site or as otherwise directed by the Owner.

3.2 STEEL CASING

A. Provide steel casing for shaft excavation where subsurface water is encountered and causes caving of overburdened soils or as required by Geotechnical Engineer. Provide casing of sufficient strength to withstand handling stresses, concrete pressure, and surround earth and/or fluid pressure. Make diameter of excavation in relation to diameter of casing, such as to create a minimum of void space outside of casing. Provide permanent casing, if required, with minimum outside diameter equal to nominal outside diameter of shaft.

B. Hole may be drilled as deep as it will stand prior to setting casing, thus allowing maximum casing length sections. Hole shall not, however, be drilled ahead of casing any further than hole will stand with out sloughing. At any time that soughing occurs, holes shall be cased to the bottom of the sloughing area immediately and prior to drilling deeper in hole.

C. Inside casing diameter shall be not less that required pier diameter.

D. Casing may be removed at option of Contractor unless otherwise specified. If casing is removed during or after concreting, follow special requirements specified in Article 3.4.

3.3 DEWATERING

A. Dewater drilled pier excavation prior to placing concrete. Perform pumping a manner that will not create ground loss problems that might adversely affect this and existing adjacent structures as determined by the Geotechnical Engineer. If during pumping, excessive water inflow is noted, use alternative means to reduce inflow such as extending casing, outside deep wells, or grouting, or other acceptable means. If water seepage still is considered by the Geotechnical Engineer to be excessive for safe removal, follow procedure as specified:

1. Holes shall be dewatered and poured dry where such dewatering does not cause instability of hole and is feasible with respect to quantity of seepage flow.

2. No more that 6” of water is allowable in the bottom of the hole at the beginning of the pouring. If there is more that 6” but less than 18” of water in the hole at the time the pour is begun, dry, neat cement shall be dropped down the hole in the amount of one sack for each 6 gallons of water in excess of the 6” allowable depth, just prior to pouring

3. If the depth of the water in the hole exceeds 18” the pour shall not be made until the hole is either dewatered to within the specified limits or the hole is poured by the tremie method.

4. If the rate of flow of seepage of water into the hole at the time of pouring is such that the volume of water which will enter the hole during the time of pouring exceeds ½ gallon per sack of cement in the concrete poured, then cement shall be added to the concrete in the mixer in the amount of one sack for each 5 gallons of water in excess of the above limit. If the seepage rate at the time of pour exceeds 2 gallons of water per sack of cement in the concrete to be poured, the hole shall be poured by the tremie method.

3.4 REINFORCING STEEL

A. Place reinforcement for drilled piers in accordance with the contract documents.

B. Use reinforcement at time of placement, which is free of mud, oil, or other coatings that adversely affect bond.

C. Reinforcement with rust, scale, or a combination of both may be used provided the minimum dimensions, including height of deformations and weight of wire brushed specimens, are not less than required by applicable ASTM specifications. Engineer will determine acceptability of such reinforcement.

D. Use metal reinforcement without kinks or non-specified bends. Straighten or repair bars in a manner that will not damage the bars or adjacent construction.

E. Place bars as shown on contract drawings with cover of not less than 3-inches where exposed to soil.

F. Make splices in reinforcement as shown on contract drawings, unless otherwise accepted.

G. Provide clear distance between bars of not less than one and one-half times the bar diameter, nor one and one-half times the maximum aggregate size.

H. Adequately tie and brace cages as required to retain shape. Furnish bracing and spacers required for accurate centering of cages whether shown on drawing or not.

3.5 CONCRETE

A. Obtain permission of Engineer prior to placing concrete.

B. Place concrete immediately after completion of excavation and after Geotechnical Engineer has verified bearing capacity. Do not leave uncased or belled excavations open overnight.

C. Sloughage or other loose material shall be removed from the hole prior to pouring.

D. Free fall concrete may be used provided it is directed through a hopper, or equivalent, such that fall is vertical down center of shaft without hitting sides or reinforcing. Vibrate top 5-feet of concrete, but only after casing has been pulled or when casing is permanent.

E. Place concrete in pier in one continuous operation. If a construction joint is unavoidable, level, roughen, and clean surface prior to re-commencement of concrete placement. Provide reinforcing dowels for uplift piles or a shear key when required by Engineer.

F. If casing is withdrawn, the Geotechnical Engineer will provide inspection during the removal of casing and placing of concrete. Withdraw casing only as shaft is filled with concrete. Maintain adequate head of concrete to balance outside soil and water pressure above the bottom of the casing at all times during withdrawal. Specific procedures that the Contractor will follow to accomplish this objective shall be submitted for approval.

G. If casing is left in place, fill void space between casing and shaft excavation with concrete or fluid grout by means of grout pipe and pump pressure, as required.

H. For placing concrete under water, where permitted, use tremie pipe or concrete pumping with special procedures, as specified or accepted.

I. The pouring of any pier shall be completed in one (1) hour. This means that the elapsed time from the beginning of pouring until completion of pouring shall not exceed one (1) hour. In any case where the time of the pouring of the pier exceeds one (1) hour, it will be assumed that the pier is defective and has a reduced or zero load capacity, and the Contractor shall remove these piers and construct additional piers, as found necessary by the Geotechnical Engineer to remedy the deficiency, at the expense of the Contractor.

J. Pouring shall not be started in any hole until enough concrete to complete the pier is on the job waiting to be poured. Concrete trucks for any pier shall not be ordered with staggered arrival times, but shall be on the job when pouring commences.

3.6 TREMIE POUR

A. Should any pier holes have an excessive amount of water and the dewatering procedure is not capable of achieving or maintaining the specific maximum water depth, then the concrete shall be placed with the tremie method in accordance with placement techniques detailed below.

B. Tremie pouring shall be performed by pumping the concrete to the tremie pipe, using concrete pumping equipment capable of pumping at least 50 cubic yards per hour against a head of concrete of 20” under job conditions. Tremie pouring using a hopper and milking the tremie pipe into the hole is not acceptable.

C. A special concrete mix shall be used for tremie pours, unless otherwise directed by the Geotechnical Engineer. Requirements for compressive strength of the concrete shall be determined by the Geotechnical Engineer. Mixes for concrete being placed in dry excavations shall be designed for a 4” to 6” slump. For concrete placed below the water level, slump shall be 6” to 8”.

D. Tremie pipe shall be rigid steel pipe with tight couplings. The tremie pipe shall be straight within ½” in 10”, and crooked or bent tremie pipe shall not be acceptable. Pipe shall be at least 4” diameter, but not more than half of the inside diameter of the reinforcing cage. Only rigid steel pipe shall be used in the hole; using hose in the hole is not acceptable.

E. Tremie pipe shall be lowered through the center of the cage, with caution, to within 1” of the bottom of the excavation.

F. Hose and tremie pipe shall be slicked with Portland cement slurry on clay. Bentonite or other material except Portland cement is permitted unless approved by Geotechnical Engineer.

G. Pumping of concrete shall commence after setting the reinforcing cage and tremie pipe in hole. The tremie pipe shall not be raised until the surface of the concrete in the hole is at least 10’ above the bottom of the tremie pipe, unless otherwise approved by the Geotechnical Engineer. The bottom of the tremie pipe shall be kept at least 5’ below the

top of the concrete until the pour is complete, including removal of muck, laitance and unsuitable concrete.

3.7 UNDERMINING FOUNDATION SOIL

A. Contractor shall take necessary precautions to prevent caving or soughing of a hole, which may endanger load capacity of adjoining pier or piers. The Geotechnical Engineer will make determination of loss of load bearing capacity of adjoining piers.

B. Contractor will be required to provide additional piers at his own expense wherever sloughing or caving in a hole endangers load-bearing capacity of adjoining piers. The Geotechnical Engineer will make determination of loss of load bearing capacity of adjoining piers.

3.8 CLEANING

A. Contractor shall keep the site as free of debris and rubbish as possible at all times. At the completion of his work, he shall remove all materials and apparatus from the premises and streets, scrape all drippings, and leave the entire work clean and free of debris.

END OF SECTION

SECTION 32 11 13

SUBGRADE PREPARATION & BASE MATERIAL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide subgrade preparation and the base material installation complete, including clearing, grading, excavation, filling and compaction and dewatering.

B. Subgrade is that area on which concrete, aggregate base, synthetic turf playing field porous base or layer of any other non-organic material is to be placed.

1.2 QUALITY ASSURANCE

A. Reference Standards

1. Perform all work in accordance with all applicable laws, codes and regulations required by the Town of San Anselmo.

2. Perform work in accordance to applicable sections of the Standard Specifications.

3. Reference to "Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

B. Related work specified elsewhere includes:

1. Section 01 11 00 Summary of Work

2. Section 01 45 00 Quality Control

3. Section 01 71 23 Field Engineering

4. Section 32 11 13 Landscape Concrete

5. Section 33 40 10 Storm Drainage

C. Stipulations

1. The finished surface of the subgrade, at any point, shall not vary more than 0.05' above or below the elevation indicated on the drawings.

D. ASTM Standards.

1.3 SUBMITTALS

A. Provisions: Comply with the General Conditions.

B. Material list and product data of all items proposed to be provided under this Section.

C. Certificates (certified analysis of certificate of compliance) signed by the material producer.

1.4 PROJECT CONDITIONS

A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.

B. Refer to Soil & Foundation Investigations referred to below.

1.5 SOILS REPORT

A. A soils investigation report has been prepared for the project. See Section 00 31 32, Geotechnical Data.

B. The report is available in the office of the Landscape Architect and the Construction Manager for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of these reports.

C. Drilled piers may encounter ground water. Excavations for drilled piers may require casings and installation of concrete by means of pumping under the direction of the Geotechnical Engineer.

1.6 GENERAL REQUIREMENTS

A. When rain is forecast, temporary measures to protect areas of the exposed subgrade from saturation by rainfall or runoff shall be taken. These include, but are not limited to, covering grading and sloping of subgrade surfaces to prevent ponding, sealing disturbed, uneven subgrade, surfaces with a smooth drum roller, grading and excavating diversionary swales, trenches or detention basins.

B. Failure by the Contractor to comply with the above requirements to take reasonable and adequate measures or exercise sound engineering and construction practices to protect the work from damage. All repair work shall be performed at no additional cost to the Owner.

PART 2 - MATERIALS

2.1 AGGREGATE BASE - CLASS II

A. Imported aggregate base shall be virgin, Class II, and free from vegetable matter or other deleterious substances. The percentage composition by weight of aggregate base shall conform to Section 26 of the Standard Specifications.

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION

A. Refer to Section 31 00 00 Earthwork.

B. The finished subgrade surface shall be firm and unyielding under the weight of a loaded water truck traveling over the surface.

3.2 AGGREGATE BASE

A. Deliver to site as a uniform mixture and spread each layer in one operation without segregation.

B. Class 2 Aggregate Base shall be readily compacted and spread with equipment that will provide a uniform layer conforming to the planned section, and as specified in Section 26 of the Standard Specifications.

C. The aggregate base shall be compacted to at least 92 percent relative compaction.

D. Proof roll and mark “soft spots” for additional compaction or correction. Proof rolling operations must be performed in the presence of a Geotechnical Engineer.

E. Unsatisfactory material shall be removed and repaired to the satisfaction of the Geotechnical Engineer.

3.4 CLEANUP per General Conditions.

END OF SECTION

SECTION 32 11 15

SYNTHETIC COMPOSITE UNDERLAYMENT

PART 1 - GENERAL

1.1 SCOPE OF WORK

This work provided via separate CMAS contract.

This document defines requirements for the installation and operating performance of a resilient athletic base underlay material needed for a professional grade synthetic turf field. Defined are the primary system requirements for insuring optimum safety of the playing surface (impact attenuation/surface playability) and high capacity subsurface drainage of the installed playing field.

All specifications listed are defined per applicable ASTM standard test methods, unless no ASTM standard exists. All other specifications and tolerances listed shall be defined under standard ANSI and/or ISO drawing and specification rules.

This specification requires prior installation of stabilized subsurface base. Included is a perimeter foundation-grade concrete curb and high capacity trenched storm drain system.

1.2 RELATED SECTIONS

A. Section 01 11 00, Summary of Work

B. Section 31 00 00, Earthwork

C. Section 32 11 13, Subgrade Preparation and Base Material

D. Section 32 13 13, Landscape Concrete

E. Section 32 18 13, Synthetic Turf Playing Field

F. Section 32 18 15, Synthetic Landscape Turf

PART 2 - TESTING REFERENCES

American Society for Testing and Materials (ASTM) Organization (ISO), European Committee for Standardization (EN), German Institute for Standardization (DIN), Cradle to Cradle Products Innovation Institute (C2CPII), Environmental Protection Agency (EPA):

ASTM D3574	Standard Specification for Flexible Materials - Tensile Strength, Tensile Strength, Tensile Elongation
ASTM D3575	Flexible cellular polymeric materials - Determination of Compression Strength
ASTM D4716	Test Method for Determining the (in-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using Constant Head – TRI procedure using characteristic flow equation
ASTM D4716	Test Method for Determining In-Plane Flow Rate
ASTM D696	Determination of Coefficient of Linear Thermal Expansion

ASTM F0355	Standard Test Method for Shock-Absorbing Properties of Playing Surface Systems and Materials
ASTM F0925	Test Method for Resistance to Chemicals of Resilient Flooring
ASTM F0970	Test Method for Static Load Limit
ASTM F1551	Test Method for Comprehensive Characterization of Synthetic Turf System Surfaces and Materials
ASTM F1936	Standard Specification for Impact Attenuation of Turf Playing Systems as Measured in the Field
ASTM F2333	Standard Test Method for Traction Characteristics of Athletic Shoe-Sports Surface Interface
ASTM F2898	Water Permeability of Synthetic Turf Systems and Permeable Bases
ASTM F3146	Standard Test Method for Impact Attenuation of Turf Playing Surface Systems Designated for Rugby
ASTM F3189	Standard Method for Measuring Force Reduction, Vertical Deformation, Energy Restitution of Synthetic Turf Systems Using the Advanced Artificial Athlete
ASTM G21-96	Determining Resistance of Synthetic Materials to Fungi
ASTM G22-76	Determining the Resistance of Plastics to Bacteria
C2CPII	Cradle to Cradle
EN 12616	Water Infiltration Rate
EN 14030:2010	Resistance to Acid and Alkaline Liquids
EN 14808:2005	Surfaces for Sports Areas. Determination of Shock Absorption
EN 14809:2005	Surfaces for Sports Areas. Determination of Vertical Deformation
EN12616	Water Infiltration Rate
EPA 6010B 7470A, 7471A	Heavy Metals, Mercury
EPA 8260B	Volatile Organics
EPA 8270C	Semi-Volatile Organics
ISO 1798	Standard Specification for Flexible Materials-Tensile Strength
ISO 14001:2004	Environmental Management Systems
ISO 62:2008 DIN 53 428	Standard Test Method for Water Absorption of Plastics
ISO 8301	Thermal Resistance
ISO 9001	Quality Management Systems

PART 3 - SYSTEM DESCRIPTION

3.1 General Requirements – An impact energy absorbing sub-base drainage material designed specifically for use with synthetic turf is required. The specified material must have both impact absorption and drainage properties that meet the following typical performance requirement:

3.1.1 Minimum material nominal thickness 25mm – material thickness must be within ± 1.5mm

3.1.2 Tensile Strength >80 psi (ASTM D3574-08 Test E)

3.1.3 Tensile Elongation >30% (ASTM D3574-08 Test E)

3.1.4 Compression Strength >20psi @ 25% strain (ASTM 3575-08 Test D)

3.1.5 Linear Thermal Expansion < 0.10 mm /m /° C (ASTM D696)

3.1.6 Water Absorption ≤1% after 24 hrs (ISO 62:2008 / DIN 52 438)

3.1.7 Water Permeability >500”/hr (ASTM 1551 DIN 18-035, Part 6)

3.1.8 Lateral Transmissivity at 0.005 gradient ≥ 0.50 gpm/ft (ASTM D4716 – TRI Environmental method using characteristic flow equation)

3.1.9 Head Injury Criterion <1000 from a 1.2m drop height and <700 from a 1.0m drop height (ASTM F3146-18, Procedure A)

3.1.10 Gmax <90 G's (ASTM 355-16, missile A)

3.1.11 Shock Absorption >60% (ASTM F3189-17 / EN 14808:2005)

3.1.12 Vertical Deformation <7.0mm (EN 14809:2005)

3.1.13 Resistance to Chemicals ≤ 2 (ASTM F925)

3.1.14 Resistance to Acid and Alkaline Liquids 0% tensile strength loss after 100-year model (EN 14030:2010 / ISO 12960:1998)

3.1.15 Resistance to Accelerated Aging (Oxidation) <10% tensile strength loss after 100-year model of 56 days at 110°C (ISO 13438:2004)

3.1.16 Resistance to Bacteria - no growth (ASTM G22)

3.1.17 Resistance to Fungi - no growth (ASTM G21)

Impact Safety Requirements for installed Surface System of Infilled Synthetic Turf and Underlayment:

3.1.18 Surface system must provide average HIC <700 from a 1.3m drop height upon initial testing of installed field. (ASTM F3146-18, Procedure A)

3.1.19 Surface system must provide maximum average Gmax of <100 g upon initial testing of installed field (ASTM F1936-10)

3.1.20 Surface system must provide maximum average Gmax of field of 120 g during warranty period of artificial turf. (ASTM F1936-10)

PART 4 - QUALITY ASSURANCE

4.1 Product must be made in ISO accredited facility in the United States of America according to the Federal Trade Commission Made in USA Standard.

4.2 Material must be manufactured in an ISO 9000:2008 certified facility.

4.3 Product must be of a homogenous material composition, with a documented chain of custody of all raw materials. Variable content material will not be accepted.

4.4 Manufacturer must provide documentation of material content and pre-approved standard OSHA MSDS sheet.

4.5 Manufacturer must demonstrate successful athletic field installation in the United States of at least 40 million square feet (approx. 500 fields) over a minimum period of 10 years.

4.6 Material must be covered by a pre-approved and binding 25-year limited product and performance warranty issue by a company in the United States of America.

Warranty shall include the provision that manufacturer will deliver to the Owner and install new panels to replace the non-conforming panels. The installation shall include the temporary removal and repair or replacement of the artificial turf and infill over the affected area.

4.7 Warranty must specify static and dynamic load limits in pounds and pounds per square inch. Warranty must not specify monetary limits of liability. Warranty must allow owner a notice period of at least 30 days for non-compliance claims.

4.8 Warranty must include guarantee for surface system HIC <700 from a 1.3m drop height according to ASTM F3148-18 upon initial testing of installed field.

4.9 Warranty must include guarantee for surface system Gmax <120 g according to ASTM F1936-10 for warranty period of artificial turf.

4.10 System seams should be mechanically locked into place by hand without cutting, splicing, use of additional materials, glue, fasteners, or secondary processes and equipment.

4.11 Material must be installed according to manufacturer's instructions, without exceptions.

4.12 Manufacturer must provide written procedures to selected turf supplier or contractor for the installation of turf on top of underlayment.

4.13 Product is to be shipped as flat panels on pre-packaged pallets.

4.14 Prior to installation, manufacturer must provide an endorsed certificate as proof of at least $1,000,000 product liability insurance stipulated in the United States of America with field owner named as the certificate holder. The insurance certificate must specify the name and address of the field facility at which the specified product will be installed.

Part 5: Environmental Compatibility

5.1 Material must be manufactured in an ISO 14001:2004 certified facility.

5.2 Product must be Cradle to Cradle™ Certified by the Cradle to Cradle Products Innovation Institute.

5.3 Product must not contain concentrations of metals, volatile organic compounds (VOCs), or semi-volatile organic compounds (SVOCs) at concentrations greater than EPA Regional Screening Levels or Department of Toxic Substances Control Human Health Risk Assessment (HHRA) Note 3 thresholds. (EPA 60108, EPA 7470A EPA 7471A, EPA 8260B, EPA 8270C).

5.4 Product must not contain leachable concentrations of metals, VOCs, or SVOCs (using the synthetic precipitation leaching procedure) greater than maximum contaminant levels (MCLs) or Regional Water Quality Control Board Environmental Screening Levels for groundwater and surface water - fresh water

aquatic habitat. (EPA 60108, EPA 7470A EPA 7471A, EPA 8260B, EPA 8270C).

5.5 Manufacturer must provide a product lifetime recycle / reuse program within the United States of America. Down-cycling and/or energy production not acceptable.

Additional Requirements for California:

5.6 Product must not contain a chemical on the current California Proposition 65 Safe Drinking Water and Toxic Enforcement Act of 1986 - Update effective 06 JUNE 2014

5.7 Product must not contain concentrations of substances at hazardous waste levels per California Code of Regulations, Title 22, Division 4.5, Chapter 11 – Identification and Listing of Hazardous Waste.

Part 6: Submittals

6.1 General: Bidding contractor must identify performance base system with bid package. If a non-specified product is identified, the proposed alternate product must be submitted and pre-approved by the design architect/engineer 10 days prior to the bid opening. If bidding contractor does not identify a manufacturer, the Township/School District will assume that the specified product is included in the bid package and will not consider substitutions.

6.2 Product Data: Submit 8” x 12” product sample and typical properties sheet.

6.3 Shop Drawings: Submit cross-sectional view showing product installation in relation to sub-base and synthetic turf (including edge attachment).

6.4 Test Data: Submit all applicable test data for compliance to specifications. All testing to be performed following applicable ASTM or other internationally recognized standards and procedures.

6.5 Installation: Submit copy of product installation instructions. Submit copy installation recommendations.

6.6 Warranty: Submit copy of product 25 -Year warranty coverage as specified in 4.6 – 4.8.

6.7 Insurance: Submit copy of endorsed insurance certificate as specified in 4.13.

Part 7: Products

7.1 Description: Resilient Molded Expanded Polypropylene Base System

7.2 Product: Brock PowerBase YSR or pre-approved equal

7.3 Contact Information:
Brock USA LLC

3090 Sterling Circle
Boulder, CO 80301
Telephone: (303) 544-5800 Fax: 866-850-9421
www.brockusa.com

7.4 Manufacturing/Ordering Information:
Brock USA LLC
3090 Sterling Circle
Boulder, CO 80301
Telephone: (303) 544-5800
Fax: 866-850-9421

7.5 Product format: Interlocking panels
Size: approximately 73.5 x 49.0 inches (1867 x 1245 mm) overall dimensions
Area: Net coverage per panel 24.15 ft^2 (2.24 m^2)
Thickness: 1.00" (25.4mm) ± .08"
Panel Weight: approximately 5.2 lbs / panel

Part 8: Product Substitutions

8.1 Product substitutions are allowed only in accordance with pre-bid substitution request procedures outlined in the contract documents. No substitutions will be allowed after the bid date. Bidding contractor must identify performance base system with bid package. If a non-specified product is identified, the proposed alternate product must be submitted and pre-approved by the design architect/engineer 10 days prior to the bid opening. If bidding contractor does not identify a manufacturer, the Township/School District will assume that the specified product is included in the bid package and will not consider substitutions.

Part 9: Installation

9.1 Per manufacturer's recommendation - obtain written installation instructions and procedures from the manufacturer.

Part 10: Surplus Material

10.1 Surplus materials to be determined by the Owner prior to order and delivery of product to the installation site. Surplus quantities to be identified in writing by the General Contractor at the time of order placement.

Part 11: Project Completion

11.1 Upon completion of installation, a walk-through will be conducted to inspect the quality of work and ensure all details meet specifications.

11.2 A punch list of unacceptable or incomplete items will be documented and agreed uponfor completion prior to final project closeout and acceptance.

Part 12: Approvals

12.1 Finished synthetic base installation workmanship must be approved in advance by the turf manufacturer. Approvals to be based on a physical inspection performed at the site prior to installation of any synthetic turf material.

12.2 Any approvals sought after turf installation will be declined. Any associated repair or replacement costs associated with rework of the synthetic base will be the responsibility of the turf supplier/installer.

END OF SECTION

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SECTION 32 13 13

LANDSCAPE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Provide Portland cement concrete site work complete, including the following principal items:

1. Footings for fencing, foundations, site furnishings.
2. Pavements, including aggregate bases.
3. Curbs, borders, footings for site work, pads, curbs ramps, bands, and utility collars.

B. Related Sections include:

1. Section 00 31 19 Existing Conditions
2. Section 00 31 32 Geotechnical Data
3. Section 01 11 00 Summary of Work
4. Section 01 45 00 Quality Control
5. Section 01 56 16 Dust Control
6. Section 01 56 19 Noise Control
7. Section 01 71 23 Field Engineering
8. Section 02 41 00 Site Preparation & Plant Protection
9. Section 12 93 05 Site Furnishings
10. Section 31 25 00 Erosion Control
11. Section 32 11 13 Subgrade Preparation & Base Material

1.2 SUBMITTALS

A. Section 01 – Submittals: Submittal procedures.

B. The Contractor's Testing Laboratory's certificate of compliance.

C. The Contractor shall submit:

1. Certified copies of mix designs for each concrete class specified including compressive strength test reports.
2. Certification that materials meet requirements specified.

3. Certification from vendor that samples originate from and are representative of each lot proposed for use.

4. Weight master Certificates for concrete delivered to the site and used for improvements.

5. Mill certifications for reinforcing steel.

6. Product literature and samples of truncated dome pavers.

7. Items required under Waiver of Batch Plant Inspection specified herein.

8. Items required by Form DSA-103 Testing & Inspection Sheet.

9. Shop drawings showing reinforcing steel.

D. The Owner's Testing Agency will submit reports on tests and inspections performed to the Owner, the Landscape Architect, the Contractor, and the Division of the State Architect.

E. Schedule of placing for the Construction Manager's review before starting Work.

F. Mock-ups of all materials under this Division shall be supplied for testing as requested by the Project Inspector.

G. Provide mock up of all concrete finishes, color and joints (with curing compound if any to be used) indicated on the drawings. Accepted mock-ups shall be kept at the job site to serve as a prerequisite for all finishes.

1.3 QUALITY ASSURANCE

A. Reference and Standards:

1. Requirements of GENERAL CONDITIONS and DIVISION NO. 1 applies to all Work in this Section.

2. Perform work in accordance with all applicable laws, codes and regulations require by Town of San Anselmo and the State of California.

3. Reference to "Standard Specifications" shall mean the current Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

4. The American Concrete Institute (ACI): "Manual of Concrete Practice," Parts 1, 2 and 3.

5. California Code of Regulations. Title 24, Current edition, also known as California Building Code (CBC).

6. American Society for Testing and Materials (ASTM).

B. Stipulations:

1. Finish Surface Tolerance: 1/4-inch maximum variation in 10 feet.

2. At no point shall paving surface fail to drain.

3. The finish surface of concrete paving along accessible routes of travel shall be at least as slip resistant as medium broom finish perpendicular to the path of travel for slopes under 6%, and slip resistant heavy broom finish perpendicular to the path of travel at slopes 6% or greater. See the landscape drawings for specified finishes. Ground and floor finishes shall be stable, firm and slip resistant and shall comply with CBC 11B-302.

4. Contractor to provide conformance survey showing the finished grade of concrete paving is in conformance with the designed grades.

5. The Contractor shall be responsible for quality of concrete in place color and finish and control of cracking and spalling. All exposed concrete shall have a consistent color and finish and be free from uncontrolled cracking and spalling.

6. The Contractor shall be responsible for quality of concrete in place and shall bear burden of proof that concrete meets minimum requirements. Use the same mix design for all exposed concrete.

7. Placing of concrete by means of pumping will be an acceptable method of placement providing that the Contractor can demonstrate that:

   a. Specified concrete strengths will be met.

   b. Equipment has a record of satisfactory performance under similar conditions and using a similar mix.

   c. Trial batches have been made.

1.4 TESTS

A. The Project Inspector will select a qualified testing laboratory to take samples for testing during the course of the work as considered necessary. The Owner will pay costs for such tests. Contractor shall cooperate in making tests and shall be responsible for notifying the designated laboratory in sufficient time to allow taking of samples at time of pour.

B. Should tests show that concrete is below specified strength, Contractor shall remove all such concrete, as directed by the Project Inspector. Full cost of removal of low strength concrete, its replacement with concrete of proper specified strength and testing, shall be borne by Contractor.

C. The Contractor's Testing Laboratory Qualifications: The Contractor's Testing Laboratory shall be under direction of a Civil Engineer registered in the State of California, shall have operated successfully for four years prior to this work, and shall conform to requirements of ASTM E329.

1.5 SOILS REPORT

A. A soil investigation report has been prepared for the project.

B. The report is available in the office of the Architect and the Construction Manager for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of the report.

C. Drilled piers may encounter ground water. Excavations for drilled piers may require casings and installation of concrete by means of pumping under the direction of the Geotechnical Engineer.

PART 2 - PRODUCTS

2.1 FORMWORK MATERIALS

A. Forms shall be wood, except curbs may be formed with accepted metal form systems.

1. Plywood: 5/8-inch thickness minimum. Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class 1. Panels to receive specified form sealer to ensure uniform finish of exposed surfaces.

2. Lumber: Douglas fir, "Standard" grade or better (grade marks not required).

B. Form Coatings: Knox-Crete, or equal.

C. Form Ties: Burke "Penta-Tie," or equal, cone and rod type with 1-inch break-back or product similar to appropriately sized Simpson Strong Tie WT, or equal. Do not use form ties in forms for concrete seat wall and sculpture table.

2.2 REINFORCING MATERIALS

A. Bar Reinforcement ASTM A615.

1. #3 and smaller: Grade 40.

2 #4 and larger: Grade 60.

B. Smooth Dowels: Aztec Concrete Accessories “Speed Dowels,” or equal product 800-531-3355.

2.3 CONCRETE CLASSES

CLASS	STRENGTH	AGGREGATE	WEIGHT	SLUMP
A	3000	3/4	145	4

A. Class: Identifies all concrete as specified.

B. Strength: Compressive strength in psi after 28-days when tested in accordance with ASTM C39. All concrete shall develop compression strength specified in 28-days. To meet above requirements, mix shall be designed such that average compressive strength will exceed specified 28-day strength by an amount as specified by ACI 318.

C. Aggregate: Maximum size in inches.

D. Weight: Pounds per cubic foot, air dry.

E. Slump: In inches when tested in accordance with ASTM C143.

2.4 CONCRETE MATERIALS

A. General Requirements:

1. Cement and aggregates shall have proven history of successful use with one another. Sources of cement and aggregate shall remain unchanged throughout work unless the Landscape Architect approves request for change made at least 10-days prior to anticipated date of casting.

2. Ready-mixed concrete shall meet requirements of ASTM C94.

3. Deviations in properties of materials tested by the Owner's Testing Agency shall be cause for their rejection pending additional test results and redesign of mix by the Contractor's Testing Laboratory.

4. No frozen aggregates will be permitted.

B. Cements:

1. ASTM C150, Type V or Type II (modified). Use one brand of cement throughout project unless otherwise acceptable to Landscape Architect.

C. Fly Ash: ASTM C618, Type F. Fly ash as a replacement for Portland cement use no less than 15% if used, and no more than 25%.

D. Aggregates:

1. Coarse: ASTM C33. Coarse aggregate shall consist of a clean, hard, fine grained, sound crushed rock, or washed gravel or a combination of both. It shall be free from oil, organic matter or other deleterious substances and shall not contain more than two percent by weight of shale or cherty material. "Cleanness value shall not be less than 75 when tested per MM Test Method, 227 and conforming to CBC.

2. Fines: ASTM C33. Sand equivalent shall be not less than 75 when tested as per ASTM D2419.

3. Provide aggregates from a single source for exposed concrete.

E. Water: Clean and potable, free from impurities detrimental to concrete.

F. Water-Reducing Admixture: Must be compatible with color pigments where required. ASTM C494, Type A, that do not contain non-lignin sulfonate. Same as Grace Construction Materials' "WRDA" with Hycol; Master Builders "Pozzolith" 322N; or equal product substituted per Section 01630.

G. Air Entraining Admixture: Must be compatible with color pigments where required. ASTM C260, certified by manufacturer to be compatible with other products. Same as

W.R. Grace's "Daravair", Master Builders' "Micro-Air", Sika Corp.'s "Sika Aer", or equal product substituted per Section 01630.

H. Other Admixtures: Only as approved by the Landscape Architect.

I. Non-Shrink Grout: Premixed high strength grout requiring only addition of water at the site. Same as Master Builder's "Masterflow 928 Grout"; Burke's "Non-Ferrous, Non-Shrink Grout", or equal product substituted per Section 01630.

J. Curing Materials:

1. Curing Compound: ASTM C309. Water loss – not more than 0.55 kg/m^2 in 72 hours; Light Reflectance – not less than 60%. Same as Grace Construction Materials' "Horn Clear Seal"; Grimes Co.'s "Sealcrete"; Master Builders' "Masterseal W", or equal product substituted per Section 01630.

2. Apply to slabs-on-grade at 150 percent of manufacturer's recommended coverage rate.

K. Epoxy Adhesive: Two component material suitable for anchoring rebar into dry or damp concrete. Same as Burke's "Burk Epoxy MV", Covert's "CIA-Gel 7000", Hilti's "HIT C-100" or equal product substituted per Section 01630.

L. Lamp Black: As supplied by batch plant.

2.5 CONCRETE MIXES

A. Concrete mixes shall be accepted and shall be in accordance with CalTrans Standard Specifications Section 90. Unless otherwise noted, mix shall be Class "A," 3,000 psi, Type II Portland cement and 3/4-inch maximum aggregate.

B. Lamp Black: Concrete for paving shall be darkened by the addition of accepted agents at the mixer. The proportion of lampblack or other accepted colorant, to a great extent dependent on the color of the cement used in the mix, shall be that required to properly darken the concrete to reduce glare, and shall be subject to the approval of the Project Inspector or as required by Landscape Architect. Provide mock-ups with a ratio of one pound of lamp black for each cubic yard of concrete or as otherwise approved. Use Davis Colors or equal pigment as required to meet lamp black requirement.

2.6 ANCILLARY MATERIALS

A. Aggregate Base:

1. Class 2 aggregate base conforming to Section 26 of the Standard Specifications.

2. All base rock under concrete paving or curbs or concrete borders shall be virgin rock.

B. Expansion Joint Material:

1. Fiber Expansion Joint: A non-extruding resilient filler, saturated with high quality bituminous materials having preserving characteristics. W. R. Meadows or accepted equal. Conform to ASTM-D1751-83. Include Joint Sealant.

C. Concrete Sealer: Use sealer compatible with pigments in concrete. Scofield Selectseal-W as manufactured by L. M. Scofield Co. or silicone-based, non-staining product such as

Consolideck® SingleStep™ acrylic-siloxane blend that meets Type I, Class A requirements of ASTM C 1315 and as accepted by Landscape Architect.

D. Joint Sealant: Use joint sealant compatible with pigments in concrete "Sonolastic Sealant Two-Part" as manufactured by Sonneborn-Contech, Building Products Division, Contech, Inc.; or Sikaflex-1a elastomeric joint sealant available from Sika Corporation, Hayward (510) 487-2294. or approved equal. Joint caps or bond breaker tape to be as recommended by sealant manufacturer. Color shall be as selected by Architect.

E. Curing Compound: ASTM C309, Water-base type, free of permanent color, oil or wax, or accepted equal. Curing compound shall be compatible with color pigments

F. Combination Curing Compound Concrete Sealer: Scofield Cureseal-W as manufactured by L. M. Scofield Co. or W. R. Meadows Vocomp-20, (800-342-5976) or accepted equal. Combination Curing Compound. Combination Curing Compound Concrete Sealer shall be compatible with color pigments.

G. Color of Concrete: Pigments for integral colored concrete as manufactured by Davis Colors, 800-356-4848, applied at manufacturer's specified rates of application, or accepted equal.

H. Color of Concrete: Pigments for stained concrete as manufactured by L. M. Scofield, 800-800-9900, applied at manufacturer's specified rates of application, or accepted equal.

I. Precast Truncated Dome Pavers: as shown on the Drawings and per manufactures' specifications.

2.7 MIXES

A. General Requirements:

1. The Contractor shall perform tests or assemble the necessary data indicating conformance with specifications.

2. For each mix submit data showing that proposed mix will attain the required strength in accordance with requirements of CBC.

3. The Contractor shall instruct Laboratory to base mix design on use of materials tested and approved by the Owner's Testing Agency.

4. Mix design shall include compression strength test reports per CBC Section 1905A.3.

5. Mix shall be designed, tested, and adjusted if necessary in ample time before first concrete is scheduled to be placed. Laboratory data and strength test results for revised mix design shall be submitted to Landscape Architect prior to using in project.

6. Ensure mix designs will produce concrete to strengths specified and of uniform density without segregation.

7. If mix yield exceeds 1-cubic yard, modify mix design to no more than one cubic yard without changing cement content.
8. The Contractor's mix designs shall be subject to review by the Landscape Architect and by the Owner's Testing Agency.

9. Introduction of calcium chloride will not be permitted.

10. Unspecified admixtures will not be permitted unless the Landscape Architect reviews, the Contractor modifies mix designs as necessary, and modifications are accepted by the Owner's Testing Agency.

B. Slab-on-Grade and Concrete Paving Mix requirements:

1. Maximum water/cement ratio: 0.45.

2. Use of Water-Reducing admixture is required. Use High Range Water-Reducing admixture (super plasticizer) when required to maintain workability and pumpability.

C. Patching Mortar: Mix in proportions by volume of one part cement to two parts fine sand.

D. Concrete Fill: Mix in proportions by volume of one part cement, two parts fine aggregate, one part coarse aggregate (3/8- inch); with as little water as necessary to make stiff workable plastic mix.

E. Non-Shrink Grout: Follow approved manufacturer's printed instructions and recommendations.

2.8 MIXING

A. Batching Plant Conditions:

1. Ensure equipment and plant will afford accurate weighing, minimize segregation and will efficiently handle all materials to satisfaction of the Landscape Architect and the Owner's Testing Agency.

2. Replace at no additional expense equipment the Landscape Architect and the Owner's Testing Agency deem inadequate or unsuitable.

3. Use approved moisture meter capable of determining moisture content of sand.

B. General Requirements:

1. Thoroughly clean concrete equipment before use for Architectural concrete mixes to avoid contamination.

2. Mix cement, fine and coarse aggregates, admixtures and water to exact proportions of mix designs. Method of mixing shall comply with CBC Section 1905A.8.

3. Measure fine and coarse aggregates separately according to approved method which provides accurate control and easy checking.

4. Adjust grading to improve workability; do not add water unless otherwise directed.

5. Maintain proportions, values, or factors of approved mixes throughout work.

6. Mix concrete in transit mixers five minutes immediately prior to discharge in addition to mixing as called for by ACI 304 and ASTM C94.

C. Admixtures: Use automatic metering dispenser to introduce admixture into mix. Dispenser shall be recommended and calibrated by admixture manufacturer.

2.9 SOURCE QUALITY CONTROL

A. The Owner's Testing Agency will:

1. Review mix designs, certificates of compliance, and samples of materials the Contractor proposes to use

.

2. Test and inspect materials, as necessary, in accordance with ACI 318 and CBC Chapter 19A for compliance with requirements

3. Take samples as required from the Contractor's designated sources.

4. Take one grab sample for each 100 tons of Portland cement except that, when used in bulk loading ready-mix plants where separate bins for pre-tested cement are not available, take grab samples for each shipment of cement placed in bin with not less than one sample being taken for each day's pour and subsequently test such samples if required by the Landscape Architect who may be so advised by the Division of the State Architect (DSA).

5. Test both coarse and fine aggregate by use of solution of sodium or magnesium sulfate, or both whenever in the judgment of the Landscape Architect such tests are necessary to determine quality of material. Perform such tests in accordance with ASTM C88. Loss shall not exceed 6-percent of either fine or coarse aggregate. Aggregate failing to comply with this requirement may be used in the Work provided it contains less than 2- percent of shale and other deleterious particles and shows a loss in soundness test of not more than 10-percent when tested in the sodium sulphate solution. Test aggregates as required by CBC Section 1903A.3.

6. Test for sand equivalent of fine aggregate in accordance with California Test 217.

7. Test for cleanness value of coarse aggregate in accordance with California Test 227.

8. Inspect plant prior to any work to verify following:

   a. Plant is equipped with approved metering devices for determining moisture content of fine aggregate.

   b. Other plant quality controls are adequate.

9. Continuously inspect quality and quantity of materials used in transit mixed concrete, in batched aggregates and ready-mixed concrete at mixing plant or other location per CBC Chapter 19A where other materials are measured.

B. Waiver of Batch Plant Inspection:

1. Continuous batch plant inspection may be waived in accordance with CBC Chapter 19A if the plant complies with ASTM C94 and has been certified by an agency acceptable to DSA to comply with the requirements of the National Ready Mix Concrete Association.

2. When batch plant inspection is waived, the following requirements shall apply:

a. Testing Agency shall check the first batching at the start of work and furnish mix proportions to the licensed Weighmaster.

b. Licensed Weighmaster shall identify material quantities and certify each load by a ticket.

c. Project Inspector shall collect truck mix tickets with load identification and maintain a daily record of placement. Trucks without a load ticket identifying the mix shall be rejected. Copies of daily placement record shall be submitted to DSA.

d. At the end of the project, the Weighmaster shall submit an affidavit to DSA certifying that all concrete supplied conforms to proportions established by mix designs.

2.10 GEOCOMPOSITE MATERIAL (Enkadrain)

A. Drainage Composite 3811R geocomposite drainage mat available from Sika.

B. Waterproofing System: MFM Subseal 60 Sheet Membrane Prime-A-Seal Primer and Mastic+Plus available from MFM Building Products, Coshocton, OH, (800) 882-7663, http://www.mfmbp.com/watermem.html, Local representative: Don Lambrecht & Associates, Inc., Rocklin, CA. 95677, 916-632-2059.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

A. Install all concrete work true to line and grade as indicated on the drawings.

B. Correct irregularities to the satisfaction of the Landscape Architect.

3.2 PREPARATION

A. Take every precaution to obtain a subgrade of uniform bearing power by compaction to provide a firm base.

B. Subgrade shall be kept moist and shall not be allowed to dry out before placement of concrete. Place no material on muddy subgrade.

C. Aggregate base, where indicated, shall be placed and compacted in conformance with CalTrans Standard Specifications 26-1.04 and 26-1.05.

D. Obtain acceptance of subgrade from Project Inspector prior to placing steel and concrete.

3.3 FORMS

A. Forms shall be constructed in accordance with ACI 347 and shall be of sufficient strength and sufficiently tight to prevent visible distortion or leakage of mortar and fines.

B. Forms for exposed surfaces shall be designed to protect intended finish. Deflection of facing material between studs shall not exceed 0.0025 of the span. Facing material and pattern of joints shall be as accepted by the Project Inspector.

C. For vertical surface of wall footings below grade, clean-cut trench may be used in lieu of form if character of soil will permit installation without sluffing and width of concrete is increased at least 1 inch beyond indicated dimension of each face poured against earth.

D. Curb, mow band and pavement edge forms shall extend full depth of concrete. Curves shall be formed with flexible metal or wood made up of thin laminations. Curve forms shall extend one stake space straight beyond tangent point.

E. Maintain forms within the following tolerances.

1. Top of Form: Plus or minus 1/8 inch in 10 feet and no abrupt variations; at required elevation to plus 3/8 inch.

2. Face of Form: Plus or minus 1/4 inch in 10 feet longitudinal and no abrupt variations; perpendicular to surface plus or minus 1/8 inch.

F. Obtain approval of formwork from Project Inspector prior to placing concrete.

G. Forms may be reused upon cleaning and coating with parting compound to ensure separation from concrete without damage.

H. After concrete is placed, the following minimum times shall elapse before removal of forms.

1. Footing sides: 24 hours.

2. Walls and benches: 48 hours.

3. Curbs: 1 hour.

3.4 REINFORCEMENT

A. All concrete shall be steel reinforced unless specifically noted to be "not reinforced." If no reinforcement is shown, reinforce in same manner as that shown in similar places.

B. Fabricate and place reinforcement as indicated on the Drawings and in accordance with ACI "Detailing Manual" SP-66. No reinforcement shall be placed prior to distribution of the accepted shop drawings.

C. Secure reinforcement in position by suitable supports and by wiring at intersections with tie wire. Supports shall be of sufficient number and strength to resist crushing or displacement under full load. Metal shall not extend to surface of concrete.

D. At time of placing concrete, reinforcing shall be free of excessive rust, mill scale, or other bond reducing matter. Immediately before placing concrete, check and adjust position, support and anchorage.

3.5 PLACING CONCRETE

A. The Inspector of Record, Architect, Structural Engineer, Testing Laboratory and DSA shall be notified at least 48 hours before placing concrete.

B. Place concrete in accordance with ACI 304, CBC Sections 1905A.9 and 1905A.10 and as specified.

C. Place concrete in cycles as a continuous operation to permit proper and thorough integration and to complete scheduled placement. Place no concrete where sun, wind, heat, or facilities prevent proper finishing and curing.

D. Convey concrete as rapidly and directly as practicable to preserve quality and to prevent separation from rehandling and flowing; do not deposit concrete initially set. Cast concrete within ninety (90) minutes after adding water unless otherwise noted. Retempering of concrete which has partially set will not be permitted.

E. Take precautions to avoid damage to under-slab moisture barrier and displacement of reinforcement and formwork.

F. Deposit concrete vertically in its final position. Avoid free falls in excess of six feet where reinforcement will cause segregation and in typical conditions unless the Architect approves otherwise.

G. Keep forms and reinforcement clean above pour line by removing clinging concrete with wire brush before casting next lift. Also remove leakage through forms.

H. Interruption in casting longer than 60-minutes shall be cause for discontinuing casting for remainder of day. In this event, cut back concrete and provide construction joints as the Architect directs; clean forms and reinforcement as necessary to receive concrete at a later time.

I. Hot Weather Concreting: Conform to ACI 305 and following requirements when mean daily temperature rises above 75 degrees Fahrenheit.

1. An upper temperature limit of concrete mixes shall be established by the Contractor for each class of concrete. Concrete temperature during placing shall not be so high as to cause difficulty from loss of slump, flash set, or cold joints, and shall not exceed 90°F. Other project climatic conditions detrimental to concrete quality such as relative humidity, wind velocity, and solar radiation shall also be considered.

2. Trial batches of concrete for each mix design shall be made at the limiting mix temperature selected. In lieu of trial batches, compression strength test reports (20 minimum) at the limiting temperature for each proposed mix shall be submitted to the Owner's testing laboratory for review.

3. Practices to maintain concrete below maximum limiting temperature shall be in accordance with ACI 305. Concrete ingredients may be cooled before mixing, or flake ice or well-crushed ice of a size that will melt completely during mixing may be substituted for part of the mixing water.

4. Practices to avoid the potential problems of hot weather concreting shall be employed by the Contractor in accordance with ACI 305.

5. When the temperature of the reinforcing steel or steel deck forms is greater than 120°F, reinforcing and forms shall be sprayed with water just prior to placing the concrete.

J. Cold Weather Concreting:

1. No placement of concrete will be allowed at temperatures below 20 degrees Fahrenheit or if mean daily temperature for curing period is anticipated to be below 20 degrees Fahrenheit.

2. No concrete placement will be allowed on frozen subgrade.

3. Conform to ACI 306 and following requirements when mean daily temperature falls below 40 degrees Fahrenheit.

    a. Reinforcement, forms or ground to receive concrete shall be completely free from frost.

    b. Concrete at time of placement for footings shall have temperature no lower than 50 degrees Fahrenheit, for all other concrete this minimum temperature at time of placement shall be 60 degrees Fahrenheit. Maximum temperature shall be 90 degrees Fahrenheit.

    c. Concrete shall be maintained at temperature no lower than 50 degrees Fahrenheit for minimum 7-day period after placement by means of blanket insulation, heaters, or other methods as approved by the Landscape Architect.

    d. Use of calcium chloride or admixtures containing calcium chloride as accelerators will not be permitted.

    e. The Contractor shall keep a record of concrete surface temperature for first 7-days after each pour. This record shall be open to inspection by the Inspector.

K. Consolidating:

1. Use vibrators for thorough consolidation of concrete.

2. Provide vibrators for each location during simultaneous placing to ensure timely consolidation around reinforcement, embedded items and into corners of forms; ensure availability of spare vibrators in case of failures. Vibrate through full depth of freshly placed concrete.

3. Do not place vibrators against reinforcement, attach to forms, or use to spread concrete.

4. Exposed Concrete: Vibrate with rubber type heads and, in addition, spade along forms with flat strap or plate.

L. Construction Joints:

1. Verify location and conformance with typical details; provide only where designated or approved by the Landscape Architect. Comply with CBC Section 1906A.4.

2. All horizontal and vertical construction joints to be thoroughly sandblasted to clean and roughen entire surface to minimum 1/4-inch relief exposing clean coarse aggregate solidly embedded in mortar matrix.

3. Just prior to depositing concrete, the surface of the construction joint shall be thoroughly wetted.

M. Walls and Other Formed Elements:

1. Space points of deposit to eliminate need for lateral flow. Placing procedures of concrete in forms permitting escape of mortar, or flow of concrete itself, will not be permitted.

2. Level top surface upon stopping work.

3. Take special care to fill each part of the forms by depositing concrete directly as near final position as possible, and to force concrete under and around reinforcement, embedded items, without displacement.

4. After concrete has taken its initial set, care shall be exercised to avoid jarring forms or placing any strain on ends of projecting reinforcement.

5. Where backfill is placed against a wall, it shall be adequately shored until it has attained design strength.

N. Precast Truncated Dome Pavers:

1. Install as shown on the Drawings and per manufactures' specifications and consistent with the accepted mock up.

2. Space joints consistently and as acceptable to the architect.

3. Clean and seal pavers as specified by manufacturer.

3.6 JOINTS AND GROOVES

A. Plane of joints shall be perpendicular to surface. Where new pavements join existing, joints shall align.

B. Score Joints: Form in the fresh concrete using a jointer to cut the groove so that a smooth uniform impression is obtained to 1" depth unless shown otherwise. All joints shall be struck before and after brooming. Tool concrete both sides of joint.

C. Expansion Joints and Edging: Provided at the location and intervals as shown on the drawings, and at all locations where concrete paving abuts buildings, walls, pillars, curbs or other structures. Fiber joint material shall be placed with top edge 1/2" below the paved surface to allow space for sealant, and shall be securely held in place to prevent movement. Metal key joint material shall be placed flush with top edge of the paved surface, and shall be securely held in place to prevent movement. Joint and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression. All edges shall be struck before and after brooming.

D. Sealed Joints: After the curing period, fiber expansion joints shall be carefully cleaned and filled with accepted joint sealant to just below adjacent paved surface in such a manner as to avoid spilling on paved surfaces or overflowing from joint.

E. Construction Joints: Place construction joints at the end of pours and at locations where placement operations are stopped for a period of more than one half hour, except where such pours terminate at expansion joints.

1. Construction joints shall be keyed with formed tongue and groove.

2. Tool concrete edge both sides of construction joint.

3.7 FINISHING

A. Flatwork and Curbs:

1. The finish surface of concrete paving along accessible routes of travel shall be at least as slip resistant as medium broom finish perpendicular to the path of travel for slopes under 6%, and slip resistant heavy broom finish perpendicular to the path of travel at slopes 6% or greater. See the landscape drawings for specified finishes.

2. Surface Finishes:

a. Float Finish (typical preliminary finishing for slabs to receive other finishes): The surface of the slab shall be screeded and all surface water and laitance removed. Floating shall be started as soon as the screeded surface has stiffened sufficiently. Floating shall be performed by hand using a wood float and shall be the minimum necessary to produce a relatively smooth, level, even-textured surface.

b. Medium Broom Finish: After the slab has been float finished as described above, the surface shall be uniformly directional textured by coarse stable broom to match accepted mock up. Non-slip finish compliant with ADA requirements. Apply on concrete paving perpendicular to the path of travel.

c. Heavy Broom Finish: After the slab has been float finished as described above, the surface shall be uniformly directional textured by coarse stable broom to match accepted mock up. Non-slip finish compliant with ADA requirements perpendicular to the path of travel.

d. Medium Brush Finish (typical for curbs): After the front form is removed, exposed surface shall be toweled smooth and then given a uniform light texture with fine brush parallel to line of curb, to match accepted mock up.

3.8 CURING

A. General Requirements:

1. Take curing measures immediately after casting and for measures other than application of curing compound, extend for seven days. The Architect may recommend longer periods based upon prevailing temperature, wind and relative humidity. Comply with CBC Section 1905A.11.

2. Avoid alternate wetting and drying and fluctuations of concrete temperature.

3. Protect fresh concrete from direct rays of sun, rain, freezing, drying winds, soiling, and damage.

4. Do not permit curing method to affect adversely finishes or treatments applied to finish concrete.

B. Curing Method, Typical: Obtain the Landscape Architect's approval of alternate measures.

1. Keep forms and concrete surfaces moist during period forms are required to remain in place.

2. Apply curing compound per manufacturers' recommendations.

C. Cure exposed concrete in accordance with CalTrans Standard Specifications Section 90.

D. Only water or curing compounds that impart no permanent color or gloss shall be used for curing concrete.

3.9 CONCRETE SEALING

A. Seal all exposed surfaces according to manufacturer’s specifications.

3.10 FIELD QUALITY CONTROL

A. The Owner's Testing Agency will:

1. Perform testing in accordance with ACI 318 and CBC Section 1903A and 1905A.

2. Review concrete mix designs.

3. Inspect concrete and grout placement continuously.

4. Test concrete to control slumps according to ASTM C143.

5. Continuously monitor concrete temperature as it arrives on the site.

6. Test concrete for required compressive strength in accordance with CBC Section 1905A.6:

a. Make and cure three specimen cylinders according to ASTM C31 for each 50 cubic yards, or fraction thereof, of each class poured at site each day.

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

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

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

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

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

7. Test and inspect materials, as necessary, in accordance with ACI 318, MM Test Method 227 (Coarse Aggregates) and MM Test Method 217 (Fine Aggregates), for compliance with requirements specified in this section.

B. The Contractor shall:

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

a. Design mix number.

b. Signature or initials of ready mix representative.

c. Time of batching.

d. Weight of cement, aggregates, water and admixtures in each batch with maximum aggregate size.

e. Total volume of concrete in each batch.

f. Notation to indicate equipment was checked for contaminants prior to batching.

2. Pay the Owner's Testing Agency for taking core specimens of hardened structure and testing specimen according to ASTM C88 and C42 when laboratory tests of specimen cylinders show compressive strengths below specified minimum.

3.11 CLEANING, PATCHING AND DEFECTIVE WORK

A. Where concrete is under strength, out of line, level or plumb, or shows objectionable cracks, honeycombing, rock pockets, voids, spalling, exposed reinforcement, signs of freezing or is otherwise defective, and, in the Architect's judgment, these defects impair proper strength or appearance of the work, the Landscape Architect will require its removal and replacement at the Contractor's expense.

B. Immediately after stripping and before concrete is thoroughly dry, patch minor defects, form-tie holes, honeycombed areas, etc., with patching mortar. Patch shall match finish of adjacent surface unless otherwise noted. Remove ledges and bulges.

C. Compact mortar into place and neatly file defective surfaces to produce level, true planes. After initial set, dress surfaces of patches mechanically or manually to obtain same texture as surrounding surfaces.

D. Rock Pockets:

1. Cut out to full solid surface and form key.

2. Thoroughly wet before casting mortar.

3. Where the Landscape Architect deems rock pocket too large for satisfactory mortar patching as described, cut out defective section to solid surface, key and pack solid with concrete to produce firm bond and match adjacent surface.

E. Cleaning

1. Ensure removal of bituminous materials, form release agents, bond breakers, curing compounds if permitted and other materials employed in work of concreting which would otherwise prevent proper application of sealants, liquid waterproofing, and other delayed finishes and treatments.

2. Where cleaning is required, take care not to damage surrounding surfaces or leave residue from cleaning agents.

3.12 PROTECTION

A. Protect concrete from injurious action of the elements and defacement of any nature during construction operations.

B. Protect exposed corners of concrete from traffic or use which will damage them in any way.

C. Make provisions to keep all exposed concrete free from laitance caused by spillage or leaking forms or other contaminants. Do not allow laitance to penetrate, stain, or harden on surfaces which have been textured.

D. Remove and replace pavement that does not comply with requirements in this Section.

E. Protect pavement from damage. Do not permit construction traffic on concrete pavement. Exclude other traffic from pavement for at least 28 days after placement.

F. Maintain pavement free of stains, discoloration, dirt, and other foreign material. Sweep pavement not more than two days before date scheduled for Substantial Completion inspections.

3.13 PAVEMENT TOLERANCES

A. Comply with the following tolerances:

1. Elevation: 1/4 inch.

2. Thickness: Plus 3/8 inch minus 1/4 inch.

3. Surface: Gap below 10-foot-long, unleveled straightedge not to exceed 1/4 inch.

4. Lateral Alignment and Spacing of Dowels: 1 inch.

5. Vertical Alignment of Dowels: 1/4 inch.

6. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches.

7. Joint Spacing: 3 inches.

8. Contraction Joint Depth: Plus 1/4 inch, no minus.

9. Joint Width: Plus 1/8 inch, no minus.

3.14 DEFECTIVE CONCRETE

A. If any concrete work is not formed as indicated, is under strength concrete, is concrete is out of line, level or plumb, or showing objectionable cracks, honeycomb, rock pockets,

voids, spalling or exposed reinforcing, it shall be removed, repaired or replaced as directed by the Landscape Architect.

B. The Contractor shall be responsible for quality of concrete in place color and finish and control of cracking and spalling. All exposed concrete shall have a consistent color and finish and be free from uncontrolled cracking and spalling. If any concrete work is not consistent color and finish and be free from uncontrolled cracking and spalling it shall be removed, repaired or replaced as directed by the Landscape Architect.

3.15 GEOCOMPOSITE MATERIAL

A. Apply waterproofing geocomposite material conforming to the manufacturer's specifications to a minus 2 inches below finished soil grade on soil side of retaining walls, deepened concrete curbs retaining bio-retention basins and planters.

B. Install MFM Subseal 60 Sheet Membrane Prime-A-Seal Primer and Mastic+Plus where shown on drawings and as required by geotechnical engineer. Request review of installation of Membrane by geotechnical engineer before covering with soil.

3.16 CLEANING

A. Section 01 77 00 – Contract Closeout & Final Cleaning.

B. During construction, wash off work as quickly as possible when stains or splotches are unavoidable.

C. Upon completion, clean exposed surfaces carefully. Brushing and cleaning solution, if used, must be preceded and followed with a through rinsing of clear water. No sandblasting will be allowed to clean surfaces.

D. Remove from premises; equipment, debris and surplus material needed for, or resulting from, this work. Remove all concrete waste from planting areas and legally dispose of it.

E. All work shall be left in a condition satisfactory to the Landscape Architect.

F. Perform Work under this Section to keep affected portions of building site neat, clean, and orderly. Remove, immediately upon completion of Work under this Section, surplus materials, rubbish, and equipment associated with or used in performance. Be aware that failure to perform clean-up operations within 24 hours of notice by Landscape Architect will be considered adequate grounds for having work done by others at no added expense to the Owner

END OF SECTION

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SECTION 32 17 20

SITE SIGNS

PART 1 - GENERAL

1.1 SCOPE

A. Provide all labor, material and equipment for installation of signs as shown on the drawings.

1.2 REQUIREMENTS AND STANDARDS

A. The Contractor shall furnish and install signs to comply with the drawings.

B. All accessories shall be installed as recommended by Manufacturer.

PART 2- MATERIALS

2.1 SIGNS

A. Provide and install vandal-resistant attachments. Refer to drawings and coordinate with Owner's Representative.

B. Regulatory Sign: As shown on drawings. Refer to drawings and coordinate with Owner's Representative. Submit Manufacturer's data. Final text as approved by owner. Provide quantity of signs as required on drawings.

C. No Dog Sign: As shown on drawings. Refer to drawings and coordinate with Owner's Representative. Submit Manufacturer's data. Final text as approved by owner. Provide quantity of signs as required on drawings.

E. Local Supplier: Interstate Traffic Control, 1700 Industrial Rd., Suite B, San Carlos, CA, telephone: 650-591-2300 or fax 650-591-8200; Thomas-Swan Sign Co, 1117 Howard Street, San Francisco, CA 94103. Phone: 415-621-1511 Fax: 415-621-0481 or approved equal.

F. Materials: 0.080 aluminum substrate signs are digital print on 3M AEG vinyl, coated with 3M ™ Premium Protective Overlay Film Series 1160i graffiti film, or approved equal with 0.25-inch mounting holes as shown on drawings.

PART 3 - EXECUTION

3.1 INSTALLATION OF SIGNS

A. Confirm location with Owner's Representative before installing. Install per drawings and manufacturer's data. Use vandal-resistant attachments.

B. Coordinate installation with graffiti-resistant coatings.

C. Install Graffiti-resistance coatings per manufacturer’s specifications.

3.2 CLOSEOUT

A. Clean up per General Conditions.

B. Include copies of the material submittals and manufactured material suppliers and installers name and telephone number in the Operations and Maintenance manuals as part of the closeout documents.

C. Include manufacturer's warranty information of specified items with warranties.

END OF SECTION

SYNTHETIC TURF PLAYING FIELD

SECTION 32 18 13

PART 1 - GENERAL

1.1 SUMMARY

A. This work provided via separate CMAS contract.

B. Ground and floor finishes shall be stable, firm and slip resistant and shall comply with CBC 11B-302.

C. All general contractors, synthetic turf field sub-contractors and all turf field subcontractors performing all sub base preparation, grading and drainage infrastructure work must be experienced in the installation of synthetic turf systems for at least five (5) years. Failure to meet the requisite qualifications may result in the general contractors and sub-contractors being rejected as non-responsible.

D. All general contractors, synthetic turf field sub-contractors and all turf field subcontractors performing all sub base preparation, grading and drainage infrastructure work should have completed within the last (5) five years, five (5) synthetic turf field projects in Northern California greater than 80,000 square feet per field. Failure to meet the requisite qualifications may result in the general contractors and sub-contractors being rejected as non-responsible.

E. It shall be the responsibility of the successful Contractor to provide all labor, materials, equipment and tools necessary for the complete installation of a synthetic turf playing field system. The system shall consist of, but not necessarily be limited to, the following:

1. A permeable grass-like polyethylene pile blended fibers woven into a high strength composite backing.

2. A resilient sand and cork infill system and a resilient sand and olive core infill system.

3. High quality assurance provided by evidence of submittals, samples, testing, inspections, coordination with other work, 8-year warranty, maintenance manual, maintenance equipment, annual inspections and annual maintenance for the life of the warranty.

4. A maximum of G-max rating of 165 for the life of the warranty.

F. Coordinate with related work specified elsewhere includes:

1. Section 01 11 00 Summary of Work

2. Section 01 33 00 Submittals

3. Section 01 50 13 Construction Waste Management and Disposal

4. Section 01 56 16 Dust Control

5. Section 01 56 19 Noise Control

6. Section 01 71 23 Field Engineering

7. Section 01 77 00 Contract Closeout and Final Cleaning

8. Section 02 41 00 Site Preparation & Protection

9. Section 31 00 00 Earthwork

10. Section 31 25 00 Erosion Control

11. Section 32 11 13 Subgrade Preparation and Base Material

12. Section 32 13 13 Landscape Concrete

1.2 QUALIFICATIONS AND PRODUCT SUBSTITUTIONS

A. Approved synthetic turf products are listed in Article 2.1 of this section. Only pre-qualified Contractors approved by the manufacturer(s) as an installer of one or more of these products, or who subcontracts with a contractor approved by the manufacturer(s) as an installer of one or more of these products, may bid on the Project.

B. If a Contractor wishes to request a product substitution for the District's consideration in lieu of the synthetic turf product(s) listed in Article 2.1 of this section shall do so and show a product equal to the product specified in Article 2.1 and include submittals conforming to Article 1.3 B.1 through 1.3. B.9.

C. Request for deviations or substitutions from the specifications must be made in writing seven days prior to the bid date. Alternatives will be allowed only by addendum.

D. All Synthetic Turf sub-contractors bidding on this project must have a California license and be experienced in the installation, in Northern California, of synthetic turf systems for at least 5 years and have completed five (5) projects in Northern California of comparable size, type and complexity, in the past five (5) years.

1.3 SUBMITTALS

A. Comply with General Conditions.

B. Within 35 days of the Notice to Proceed, the Contractor shall submit:

1. Qualifications of project manager and installation personnel.

2. Manufacturer's specifications for materials and installation including height of exposed fiber, depth of infill, physical properties of infill, weight of infill, designated proportions of infill, seaming method and installation methods.

3. Manufacturer's data and MSDS data on synthetic turf system seam adhesives.

4. Schedule of installation for the District's review before starting.

5. A currently valid certificate of compliance for the approved synthetic turf system from an independent laboratory such as Testing Services, Inc of Dalton, GA (706-226-1400) or other laboratory, pre-approved by the District, showing the following data:

a. Pile Height, Face or Pile Weight and Total Fabric Weight, ASTM D5823 or D5848

b. Total Backing Weight, ASTM D5848

c. Grab Tear Strength, ASTM D5034

6. Certification of quantities of infill and source of infill for the field.

7. Certification from the Contractor, its listed turf contractor and the manufacturer to hold the District, Landscape Architect, and Architect harmless from infringement of any current patent issued for the synthetic turf system, fibers, backing, installation methods and vertical draining characteristics.

8. Submit manufacturer's data, photographs, maintenance manuals and operating instructions for synthetic turf maintenance equipment.

9. Samples:

a. Synthetic Turf

(1) Two (2) boxed fabric samples, minimum 7"x11", infilled to the proper depth.

(2) Two (2) fabric only samples, minimum approximately 18" by 24" with seam joint, backing and perforations and a tufted-in white and yellow stripes, 4-inches wide.

(3) Two (2) fabric only samples, minimum approximately 18" by 24" with seam joint, backing and perforations and an inlaid stripes of all contrasting colors to be used on the field including logo and text if applicable, 4-inches wide.

b. Submit one-quart sample of infill material(s) and corresponding sieve analysis from a testing laboratory.

c. Seam filament: 10-feet (if applicable).

10. Shop Drawings:

a. Shop Drawings shall be prepared and contain all pertinent information regarding installation. PDF copies of these drawings shall be submitted to the District for approval prior to the manufacture and shipment of materials to the job site.

b. Submit Drawings for:

(1) Field Layout.

(2) Field Marking Plan and Composite Striping Plan, layouts and details for soccer, baseball and softball showing field lines, markings, goals and bases and boundaries per project drawings. Show baseball and softball bases as white turf. Show soccer as yellow and blue turf.

(3) Roll/Seaming Layout.

(4) Methods of attachment, field openings and perimeter conditions.

11. Provide a copy of the 8-year, prepaid, non-prorated, third-party insured warranty and insurance policy information.

12. Provide a copy of a published independent safety study of the turf system.

C. The District's Testing Agency will submit reports on tests and inspections performed for the District, the Landscape Architect and the Contractor.

D. Prior to starting the installation of the approved synthetic turf, the Contractor shall submit a certification signed by the Contractor, its listed turf subcontractor, synthetic composite underlayment manufacturer's representative and drainage system installer, that installed base stone and drainage materials conform to specified requirements and system was successfully checked and tested prior to covering with the synthetic turf playing field.

E. Prior to shipment of the synthetic turf materials to the job site, at least 10% of the synthetic turf rolls shall be randomly sampled from the same lot and tested by a testing laboratory experienced in testing synthetic turf materials. The testing laboratory should be completely independent with no ties to the turf or component manufacturer. The testing shall include relevant tests such as Pile Composition, Pile Weight, Total Weight, Pile Height, Drainage Capacity, Tuft Bind (without infill), Grab/Tear Strength and UV resistance. The Contractor shall pay the costs of these tests. Submit copies of the test results to the District for review before shipping.

F. Prior to Final Acceptance, the Contractor shall submit to the District an executed copy of the Warranty documents and three (3) copies of Maintenance Manuals, which will include all necessary instructions for the proper care and preventative maintenance of the synthetic turf system, including, but not limited to, minor seam repairs and top-dressing with additional infill materials.

G. Prior to Final Acceptance, the Contractor shall submit to the District, a field information kit containing:

1. Turf sample from the specific manufacturing lot used with the manufacturer's lot reference number and tracking information.

2. Sand and cork samples with supplier product and contact information.

3. Seaming fabric and adhesive sample.

4. One (1) gallon of an industrial strength cleaning solution and cleaning instructions so that the District can safely clean the field of grease and oil.

H. Prior to Final Acceptance, the Contractor shall submit to the District, extra sand and cork in dry containers for top dressing and field maintenance.

1.4 QUALITY ASSURANCE

A. Reference and Standards.

1. General Conditions.

2. Perform work in accordance to all applicable laws, codes and regulations required by the Town of San Anselmo and County of Marin and the State of California

3. Reference to “Standard Specifications” shall mean the current Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CalTrans

4. California Code of Regulations, Title 24, current edition, also known as California Building Code (CBC)

5. ASTM D1335 - Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings

6. ASTM D1557 - Test Method for Laboratory Compaction Characteristics of Soil

7. ASTM D1577 - Standard Test Method for Linear Density of Textile Fiber

8. ASTM D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics

9. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering

10. ASTM D418 - Standard Test Method for Testing Pile Yarn Floor Covering Construction

11. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity

12. ASTM D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)

13. ASTM D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering

14. ASTM D5874 - Standard Test Method for Determination of the Impact Value (IV) of a Soil

15. ASTM F355 - Standard Test Method for Shock-Absorbing Properties of Playing Surfaces

16. ASTM F1015 - Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces

17. ASTM F1936 - Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field

18. ASTM F1702 - Standard Test Method for Measuring Shock-Attenuation Characteristics of Natural Playing Surface Systems Using Lightweight Portable Apparatus

19. Most recent Rules and Interpretations of National Federation of High School Rules, American Youth Soccer Association (AYSO) and Little League Baseball, as applicable.

B. Stipulations:

1. Finish Surface Tolerance: 3/16-inch maximum variation in 10 feet.

2. All visible lines shall be square and true.

3. Seams shall not be visible and shall be seamed complete.

4. Infill shall be evenly distributed and a uniform depth.

5. Fibers of inlaid carpet pieces shall be flush with the rest of the carpet fibers and free of depressions, bumps or shadows.

6. The Contractor and its listed turf subcontractor shall review and accept the quality of the synthetic turf playing field sub-base and the drainage in place.

7. The Contractor and its listed turf subcontractor shall observe the installation of the base and drainage and shall comment on any problems or conflicts that may be discovered including:

    a. Review and accept the submittals for the synthetic turf base stone base and the drainage materials.

    b. Review planarity of the compacted turf subgrade and stone base.

    c. Submit certification signed by the Contractor and its listed turf subcontractor and drainage system installer that installed stone base and drainage materials conform to specified requirements and system was successfully checked and tested prior to covering with the synthetic turf playing field.

C. The Contractor and its listed turf subcontractor shall employ only qualified, experienced supervisors and technicians skilled in the installation of the synthetic turf system as specified herein.

D. The turf manufacturer for this installation must certify supervisory personnel for this project in writing.

E. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements.

F. Warranty: The Contractor and its listed turf subcontractor shall submit its Manufacturer's and Installation Warranty and shall warrant the usability and playability of the synthetic turf system for its intended uses for an eight (8) year period commencing with the date of formal project acceptance by the District's governing board. The warranty coverage shall not be pro-rated nor limited to the amount of the usage. The warranty shall be in the form attached to this section.

1. General: The warranty submitted must have the following characteristics:

    a. Must provide full coverage for eight (8) years from the date of formal project acceptance by the District's governing board.

    b. Must warrant materials and workmanship.

    c. Must warrant that the materials installed meet or exceed the product specifications stated herein.

d. Must have a provision to either make a cash refund or to repair or replace such portion of the installed materials that are no longer serviceable in order to maintain a serviceable and completely playable surface.

e. The warranty shall not be prorated.

f. Must be a warranty from a single source covering workmanship and all self-manufactured or procured materials.

g. Contractor shall warrant defects in installation and workmanship for a period of eight (8) years from the date of formal project acceptance by the District's governing board.

G. Ongoing Tests & Inspections:

1. Contractor and Manufacturer shall examine the synthetic turf playing field(s) in regards to any claim made by the District.

2. Contractor and Manufacturer shall provide an annual report to the District notifying the District of all maintenance and warranty issues and recommending maintenance practices consistent with the warranty.

3. Contractor and Manufacturer shall be allowed access to inspect any claims made under this warranty. Any tests associated with a claim shall be done with notice to the District and results of said test shall be forwarded to the District.

1.5 DISTRICT TESTS

A. The District will select a qualified testing laboratory to take samples for testing during the course of the work as considered necessary. The District will pay costs for such tests. Contractor shall cooperate in taking tests and shall be responsible for notify the designated laboratory in sufficient time to allow taking of samples.

1.6 COORDINATION

A. Coordinate items of other trades. Contractor shall accept the synthetic turf playing field sub-base; and coordinate all accessories embedded in the synthetic turf playing field sub-base and for the provision of connections to adjacent materials necessary to the execution of the work of the trades.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Ensure storage facilities are weather tight and dry.

B. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.

1.8 SHOCK ABSORBENCY OF THE SYNTHETIC TURF SYSTEM

A. The synthetic turf system installation may be periodically tested by the owner for shock attenuation (G-max) properties in accordance with ASTM F1936 and F355, Method A, and G-max compliance standards.

B. Test locations: The installed system will be tested for G-max at locations defined in ASTM F1936 as modified within two (2) additional locations for the soccer field. At one (1) soccer goalmouth and at one (1) corner of a penalty box. All test locations will be offset approximately 12-inches from any fabric seam and all subsequent re-testing will be performed at the exact same locations as previous test locations for comparisons.

C. Test Frequency and G-max. The synthetic turf contracting party shall arrange and pay for an independent test lab to test the synthetic turf field for G-max compliance. At Project Acceptance, not to exceed 135 G's. In no event shall the G-max for the field exceed 165 during the warranty period.

1.9 MAINTENANCE DURING WARRANTY PERIOD

A. The maintenance during the warranty period shall be pre-paid as part of the construction contract.

B. Provide 16 visits to the site on an as needed basis to maintain the field during the warranty period. At each visit, certified technicians execute these procedures:
   1. Address any migration of infill.
   2. Take multiple infill depth measurements to verify surface planarity.
   3. Make minor warranted seam and inlay repairs.
   4. Add light infill to high traffic areas.
   5. Power clean field perimeter.
   6. Provide an annual written Pre and Post-Session field report.

C. During the last half of the warranty period provide care for grooming and fiber rejuvenation.

WARRANTY

District: Tamalpais Union High School District

Project Name: REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS

Warranty: Contractor and Manufacturer warrant the synthetic turf playing field surface at

REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS

for a period of eight (8) years from the date of formal project acceptance by the District's governing board against defects in materials and/or workmanship, including:

Ultra-violet degradation, fading greater than twenty percent (20%) of the original color, seam rupture or dislodgment or unusual shape or distortion in the field, either vertical or horizontal, due to dimensional instability of turf materials used, decrease in pile height by more than twenty percent (20%), decrease in face weight (without infill) by more than thirty percent (30%).

The system shall adhere firmly and completely to the perimeter anchoring system.

The system shall vertically drain a minimum of forty (40) inches per hour for a maximum of 24 hours continuously, without visible surface ponding.

Contractor and Manufacturer also guarantee that the G-Max level of its field will not exceed 165 for the duration of the warranty. If the reading does exceed 165 during the warranty period, the Contractor, its listed turf subcontractor and Manufacturer will take whatever measures necessary, at no cost to the District, to achieve G-Max test results to, or below, 165.

Contractor and Manufacturer will repair or replace, as it deems necessary, those materials, which exhibit such defects resulting from materials or workmanship, at no cost to the District.

This is a non-prorated material and labor warranty.

The synthetic turf playing field(s) shall be warranted for the designated uses as follows:

Discus
Field Hockey
Football
Jogging
Lacrosse
Marching band
Pedestrian traffic and other similar uses
Physical Education
Physical Exercises
Pneumatic rubber-tired maintenance and service equipment
Rugby
Soccer
Softball and Baseball

Limitations: The recommendations for proper maintenance of the surface as outlined in the

Maintenance Manuals provided by the Contractor and Manufacturer shall be considered in determining neglect or proper maintenance of the synthetic turf and shall be considered an integral part of this warranty.

Contractor and Manufacturer do not warrant against normal wear and tear, as determined by an independent lab specializing in synthetic turf. Contractor and Manufacturer also does not warrant against damage caused by improper use, neglect, vandalism, earthquakes, and floods, changes in water table or other acts of God. Home plate area, base paths and pitcher's mound which shall be 2 years instead of 8 years and there is no third-party insurance.

Inspection and Tests: Contractor and Manufacturer shall examine the synthetic turf playing field(s) at least once per year, beginning no longer than thirty (30) days from the one (1) year anniversary date of the formal project acceptance by the District's governing board.

Contractor and Manufacturer shall also examine the synthetic turf playing field(s) in regards to any claim made by the District.

Contractor and Manufacturer shall be allowed access to inspect any claims made under this warranty. Any tests associated with a claim shall be done with notice to the District and results of said test shall be forwarded to the District.

The Contractor and Manufacturer shall have shock attenuation tests conducted at their expense annually by an independent testing laboratory properties in accordance with ASTM F1936 and F355, Method A and deliver the test results to the District within sixty (60) days of the testing.

Claims: Contractor and Manufacturer shall repair or replace all or any portion of the surface, which may be determined to be defective.

In the event of the failure by the Contractor and Manufacturer to comply with the above mentioned conditions within fourteen (14) days after being notified in writing by the District, the Contractor and Manufacturer both hereby authorize the District to proceed to have such defective work repaired or replaced and made good at the Contractor and Manufacturer 's expense and the Contractor and Manufacturer shall honor and pay the costs and charges therefore within fourteen (14) days of the District's demand, without voiding this warranty.

Date of Acceptance: _____

Manufacturer	Synthetic Turf Contractor
By:	By:
Title:	Title:
Address:	Address:
	License Number:
Date:	Date:

PART 2 - MATERIALS

2.1 SYNTHETIC TURF SYSTEM

A. The synthetic turf system materials shall be in accordance with the following:

1. The acceptable product(s) for the synthetic turf system are summarized as follows:

a. The synthetic turf system infill shall be cork and dust free, rounded, silica sand.

b. The District has determined that the following synthetic turf system product meets or exceeds the specifications and is approved and acceptable:

(1) For Areas noted as Vertex on the Field: Synthetic Turf shall be FieldTurf Vertex Prime, Model: FTVTP-2-PureFill (cork) or pre-approved as manufactured by FieldTurf Tarkett. The product is a permeable in-filled synthetic grass that provides the look, the feel, and the playability of natural grass with respect to ball speed and bounce and maximum safety to athletes supplied by FieldTurf, International, 707-586-8873. NO KNOWN EQUAL.

PROPERTY	VALUE	UNIT	STANDARD
Code	FTVTP-50-PureFill	NA	NA
Yarn Structure 1	Ridged Monofilament / Field Green	Denier	D1.77
Yarn Denier 1 (Yarn linear density)	14,500	Denier	NA
Yarn Structure 2	Slit Film Summergreen	Denier	D1.77
Yarn Denier 2 (Yarn linear density)	5000	Denier	D1.77
Pile height (1)	2.0	Inches	D5823
Pile weight (Face weight)	39	0Z/SY	D5848
Primary backing weight	7+	0Z/SY	D5848
Secondary backing weight (Finger Unit)	14+	0Z/SY	D5848
Total weight	60	0Z/SY	D5848
Stitch gauge (tuff spacing)	3/4	Inches OC	D5793
Tuff bind	8+	Lbs/Force	D1335
Pill burn test	Pass		D2859
Water Permeability	>40	Inches/Hour	DIN 18-035
PureFill cork infill (1)	1.1	Lbs/SF	
Sand infill (1)	4.5	Lbs/SF	
Total infill (1)	5.6	Lbs/SF	
Depth of infill (1)	1.25 (+/- 0.125)	Inches	
Exposed height of fiber (1)	0.75	Inches	
UV Performance	>80% retained tensile strength after 5,000 hours	NA	NA
UV warranty	8 years	Watts	ISO 4892-2

(2) For Areas noted as Vintage on the Warning Tracks and Home Plate Area: Synthetic Turf shall be FieldTurf

Vintage 40 Baseball, Model: Vintage 40 - PureSelect Olive Infill (olive cores) or pre-approved as manufactured by FieldTurf Tarkett. The product is a permeable in-filled synthetic grass that provides the look, the feel, and the playability of natural grass with respect to ball speed and bounce and maximum safety to athletes supplied by FieldTurf, International, 707-586-8873. NO KNOW EQUAL.

PROPERTY	VALUE	UNIT	STANDARD
Code	Vintage-40-PureSelect	NA	NA
Yarn Structure 1	Slit Film	Denier	D1.77
Yarn Denier 1 (Yarn linear density)	10,000+	Denier	NA
Yarn Structure 2	Texturized Thatch	Denier	D1.77
Yarn Denier 2 (Yarn linear density)	5000	Denier	D1.77
Pile height (1)	1.6	Inches	D5823
Pile weight (Face weight)	50	0Z/SY	D5848
Primary backing weight	8+	0Z/SY	D5848
Secondary backing weight (Finger Unit)	20	0Z/SY	D5848
Total weight	78	0Z/SY	D5848
Stitch gauge (tuff spacing)	3/8	Inches OC	D5793
Tuff bind	8+	Lbs/Force	D1335
Pill burn test	Pass		D2859
Water Permeability	>40	Inches/Hour	DIN 18-035
PureSelect Olive Infill olive infill (1)	1.5	Lbs/SF	
Sand infill (1)	3.5	Lbs/SF	
Total infill (1)	5.0	Lbs/SF	
Depth of infill (1)	0.875 (+/- 0.125)	Inches	
Exposed height of fiber (1)	0.75	Inches	
UV Performance	>80% retained tensile strength after 5,000 hours	NA	NA
UV warranty	8 years	Watts	ISO 4892-2

(Footnote 1) Per manufacturer's specifications and as approved through submittal process.

(4) Or approved equal in conformance with Article 1.2 of this section. Contractors shall only bid on the project based on a District-approved product stated above or identified by the District in an addendum as an approved equal.

c. The following yarn, carpet and system properties are minimums. The Contractor and its listed turf subcontractor may exceed these minimum properties subject to acceptance of the Landscape Architect and no other deviations from this section. A variation of +/- 5% listed property values is within normal manufacturing tolerances.

d. A complete synthetic grass system, consisting of not less than 2 inch long, with rows spaced no less than ¾" apart in Vertex and 3/8" apart in Vintage, tufted into a double primary porous backing and a micro-porous secondary coating, with no holes punched in the backings.

e. A resilient infill system, consisting of a graded dust-free silica sand on the bottom; and a layer of cork or olive cores on top, designed to provide

the look, feel, and safety of optimally maintained natural grass. The infill shall be filled so that there is a void of ¾" to the top of the fiber.

f. The carpet's primary backing shall be a double-layered polypropylene fabric treated with UV inhibitors. The secondary backing shall consist of an application of porous, heat-activated urethane to permanently lock the fiber tufts in place. Perforated carpet backing shall not be acceptable. Perforation—backed carpet, (that is, a carpet fully coated and drained by means of melted, burned or punched holes), shall not be acceptable.

g. Cork must be natural cork ranging in size from 1 to 3 mm and have a bulk density of 300 kg/m3 (+/- 15%).

h. Sand must be dust free, rounded, silica sand; any other sand will not be accepted.

i. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.

j. Glue for inlaying lines and markings shall be as recommended by the synthetic turf manufacturer. Seams between turf panels must be sewn. Inlaid markings may not be installed by means of cutting through the fabric and adhering the colored turf to a separate reinforcing tape or cloth. Rather, inlaid markings (that cannot be tufted into the fabric), shall be installed by means of shearing out the existing green fiber and laying in a new piece of colored fabric into a bed of suitable "hot melt" adhesive placed directly on the original turf backing material. Systems that cut through the turf fabric for inlaid lines are not acceptable due to the fact that such a procedure shall weaken the structural integrity of the turf fabric backing.

p. The carpet shall be installed with a 3/4" fiber exposure.

q. The carpet shall be delivered in nominal 15-foot wide rolls. The rolls shall be of sufficient length to go from touchline to touchline. Head seams, between the touchlines, will not be acceptable.

r. All fields of play lines for soccer, baseball, softball, lacrosse and other designations shall be inlaid or tufted to permanently lock the fiber tufts in place. The lines, and marks for baseball and softball shall be white and the lines for soccer shall be yellow, and blue. The field shall be predominately green.

s. Lines and markings shall be as shown on the approved submittal drawings (mandate) and also conform to NFHS rules and be tufted or inlaid so as to be permanently marked.

t. All components and their installation method shall be designed and manufactured for use on outdoor athletic fields. The materials shall be able to withstand full climatic exposure in the San Francisco Bay Area and be resistant to water, insect infestation, rot, fungus, and mildew; to ultra-violet light and heat degradation, and shall have the basic characteristic of flow through vertical drainage allowing free movement of surface run-off through turf where such water may flow to the permeable sub-base and into the field's underground drainage system.

u. The finished playing surface shall appear as mowed grass with no irregularities and shall afford excellent traction for conventional non-metallic athletic shoes of all types. The finished surfaces shall resist abrasion and cutting from normal use with conventional athletic shoes of all types. The system shall be ideal for soccer, softball, football, baseball, rugby, lacrosse, intramural, PE classes and recreational use.

v. Turf seams shall be carefully constructed to minimize long-term maintenance requirements. Seams shall be custom cut on site using suitable equipment and proven installation techniques. Seams shall be sewn or glued per manufacturer's recommendations.

w. Seaming filament: Thread for sewing seams of turf shall be as recommended by the Synthetic Turf Manufacturer.

2.2 SYNTHETIC TURF MAINTENANCE EQUIPMENT

A. Field Sweeper: the Sweep-Right. Groomer: Groom-Right or equivalent (Phone 1-800-724-2969), at the discretion of the Manufacturer.

B. Submit manufacturer's data, photographs, maintenance manuals and operating instructions.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify that all sub-base, drainage, grading and leveling is complete prior to installation.

B. The surface to receive the synthetic turf must be inspected by the Installer, and prior to the beginning of installation, the Installer must accept the sub-base in writing. The acceptance will depend on the owner providing the installer with test results indicating that compaction, planarity and permeability are in compliance with the synthetic turf manufacturer's specifications. The surface must be perfectly clean as installation commences and shall be maintained in that condition throughout the process. Acceptance shall be for tolerance to grade (1/4 inch in 10 feet in all directions and 0-1/2" from design grade). Installer shall be responsible for verifying the planarity of the base.

C. The Contractor and its listed turf subcontractor shall strictly adhere to the installation procedures provided by the manufacturer. Any variance from these requirements must be accepted in writing by the manufacturer's onsite representative and submitted to the District, verifying that the changes do not in any way affect the warranty.

1. The Contractor and its listed turf subcontractor shall coordinate his work with other and concurrent work and participate in pre-construction and pre-installation conferences.

2. The Contractor and its listed turf subcontractor shall field verify the dimensions and layout of the synthetic turf playing field. The surface tolerance shall not exceed 1/4 inch over 10 feet.

3. Verify final elevations using a "string line" method: lengths of 100' pulled taught with high/low spots marked and hand-dressed prior to importation of the synthetic composite underlayment.

4. The turf manufacturer and contractor must accept the rock base and drainage in writing prior to the installation of the synthetic grass system. The surface tolerance shall not exceed 1/4 inch over 10 feet. The synthetic grass system is to be installed directly over the properly prepared rock base. Extreme care should be taken to avoid disturbing the rock base, both in regard to compaction and planarity. It is suggested that a 2-5 ton static roller is on site and available to repair and properly compact any disturbed areas of the aggregate base.

5. The full width rolls of turf shall be laid out across the field. The seams shall be sewn or glued as per manufacturer's specifications and head seams, other than at sidelines, shall not be acceptable. All seams in the soccer field shall be perpendicular to the length of the field. Seams shall be flat, tight, and permanent with no separation or fraying. At seams, the gap between the fibers should not exceed the gauge of the tufting. Permanent playing lines and markings shall be laid out and incorporated in the turf as shown on the drawings.

6. Carefully measure and install sides seams, complete corners and cut in inlaid lines and patterns as required per manufacturer's specifications and approved submittals.

7. Carefully measure and install edge at edge of field.

8. Before permanently fastening the synthetic turf to its edges, check for uniform planarity, square and make corrections to deformities as required.

9. Secure the synthetic turf playing field to the recycled plastic lumber perimeter attachment with a nail gun, as per manufacturer's specifications, at maximum one-foot (1') intervals.

10. Install the infill system per manufacturer's specifications with uniform mechanical properties, including density, compliance and thickness to provide a consistently smooth grass-like surface without dips or humps or other irregularities that are rejected by the Landscape Architect.

11. The completed synthetic turf field shall be uniformly brushed with a motorized nylon rotary broom and the infill material immediately and uniformly installed with a minimum four-foot (4') width drop spreader. The infill shall be applied in multiple lifts as per manufacturer's specifications to the depth and quantity lifts as per manufacturer's specifications and approved submittal. Brush the infilled area between each lift as per manufacturer's specifications.

12. Neatly trim, dress and install the synthetic turf around boxes and items that are installed in the turf surface. Provide approved surface treatment for removable caps in the synthetic turf as required.

3.2 CLEAN UP

A. Contractor shall provide the labor, supplies and equipment as necessary for final cleaning of surfaces and installed items.

B. All usable remnants of new material shall become the property of the District.

C. The Contractor shall keep the area clean throughout the project and clear of debris.

D. Surfaces, recesses, enclosures, etc. shall be cleaned as necessary to leave the work

area in a clean, immaculate condition ready for immediate occupancy and use by the District.

3.3 PROJECT CLOSEOUT

A. The Contractor and its listed turf subcontractor shall provide the following, or the Contractor shall ensure that the turf manufacturer provides the following:

1. The Contractor and its listed turf subcontractor shall provide the required testing data to the District to show that the finished field meets or exceeds the required shock attenuation.

2. The Contractor and its listed turf subcontractor shall provide grooming and sweeping once per month for the first three months after acceptance of the turf and the make required adjustments to the infill system after the first seasonal rains to adjust for settling.

3. The turf manufacturer and Contractor shall inspect the existing synthetic turf maintenance equipment and make recommendations for adjustments for optimum maintenance.

4. The Contractor and its listed turf subcontractor shall train the District's personnel how to use sweeper and groomer to, remove debris, remove foreign substances, and maintain the synthetic turf. After synthetic turf installation is complete, the Contractor shall arrange for a demonstration performed by the synthetic turf manufacturer's representative and the equipment representative to train the District's personnel in the operation and maintenance of the equipment. The District's personnel shall provide the vehicle (golf cart or tractor) to pull the sweeper for demonstration purposes. Scheduling of demonstration shall be at the convenience of the District's personnel within three (3) months after completion of the installation process.

5. The turf manufacturer and contractor shall provide the warranty to the District as specified in this section.

6. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:

    a. Pre-Paid 8-year insured warranty.

    b. Insured Warranty coverage must be provided in the form of one (1) single policy.

    c. No maximum per claim coverage amount.

    d. Minimum of twenty million dollars ($20,0000,000) annual aggregate

    e. Must cover full 100% replacement value of total square footage installed, minimum of $8.00 per sq ft. in 2022 dollars (in case of complete product failure, which will include removal and disposal of the existing surface)

    f. Policies that include self insurance or self retention clauses shall not be considered.

g. Policy cannot include any form of deductible amount.

h. Sample policy must be provided at time of bid to prove that policy is in force. A letter from an agent or a sample Certificate of Insurance will not be acceptable.

7. The turf manufacturer and Contractor shall provide maintenance manuals to the District as specified in this section.

8. The turf manufacturer and Contractor shall provide a field information kit to the District as specified in this section.

9. The turf manufacturer and Contractor shall provide one-gallon of an industrial strength cleaning solution and cleaning instructions so that the District can safely clean the field of organics, grease and oil.

10. The turf manufacturer and Contractor shall provide extra sand and cork and olive cores infill in dry containers for top dressing and field maintenance.

END OF SECTION

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SECTION 32 18 15
SYNTHETIC LANDSCAPE TURF

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide synthetic turf system and the base material installation complete.

1.02 SUSTAINABLE DESIGN REQUIREMENTS

A. Sustainable Design Requirements:

The Owner requires the Contractor to implement practices and procedures to meet the Project's environmental and wellness performance goals, which include achieving LEED v4 Core and Shell and WELL v2 Core certifications. Refer to Section 018113 – Sustainable Design Requirements for the Project's target certification levels and specific LEED and WELL requirements.

The Contractor shall ensure that the requirements related to the Project's sustainability and wellness design goals are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the Project's sustainability and wellness goals or LEED and WELL certifications.

1.03 SUBMITTALS

A. Provisions: Comply with Division 1 Requirements.

B. Material list, product data and samples of all items proposed to be provided under this Section.

C. Certificates (certified analysis of certificate of compliance) signed by the material producer.

D. Certificates (certified analysis of certificate of compliance) signed by the material producer stating that the product is free of lead and in compliance with US Consumer Product Safety Commission requirements.

E. Prior to starting the installation of the approved synthetic turf, the Contractor shall submit a certification signed by the Contractor, its listed turf subcontractor and drainage system installer, that installed base stone and drainage materials conform to specified requirements and system was successfully checked and tested prior to covering with the synthetic turf system.

F. Conformance Surveying: The Contractor shall perform a conformance survey on a 20-foot grid after subgrade is complete and prior to placement of stone base. Submit copy of Conformance Survey to Architect.

G. Conformance Surveying: The Contractor shall perform a conformance survey on a 20-foot grid after stone base is complete and prior to placement of Underlayment and Synthetic Turf. Submit copy of Conformance Survey to Architect.

H. Permeability testing: submit a report showing permeability of existing field base stone per ASTM F 2898, Standard Test Method for Permeability of Synthetic Turf Sports Field Base Stone and Surface System by Non-confined Area Flood test Method. Testing shall be provided for every 10,000 SF of Synthetic Turf surface.

1.04 QUALITY ASSURANCE

A. Reference Standards

1. Perform all work in accordance with all applicable laws, codes and regulations required by the Federal Government, State of California, City of South San Francisco, and San Mateo County.

2. Perform work in accordance to applicable sections of the Caltrans Standard Specifications.

3. Reference to "Caltrans Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

B. Related work specified elsewhere includes:

1. Section 01 45 00 Quality Control

2. Section 31 00 00 Earthwork

3. Section 32 13 13 Landscape Concrete

4. Section 32 40 10 Storm Drainage

C. Stipulations

1. The finished surface of the subgrade, at any point, shall not vary more than 0.05' above or below the elevation indicated on the drawings.

2. Finish Surface Tolerance: 1/4-inch maximum variation in 10 feet.

D. ASTM Standards.

1.05 PROJECT CONDITIONS

A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.

1.06 SOILS REPORT

A. A soil investigation report has been prepared for the project.

B. This report is available in the office of the Architect and the Construction Manager for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of this report.

1.07 SOILS BORINGS

A. Subsurface soils investigations have been made at the site and logs of the test holes are available with the soils report. Such investigations have been made for the purposes of design only, and neither the Landscape 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

1.08 PROJECT CONDITIONS

I. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.

J. 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.

K. Underpin adjacent structure(s), including utility service lines, which may be damaged by excavation operations.

L. Promptly repair damage to adjacent facilities caused by operations. Cost of repair at Contractor's expense.

M. Promptly notify the Inspector of unexpected subsurface conditions.

N. If during the course of 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 Inspector who will contact the Geotechnical Engineer for an evaluation.

1.09 EXISTING CONDITIONS

A. A topographic survey of the property has been included in the drawings for reference only. Upon beginning the work, 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.

1.10 PROTECTION

A. Furnish, place and maintain all supports, shoring and sheet piling which may be disturbed by 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 accepted 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 include review of 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 runs 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 own expense.

L. Underground Obstruction: The locations of existing underground utilities and structures, insofar as they 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 and 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 construction of the work, and until the Geotechnical Engineer gives permission to cease pumping.

N. Pavement Restoration: Pavement, bases and compacted subgrade disturbed by trenching operations shall be replaced in an acceptable manner with materials equal to the adjacent compacted subgrade, bases and pavement for a minimum distance of 12" on each side of the trench, and shall conform to the requirements of these Specifications or to local ordinances governing such replacement.

1.11 FIELD QUALITY CONTROL

A. Contractor shall provide adequate notice, cooperate with, provide access to the work, and assist testing agency and their representatives in 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. Cost 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.

1.12 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 operations.

C. Provide and pay for re-testing and inspection during operations. Laboratory and inspection service shall be acceptable to the Owner.

D. Where reference is made to relative compaction, it shall be 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. Plasticity Index: ASTM 4318-98.

1.13 GENERAL REQUIREMENTS

A. When rain is forecast, temporary measures to protect areas of the exposed subgrade from saturation by rainfall or runoff shall be taken. These include, but are not limited to, covering grading and sloping of subgrade surfaces to prevent ponding, sealing disturbed, uneven subgrade, surfaces with a smooth drum roller, grading and excavating diversionary swales, trenches or detention basins.

B. Failure by the Contractor to comply with the above requirements to take reasonable and adequate measures or exercise sound engineering and construction practices to protect the work from damage. All repair work shall be performed at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 SUSTAINABILITY PERFORMANCE REQUIREMENTS

A. For all permanently installed products and materials related to the work of this Section, provide products and materials that meet the Project's LEED and WELL performance criteria as outlined in PART 2 - PRODUCTS of Section 01 81 13 – Sustainable Design Requirements.

2.02 SYNTHETIC TURF SYSTEM

A. Synthetic Turf for surfacing, GreenFields IRONTURF Ultra Green, the recyclable version of IRONTURF, certified lead free by independent laboratory testing available from Joshua Sarratt, ASC TURF, 209-914-9131, jsarratt@ascturf.com as follows:

Properties	
Model #	IRONTURF Ultra Green
Turf Content	U.V. resistant XWRD Extreme monofilaments blended with XPS Plus - Each matrix group is built with a total of 80,000□denier (4 bundles of 12,000/6 MS XWR Diamond at 365-microns thick with 4 each 8,000/1 XPS Plus tapes (36 fibrils)) woven with a unique blend of U.V. stable PP and PE fibers for the base structure
Color	Green (Submit samples)
Total Weight	91 ounce per square yard
Tufted Face Weight	59 ounce per square yard
Pile Height	2”
Fiber	Polyethylene
Stability Coating	Recyclable Duraflo polyolefin permeable coating; 16.0 oz/yd
Roll Width	15’
Color Fastness to Light	8-year warranty

Water Permeability	Greater than or equal to 13.2 gal/yd2/min
Holes for Drainage	¼" diameter holes on 4" on center grid.
Infill	A resilient, dust free, rounded, silica sand and Brock Fill infill system. (Submit cut sheets, MSDS and samples)

B. Base Stone: 1/4" x Dust Crushed Rock from Clayton/Basalt #4402/SMARA #91-07-0004, available from Cemex, Clayton, CA 925-580-2792 or accepted equal having the following properties:

U. S. Sieve		Percent Passing
3/8"	(9.5 mm)	100
#4	(4.75 mm)	88 +/- 8
#8	(2.36 mm)	60 +/- 9
#16	(1.18 mm)	41 +/- 8
#30	(600 um)	29 +/- 6
#50	(300 um)	21 +/- 4
#100	(150 um)	15 +/- 3
#200	(75 um)	12 +/- 2

Sand Equivalent = 48 +/- 11

Specific Gravity = 2.81

Absorption = 1.0%

C. Flexible Perforated Drain Pipe: Size as noted on the drawings, and manufactured to meet ASTM 405, or accepted equal.

D. Drain Inlets & Clean Outs: By Christy, 800-486-7070; Central Precast, 707-546-5016; Hanson Concrete Products, Pleasanton, CA, 925-426-4933 or accepted equal.

E. Geotextile Liner: Mirafi 140N, or accepted equal.

2.03 CONCRETE CURBING/BORDER

A. Provide concrete border as indicated on drawings.

B. Concrete to comply with provisions of Section 32 13 13.

2.04 SYNTHETIC TURF ADHESIVE

A. Turf Bond Adhesive and Tape, Woodstock, GA 770-926-0004 or Nordot Adhesive System, Scotch Plains, NJ 908-233-6844 or approved equal.

2.05 OTHER MATERIALS

A. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection

1. Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
2. Provide sub grade surfaces acceptable to manufacturer: compacted base material.
3. Verify that proper drainage is provided.
4. Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards, including but not limited to, U.S. Consumer Product Safety Guidelines and ASTM Standards 1487-11 and 1292-09.
5. In the event of discrepancy, immediately notify the Architect.
6. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 CONCRETE CURB INSTALLATION:

A. Preparation

1. Verify sub-grade, base material, conduit, and all other embedded items are properly located. Secure all embedded items against displacement during pour.
2. Verify all grades for pitch and fall prior to pouring pavements.
3. Verify that all cross-fall and ramp criteria comply with all accessibility regulations. Including Title 24 requirements.
4. Verify existing sub grade complies with criteria specified in Section 32 11 13.
5. Notify inspector 48 hours prior to placing. Obtain inspectors approval of subgrade, forming and embedded items prior to placing.

B. Forming

1. Install forms in accordance with specified tolerances.
2. Stake rigidly in place at maximum intervals of 4 feet on center. Secure so as to prevent displacement during pouring and finishing process.
3. Install stretched wires or other device to provide form displacement indication.
4. Thoroughly clean forms. Remove debris. coatings and foreign matter. Coat forms with approved bond breaker.

3.03 AGGREGATE SUB BASE INSTALLATION

A. Install base stone and compact.

3.04 SYNTHETIC TURF SYSTEM INSTALLATION

A. Manufacturer's Instructions: Comply with the instructions and recommendations of the manufacturer.

B. Examination:

1. Site Verification of Conditions: Verify that substrate conditions are suitable for installation of the synthetic turf system.

2. Do not proceed with installation until unsuitable conditions are corrected. Proper drainage is critical to the longevity of the surfacing system.

C. Preparation:

1. Surface Preparation: Ensure that the substrate meets the slope and drainage requirements.

D. Installation:

1. Do not proceed with synthetic turf system installation until all applicable site work, including substrate preparation, and other relevant work, has been completed.

2. Carpet Stretching:
After seams are glued and cured, stretch the carpet to eliminate slack in the carpet so that the surface is free of irregularities.

3. Borders:

a. Secure border as detailed.

E. Field Quality Control:

1. Installations shall be completed under the supervision of a certified synthetic turf installer following manufacturer's installation procedures and confirming conformity to the installation procedures by completing manufacturer's documentation.

2. Tolerances

a. Smoothness: 3/16 inch plus or minus, at any point, measured along a 10 foot straight edge.

b. Adjacent surfaces: 1/8 inch maximum difference at any point between adjacent surfaces.

3.05 PROTECTION

A. Protect finished installation under provisions of the General Conditions.

B. Do not permit traffic over finished surfaces for timeframe specified by manufacturer.

C. Protect the surface from damage resulting from subsequent construction activity on the site.

3.06 MAINTENANCE

A. Provide direction and training to Owners staff by factory representative, on cleaning, repair, and resurfacing procedures.

B. Provide recommended list of maintenance products for Owner.

END OF SECTION

SECTION 32 90 00

PLANTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnish labor, material and equipment for the installation of the planting work and the maintenance as shown on the drawings and as specified**.**

1.2 RELATED SECTIONS

A. Section 00 31 19 Existing Conditions

B. Section 00 31 32 Geotechnical Data

C. Section 01 11 00 Summary of Work

D. Section 02 41 00 Site Preparation & Plant Protection

E. Section 31 00 00 Earthwork

F. Section 31 25 00 Erosion Control

G. Section 32 11 13 Subgrade Preparation and Base Material

H. Section 32 13 13 Landscape Concrete

1.3 QUALITY ASSURANCE

A. Qualifications:

1. Experience: Assign a full-time employee to the job as foreman for the duration of the Contract with a minimum of four (4) years experience in landscape installation and maintenance supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification.

2. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner acceptable to the Project Inspector.

B. Requirements:

1. Supervision: The foreman shall directly supervise the work force at all times and be present during the entire installation. Notify Project Manager of all changes in supervision.

2. Identification: Provide proper identification at all times for landscape maintenance firm's vehicles and a labor force uniformly dressed in a manner satisfactory to Project Inspector.

C. Reference Standards:

1. Manufacturer's specifications.

2. "Sunset Western Garden Book," Lane Publishing Co., Menlo Park, California; current edition.

3. "American Standards for Nursery Stock," American Association of Nurseryman, 230 Southern Building, Washington, D.C. 20005.

4. Geotechnical Report: (Included for reference in Appendices of the Project Manual).

5. Weed Control Methods Handbook, The Nature Conservancy, Tu, M., Hurd, C. & J.M. Randall. 2001. http://tncweeds.ucdavis.edu.

D. Plant Material Standards:

1. Quality and Size of Plants: Conform to the State of California Grading Code of Nursery Stock, No. 1 grade. Use only nursery-grown stock that is free from insect pests and diseases.

2. Comply with federal and state laws requiring inspection for plant diseases and infestations. Submit inspection certificates required by law with each shipment of plants, and deliver certificates to the Project Inspector. Obtain clearance from the County Agricultural Commissioner as required by law, before planting plants delivered from outside the County in which planted.

3. Certification from nursery (s) and seed company at the time the contract is initiated and later, if there are any updates, provide certification to identify who will be letting the nursery contract to provide plant material and seed.

E. Testing Agency:

1. Waypoint Analytical, Anaheim, CA.

2. Sam Ferro, Turf Diagnostics & Design, Inc., 613 E. 1st Street, Linwood, KS 66052, (913) 723-3700, Fax: (913) 723-3701.

3. Wallace Laboratories, El Segundo, CA.

1.4 SUBMITTALS

A. Product Data: Manufacturer's current catalog cuts and specifications of the following.

1. Hydroseed materials

2. Seed Mixes

3. Mycorrhiza

4. Fertilizers

B. Samples:

1. Seed Mixes: Submit 1-pound labeled samples.

C. Certificates of Compliance for the following:

3. For grass seed--prior to seeding, provide a letter of certification, original Association of Official Seed Analysts (AOSA) seed test results.

1.5 PROJECT/SITE CONDITIONS

A. Site Visit: At beginning of work, visit and walk the site with the Project Inspector to clarify scope of work and understand existing project/site conditions.

PART 2 - PRODUCTS

2.1 PLANTS

A. Seed shall be in conformance with the California State Seed Law of the Department of Agriculture. Each seed bag shall be delivered to the site sealed and clearly marked as to species, purity, percent germination, dealer's guarantee, and dates of test. Prior to seeding at the request of the Architect, the Contractor shall provide a letter of certification, original Association of Official Seed Analysts (AOSA) seed test results.

B. Seed shall be a minimum 97% pure & Minimum 85 % germination. Crop seed less than 1.25 % & weed seed less than .75%. No Noxious weeds.

2.2 FERTILIZERS

A. Commercial fertilizer, pelleted or granular form, conform to the requirements of Chapter 7, Article 2, of the Agricultural Code of the State of California for fertilizing materials as follows:

Potassium Sulfate (0-0-50)

Soil Sulfur: Tiger Organic 0-0-0-90 Sulfur

Treble Superphosphate: 0-48-0

Gypsum

Biosol 7-2-1 fertilizer

AM120 inoculant

If commercial fertilizer having this analysis is not obtainable, other similar commercial fertilizer may be used providing it meets the acceptance of the Architect.

2.3 GRASSES

A. Seed Mix For turf seeding

1. Fescue Blend (or approved equal) .

10 lbs/1,000 sq. ft.

30% Rambler Tall Fescue

60% 2nd Millennium Dwarf Fescue

10% Midnight Kentucky Blue

a. Supplier shall be Pacific Coast Seed, Livermore, CA, 800-733-3462 or approved equal.
b. Provide extra seed for top seeding as required during the plant establishment period.

2.4 ON-SITE TOPSOIL

A. Protect existing topsoil in place. Refer to drawings for extent.

B. Satisfactory topsoil shall be free of subsoil, clay, lumps, stones and other objects over 1" in diameter, and without weeds, roots and other objectionable material.

C. If herbicide contamination is suspected, then a radish/ryegrass growth trial must be performed. Consult with Inspector prior to decision to test or not.

2.5 HYDROSEED MULCH

A. Fiber Mulch: EcoFibre or approved equal. Green colored, fibrous, wood cellulose containing no growth or germination inhibiting factors and manufactured in such a manner that after addition and agitation in slurry tanks with fertilizer, seed, water and other approved additives, the fibers in the material become uniformly suspended to form a homogeneous slurry; and that when hydraulically sprayed on the ground, the material forms a blotter-like ground cover impregnated uniformly with seed; and which, after application, allows the absorption of moisture and rainfall to percolate to the underlying soil.

B. Cellulose: Certified to indicate that the laboratory and field testing of the product has been accomplished and that it meets all of the foregoing requirements based on testing. Weight specifications of this material from suppliers and for all applications refer only to air dry weight content.

C. Absolute air dry weight is based on the normal standards of the Technical Association of the Pulp and Paper Industry for wood cellulose and considered equivalent to 10% moisture. Supply packages of the cellulose fiber marked by the manufacturer to show the air-dry weight content.

2.6 HYDROSEED STABILIZING AGENT

A. A mixture of 100% organic water soluble alginic acids derived from cold-water kelps, such as M-binder or approved equal.

2.7 HYDROSEED MIX

A. Incorporate the following seed uniformly in hydromulch at the specified rates per acre. Provide seed of the latest crop, labeled in accordance with the California Food Agricultural Code with the following ingredients per acre:

Wood Fiber: 2,000 lbs/acre
Stabilizer: 100 lbs/acre
Treble Superphosphate (0-48-0): 130 lbs/acre
Potassium Sulfate (0-0-50): 200 lbs/acre
Soil Sulfur: 300 lbs/acre
Biosol 7-2-1 fertilizer: 1000 lbs/acre
AM120 inoculant p60 lbs/acre.
Seed rate as specified

2.8 MYCORRHIZA PLANTING BACKFILL

A. MycoApply® All Purpose Granular available from Mycorrhizal Applications, Inc www.mycorrhizae.com, PO Box 1181 Grants Pass, OR 97528, Telephone 866-476-7800, or 541.476.3985 fax, 541.476.1581.

2.9 SAND (ANGULAR WASHED SAND AND SAND GROWING MEDIUM)

A. Sand backfill and sand for top dressing shall be medium angular coarse washed USGA Sand, free of mica and meet or exceed recommended values:

B. A total silt and clay of no more than 4%.

C. Shall be naturally angled sand. No rounded silica sand.

D. Sand shall meet or exceed the following values of USGA sand particle distribution:

Sieve Size	USGA Spec Individual Percent Retained
#4	0
#10	0-3%
#18	0-7%
#35	Minimum 60%
#60	Combined
#100	20% Maximum
#270	5% Maximum

E. Sand shall be from one of the following sources or approved equal:

1. Top Dressing Sand available from Tim Smith of Brown Sand Inc. 209-234-1200.

2. G8 Sand available from TMT Enterprises 408-432-9040-Matt.

PART 3 - EXECUTION

3.1 EXAMINATION

A. General: Verify that existing site conditions are as specified and indicated before beginning work under this section.

1. Grades: Inspect to verify grade of planting areas.

B. Unsatisfactory Conditions: Report in writing to Owner's Representative.

C. Acceptance: Beginning of installation means acceptance of existing conditions by installer.

D. Coordination: Coordinate with other trades so that adequate, healthy, friable and acceptable topsoil is provided consistent with this section.

3.2 PREPARATION

A. Protection:

1. Locate sewer, water, irrigation, gas, electric, phone and other pipelines or conduits and equipment prior to commencing work.
2. Be responsible for proper repair to utilities, walls, pavements and other site improvements damaged by operations under this section.
3. Pay for repairs made by contractor(s) designated by Owner.
4. Protect existing woody roots, shrubs and trees to remain.
5. Protect existing soil and slopes that exceed 3:1 slope. Do not disturb grade of slopes steeper than 3:1

B. Grass Mowing: Mow existing grass as short as possible to remove weeds and expose surface grade.

C. Surface Grade: Remove, weeds, debris and rocks larger than 1". Dispose of accumulated debris. Scarify existing soil to relieve compaction from construction operations.

D. Topdressing: Top dress with Angular Washed Sand to fill low spots and depressions and provide positive drainage and a smooth surface.

E. Runoff: Take measures and furnish equipment and labor necessary to control the flow, drainage, and accumulation of water to run off the grounds as is intended by the grades.

F. Erosion Control: Take measures and furnish equipment and labor necessary to control and prevent soil erosion, blowing soil and accumulation of wind-deposited material on the site throughout duration of work.

G. Irrigation System: coordinate repair of existing system to the exent that it exists.

3.3 WEED REMOVAL

A. Inspect planting areas and remove and dispose of all invasive weeds, base rock and other foreign material, including soils contaminated with cement or other materials or debris, including the following invasive weeds. Request photographs of invasive weeds if

required for identification. Refer to Weed Control Methods Handbook, The Nature Conservancy, Tu, M., Hurd, C. & J.M. Randall. 2001. https://www.invasive.org/gist/products/handbook/methods-handbook.pdf

Botanical Name	**Common Name**
TREES	
Acacia spp.	acacia
Ailanthus altissima	tree of heaven
Eucalyptus spp.	gum
Ficus carica	fig
Fraxinus uhdei	ash, evergreen
Juglans regia, Juglans californica var. hindsii	walnut, English or black
Myoporum laetum	Myoporum
Olea europaea	olive
Pinus radiata	Monterey pine
Platanus acerifolia	London plane tree
Populus nigra 'Italica'	Lombardy poplar
Prunus dulcis	almond
Prunus spp.	flowering plum, fruitful varieties
Quercus ilex	holly oak
Robinia pseudoacacia	black locust
Schinus spp.	pepper trees
Tamarix spp.	tamarisk, salt cedar
Ulmus spp.	elm
SHRUBS	
Acacia spp	acacia
Arundinaria, Chimonobambusa, Phyllostachys, etc.	bamboo, running types
Arundo donax	giant reed
Cortaderia selloana, C. jubata	pampas grass, jubata grass
Cotoneaster spp.	cotoneaster
Cytisus scoparius	broom, Scotch
Digitalis purpurea	foxglove
Genista monspessulana, previously Cytisus monspessulanus	broom, French
Ligustrum lucidum	glossy privet
Melissa officinalis	lemon balm
Pennisetum setaceum; purple variety "Cupreum" is sterile and acceptable	fountain grass
Pyracantha spp.	Pyracantha
Rubus discolor	Himalayan blackberry
Spartium junceum	broom, Spanish
Ulex europaea	gorse
GROUNDCOVERS, VINES	
Acacia spp	acacia
Arctotheca calendula	Cape weed
Carpobrotus edulis, C. chilensis, Mesembryanthemum spp.)	ice plants
Cotoneaster spp.	Cotoneaster
Delairea odorata, previously Senecio mikanioides	ivy, Cape

Hedera canariensis	ivy, Algerian
Hedera helix	ivy, English
Mentha spp.	mint, any kind including pennyroyal, peppermint, spearmint
Pennisetum clandestinum	kikuyu grass
Pyracantha spp.	Pyracantha
Source: Santa Clara Valley Water District, May 2001	UPDATE LIST?
OTHERS (2007)	
Centaurea solstitialis	yellow star thistle
Conium maculatum	poison-hemlock
Cynodon dactylon	Bermuda grass
Echium Candicans (fastuosum)	pride-of-Madeira
Elaeagnus angustifolia.	Russian-olive
Foeniculum vulgare	fennel
Raphanus sativus	radish
Tropaeolum majus	garden nasturtium
Urtica Dioica	stinging nettle
Zantedeschia Aethiopica	calla lily

B. Clear the planting areas of all objectionable plant material, to include roots, snags, brush, weeds, and similar undesirable vegetation and any other debris found at the site not specified as improvements to be included as part of this project. All such materials shall be removed from the site and disposed of in an acceptable manner.

C. Remove rocks over one inch (1") in size. Said material shall be removed from the site and disposed of in an acceptable manner.

D. Dispose offsite, any site soils from areas on which are growing any noxious weeds such as Fennel, Morning Glory, Sorrel, or Bermuda grass.

3.4 TOPDRESSIING

A. Topdress with Angular Washed Sand to fill. Low spot, depressions and provide a smooth surface.:

J. Drag to a smooth, even surface. Grade to form all swales, pitch to drain to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas which shall be uniformly level or sloped between finish elevations.

K. Roll, scarify, rake and level as necessary to obtain true, even planting surfaces. Remove rocks, sticks and debris 1 inch or larger. Secure acceptance of the grade by the Landscape Architect before any planting.

L. Scarify all planting areas that become compacted prior to planting.

3.5 GRASS SEED PLANTING

A. Before proceeding with the work: carefully inspect all areas and verify all dimensions and quantities. Immediately inform the Landscape Architect of any discrepancy between the drawings and specifications and actual conditions and secure approval to proceed.

B. Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.

C. Thoroughly wet down the planting areas to settle the soil and confirm irrigation coverage and operation. Allow soil to dry so as to be workable.

D. Drag to a smooth, even surface. Grade to form all swales, pitch to catch basins, streets, curb, etc., to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas, which shall be uniformly level or sloped between finish elevations.

E. Hold finish grade and/or mulch surface in planting areas below adjacent pavement surfaces, tops of curbs, manholes, etc., as shown on the drawings.

F. Soil shall be in a loose, friable condition prior to planting. Scarify all planting areas that become compacted prior to planting. The key to success is to ensure the seed has contact with the soil. Scratching the soil with steel rakes or dragging a bar with nails or spikes is key to making sure the seed lands on the soil surface.

G. Drill seed may be used in lieu of hydroseeding for areas that are generally flat and accessible for drill seeding.

H. Broadcast Mycorrhiza at a rate of 2 pounds per 1,000 square feet on the soil surface that is to receive seed. Broadcast when it will not be disturbed by wind.

I. Hydraulic Equipment: use a commercial-type hydroseeder with a built-in agitation system and an operating capacity sufficient to agitate, suspend and homogeneously mix slurry. Use distribution lines large enough to provide even distribution of the slurry over the ground. Pump must be capable of exerting up to 150 psi at the nozzle and the slurry tank have a minimum capacity of 1,000 gallons and be mounted on a traveling unit to place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded in order to provide uniform distribution without waste.

J. Mixing: mix the slurry preparation on site. Begin by adding water to the tank when the engine is at half throttle. When the water level has reached the height of the agitator shaft, establish good re-circulation and add seed, then fertilizer, followed by wood pulp mulch. Add the wood pulp mulch only after the seed and when the tank is at least 1/3 filled with water. Open engine throttle to full speed when the tank is half filled with water. Add all wood pulp mulch by the time the tank is 2/3 to 3/4 full. Spray immediately when the tank is full with a uniform, visible coat, using the green color of the wood pulp as a guide.

K. Application:

1. Secure approval of area to be hydroseeded from Inspector prior to application.

2. Install per manufacturer’s specifications.

3. Use experienced operators of hydromulching equipment for application and apply slurry mix in sweeping motion to form a uniform mat at specified rate, keeping hydromulch within areas designated.

4. Do not use slurry mixture that has not been applied within four hours of mixing, and remove from site.

5. After application, do not operate any equipment over the covered area.

L. Watering: Water from natural rainfall.

M. Maintenance broadcasting: during seed establishment period scarify soil and reseed and water bare areas to establish a full stand of grass.

3.6 WATERING

A. Irrigate and provide supplement water as required to establish a full stand of grass.

3.7 DITCHES AND SWALES

A. Construct ditches and swales in the areas designated to convey storm water to the storm drainage facilities.

3.8 MAINTENANCE OF PLANT MATERIAL

A. Maintain plants from time of delivery to site until final acceptance of project.

3.9 PRE-MAINTENANCE PERIOD REVIEW AND APPROVAL OF PLANTING

A. Receive approval of the installed planting prior to commencement of planting establishment maintenance period. Notify the Project Manager a minimum of seven (7) days prior to requested review. Before the review, complete the following:

1. Complete all construction work.

2. Present all areas neat and clean with all weeds removed.

3. Complete all turf areas.

4. No partial approvals will be given.

3.10 PLANTING ESTABLISHMENT MAINTENANCE

A. General Requirements:

1. Use Bay-Friendly Landscape Maintenance practices to minimize waste, protect air and water quality, conserve energy and water, and protect natural ecosystems (refer to Bay-Friendly Landscape Guidelines, www.BayFriendly.org).

2. The planting establishment maintenance period required shall be 60 calendar days and start after certification of the project as substantially complete per Section 01 77 00. Refer to drawings for planting sequence requirements.

3. A longer period may be required if the plant material is not acceptably maintained during the maintenance period. The maintenance period may be suspended at any time upon written notice to the Contractor that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Project Inspector.

4. Planting establishment maintenance immediately follows, coincides with, and is continuous with the planting operations, and continues after all planting is complete and accepted; or longer where necessary to establish acceptable stands of thriving plants.

5. Protect all areas against damage, including erosion and trespass, and provide proper safeguards. Maintain and keep all temporary barriers erected to prevent trespass.

6. Keep all walks and paved areas clean. Keep the site clear of debris resulting from landscape work or maintenance.

7. Repair all damaged planted areas, and replace plants and reseed or re-sod immediately upon discovery of damage or loss. Broadcast seed grasses to supplement sparse areas and areas the have been damaged or have eroded.

8. Check sprinkler systems at each watering; adjust coverage and clean heads immediately. Adjust timing of sprinkler controller to prevent flooding.

9. Maintain adequate moisture depth in soil to insure vigorous growth.

10. Keep Contract areas free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the Contractor of the responsibility of keeping areas free of weeds over 1-inch high at all times.

B. Seed Maintenance:

1. Maintain during the entire establishment period.

2. Seed shall be well established, free of bare spots and weeds, and of a “sod-like” quality to the satisfaction of the Landscape Architect prior to Final Acceptance.

3. Maintain constant moisture to a depth of eight inches (8").

4. Keep seed areas free of undesirable weeds and grasses by the application of suitable selective weed killers or hand pulling. Use Integrated Pest Management practices that use the least toxic practices.

5. Re-seed all damaged areas as soon as evident.

6. Repair any hollow, settled or eroded areas by filling, rolling and reseeding or re-seeding.

3.11 FINAL PLANTING REVIEW AND ACCEPTANCE, PER SECTION 01 77 00

A. At the conclusion of the planting establishment period, schedule a final review. On such date, all project improvements and all corrective work shall have been completed. If all project improvements and corrective work are not completed, continue the planting establishment, at no additional cost to the Owner, until all work has been completed. This condition will be waived by the Owner under such circumstances wherein the Owner has granted an extension of time to permit the completion of a particular portion of the work beyond the time of completion set forth in the Agreement.

B. Submit written notice-requesting review at least 10 days before the anticipated review.

C. Prior to review, weed and rake all planted areas, repair plant basins, mow and edge turf, clear the site of all debris and present in a neat, orderly manner.

D. Acceptance of Seeded Areas: Final acceptance will follow final approval of the punch list and the following criteria:

1. Satisfactory Seeded Area: At end of Maintenance Period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 square feet.

3.12 WARRANTY AND REPLACEMENT

A. Warrant all seeding to be in a healthy thriving condition until the end of the maintenance period; and deciduous trees beyond that time until active growth is evident.

B. Replace all dead plants and plants not in a vigorous condition immediately as directed by the Landscape Architect at Contractor's expense. Install replacement plants before the final acceptance at the size specified.

C. Warrant all plant material for a period of one year after final acceptance by the district of the maintenance work against defects in the plant prior to installation. In General: Maintenance period will start at the substantial completion, per Section 01 77 00. Project acceptance and warranty period will occur at the conclusion of the Maintenance and District Acceptance of the project.

D. Warrant plant installation and maintenance by Contractor against defects for a period of one year from date of final acceptance by District.

END OF SECTION

SECTION 33 40 10

STORM DRAINAGE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide all labor, materials and equipment for installation of all storm drainage systems as indicated on the drawings.

B. Related work specified elsewhere includes:

1. Section 00 31 19 Existing Conditions
2. Section 00 31 32 Geotechnical Data
3. Section 01 11 00 Summary of Work
4. Section 01 45 00 Quality Control
5. Section 01 71 23 Field Engineering
6. Section 02 41 00 Site Preparation & Plant Protection
7. Section 12 93 05 Site Furnishings
8. Section 31 00 00 Earthwork
9. Section 31 25 00 Erosion Control
10. Section 32 11 13 Subgrade Preparation and Base Material
11. Section 32 11 15 Synthetic Composite Underlayment
12. Section 32 13 13 Landscape Concrete
13. Section 32 18 13 Synthetic Turf Playing Field

1.2 REFERENCE AND STANDARDS

A. All general contractors, synthetic turf field sub-contractors and all turf field subcontractors performing all sub base preparation, grading and drainage infrastructure work should be experienced in the installation of synthetic turf systems for at least five (5) years. Failure to meet the requisite qualifications may result in the general contractors and sub-contractors being rejected as non-responsible.

C. All general contractors, synthetic turf field sub-contractors and all turf field subcontractors performing all sub base preparation, grading and drainage infrastructure work to have completed within the last (5) five years, five (5) synthetic turf field projects in Northern California greater than 80,000 square feet per field. Failure to meet the requisite qualifications may result in the general contractors and sub-contractors being rejected as non-responsible.

D. Perform work in accordance with all applicable laws, codes and regulations required by the State Water Resources Control Board, City of Larkspur and County of Marin.

E. Reference to "Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

F. When the Specifications call for materials and construction of a better quality or larger sizes than required by the ordinances, the provisions of the Specifications shall take precedence over the requirements of said ordinances.

G. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557 laboratory compaction procedure.

H. Construction Safety Orders of the State of California.

I. Trench Safety Provision, Section 6705, California Labor Code.

1.3 SOILS REPORT

A. A soil investigation report has been prepared for the project. See Section 00 31 32, Geotechnical Data.

B. The report is available in the office of the Landscape Architect and the Construction Manager for inspection by the Contractor. Unless otherwise specified, it is intended that all work be performed in accordance with the provisions of these reports.

C. Drilled piers may encounter ground water. Excavations for drilled piers may require casings and installation of concrete by means of pumping under the direction of the Geotechnical Engineer.

1.4 SOILS BORINGS

A. Subsurface soils investigations have been made at the site and logs of the test holes are available with the Soils Report. Such investigations have been made for the purposes of design only, and neither the Landscape 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

1.5 PROJECT CONDITIONS

A. Before proceeding with work, field verify the materials, sizes and elevations of existing storm drainage facilities to remain and be connected to.

B. Before proceeding with work, clean and flush the existing storm drainage facilities to remain and be connected to within the limit of work.

C 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.

D. Underpin adjacent structure(s), including utility service lines, which may be damaged by excavation operations.

E. Promptly repair damage to adjacent facilities caused by earthwork operations. Cost of repair at Contractor's expense.

F. Promptly notify the Inspector of unexpected subsurface conditions.

G. Trench Excavations and Sidewall Support: Trenching, both in fill soils and residual soil and weathered rock, can be performed using standard rubber-tire or track-mounted backhoes or excavators. Trenching to depths greater than 4.5 feet will require trench shields or shoring per OSHA regulations. Trenches or excavations around manholes or in areas that cannot be easily shored may require laying slopes back per OSHA recommendations and procedures. In areas beneath paved parking lots, trenches with saw-cut pavement on flat ground would provide the most stable conditions with respect to possible trench wall caving or sloughing. Trenches dug parallel to slopes will be the least stable.

H. Trench Stabilization and Dewatering Considerations: In instances where excessive caving or unstable wall conditions are encountered, the Geotechnical Engineer may recommend that trench shields be used both for worker safety and to maintain integrity of the trench. Minimizing the length of trench open at one time will also minimize trench instability. If there is a significant risk of side wall sloughing and bottom heaving, the Geotechnical Engineer may recommend that a crushed rock-working surface be placed. This working surface shall be built by overexcavating the soil beneath the trench at least 12-inches, shoring established, then replacing with at least 12-inches of 1-1/2-inch maximum, crush rock (3/4-inch by ¼-inch would be ideal). The crushed rock shall be underlain with filter fabric (MIRAFI 140N or equal). Also, for this condition, the Geotechnical Engineer recommends the need to keep trenches open as short a time as if possible before backfilling. The risk of trench wall squeezing and bottom heave increases with time.

1.6 GENERAL REQUIREMENTS

A. Sheeting and Shoring: Furnish, place and maintain such sheeting, bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen, to facilitate the work, and to prevent damage to the pipes and structures or facilities. Upon completion of the work, all bracing and shoring shall be removed, unless otherwise directed by the Inspector.

B. Protection of Other Property: Excavation and other work over, under and adjacent to existing pipelines, cables, conduit runs 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 own expense.

C. Underground Obstruction: The locations of existing underground utilities and structures, insofar as they 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.

D. Control of Water: Take measures as may be required and 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 construction of the work, and until the Geotechnical Engineer gives permission to cease pumping.

E. Pavement Restoration: Pavement, bases and compacted subgrade disturbed by trenching operations shall be replaced in an acceptable manner with materials equal to the adjacent compacted subgrade, bases and pavement for a minimum distance of 12" on each side of the trench, and shall conform to the requirements of these Specifications or to local ordinances governing such replacement.

1.7 COORDINATION

A. Examine the site and familiarize all conditions.

B. Coordinate this work with the work of other Sections to avoid delay and interference with other work.

C. Layout of equipment, accessories and piping system is generally diagrammatic, unless specifically dimensioned. Drawings and details shall be checked for interferences before installing the work. The right is reserved to make any reasonable change in location of piping shown on the drawings without increase in Contract price.

D. Keep an accurate dimensioned record of as-built location and depth, as referred to accepted based datum, on all lines, drop inlets, etc. Keep record drawings up-to-date as the job progresses and available for inspection. Prior to final acceptance and approval of the work, deliver a copy of this record to the Inspector in neat and legible form.

1.8 SUBMITTALS

A. Comply with General Conditions.

B. Product Literature:

1. Pipe & fittings.

2. Filter fabric.

3. Drop inlets, Area drains.

4. Angular washed sand.

C. Certificate of Letter of Compliance:

1. Sand backfill with sieve analysis.

2. Permeable backfill.

3. Certified copies of test reports demonstrating conformance to applicable pipe specifications prior to installation of any pipe.

4. Before beginning demolition of underground storm drainage system, provide a map and DVD of video of storm drain system showing location, pipe size, inverts and condition of existing storm drain system to remain as noted on drawings.

D. Samples:

1. Filter fabric.

2. Sand backfill.

3. Permeable backfill.

4. Angular washed sand

1.9 FIELD QUALITY CONTROL

A. Contractor shall provide adequate notice, cooperate with, provide access to the work, and assist testing agency and their representatives in 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. Cost 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 storm drainage.

E. 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.

PART 2 - MATERIALS

2.1 STORM DRAINAGE PIPE

A. Corrugated High Density Polyethylene (CHDPE) may be substituted for Polyvinyl Chloride (PVC) Pipe where PVC pipe is noted on the drawings.

B. Polyvinyl Chloride (PVC) Pipe: PVC pipe and fittings shall meet the extra strength minimum of SDR-35 of the requirements of ASTM Specification D3034. Joints shall be rubber ring for Storm Drainage Pipe. Manufactured by J-M Manufacturing, Stockton, CA, (1-800-621-4404), or accepted equal.

1. PVC Smooth Wall Perforated Drain Pipe: Size as noted on the drawings, and manufactured to meet CALTRANS Standard Specification Section 68 and AASHTO M278, or accepted equal. Color, White.

2. Storm Drain Pipe: SDR-35. Size as noted on the drawings and manufactured to meet Caltrans standard specifications. Color, White.

C. Corrugated High Density Polyethylene (CHDPE) Storm Drain Pipe: CHDPE solid wall pipe and fittings shall be N-12 drainage pipe with N-12 IB WT pipe joint assembly as manufactured by Advanced Drainage Systems, 800-821-6710. Inc., or accepted equal. Local sales representative: Jim Winslow, 510-913-2211.

D. Corrugated High Density Polyethylene (CHDPE) Perforated Drain Pipe: Perforated CHDPE pipe and fittings shall be N-12 Series 65 WT Corrugated HDPE Pipe and fittings as manufactured by Advanced Drainage Systems, 800-821-6710. Inc., or accepted equal. Local sales representative: Jim Winslow, 510-913-2211.

2.2 STRUCTURES

A. By Christy, Model No. as shown on the drawings. Christy, 1-800-486-7070, Central Precast, 707-546-5016, Hanson Concrete Products, Pleasanton, CA, 925-846-8800, Old Castle Precast Inc., 800-486-7070, Jensen Precast, 916-992-8312, or accepted equal with precast or wet set concrete bottom as required.

1. Refer to Drawings.

2.3 PERMEABLE BACKFILL (Drain Rock)

A. All permeable backfill (permeable material and drain rock) used in subsurface drain installations must come from one supplier only.

B. Refer to Section 32 11 15 for Permeable backfill.

2.4 IMPORTED BACKFILL

A. Import backfill, where required, shall meet the requirements of Fill in Section 31 00 00 Earthwork.

2.5 FILTER FABRIC

A. Polypropylene non-woven filter fabric with uniform fiber distribution by "Mirafi, Inc." #140N, or accepted equal.

2.6 PIPE BEDDING (SAND BEDDING)

A. Pipe bedding material shall consist of permeable material where called for on drawings.

B. Pipe bedding material where not required to be permeable material shall consist of sand or granular materials naturally produced by the disintegration of rock and shall be sufficiently free of organic material, mica, loam, clay and other deleterious substances with 90 to 100 percent of particles passing the No. 4 sieve and no more than of 5 percent finer than the No. 200 sieve. The bedding shall be at 3 to 6 inches below the pipe and 12 inches above the pipe.

2.7 TRENCH BACKFILL

A. Trench backfill shall consist of permeable material where called for on drawings.

B. Intermediate backfill (above the bedding material and below any pavement section) where not required to be permeable material may consist of on-site soils, provided the material has no organic material, no rocks larger than 3 inches, have a liquid limit equal to or less than 40, and a plasticity index equal to or less than 15 and is moisture conditioned and placed in thin lifts and compacted to at least 95 percent in structural areas and engineered fills and 85 percent in non-structural areas.

C. The underground utility trenches located in the synthetic turf field shall be backfilled with permeable material where called for on drawings or native material or base rock or quarry fines or cement slurry all the way up to the required subgrade elevation as acceptable the geotechnical engineer.

D. Trenches shall not be backfilled with pea gravel or crushed rock, except as a part of bedding material.

E. All the underground utility trenches located in the synthetic turf field, expect perimeter drains, shall be backfilled with native material or base rock or quarry fines or cement slurry all the way up to the required subgrade elevation. The material shall be placed in (12) inch un-compacted lifts and each lift shall be compacted to minimum of 95% relative compaction. The material shall be moisture conditioned properly, prior to placement in the trenches.

F. Trenches shall not be backfilled with pea gravel or crushed rock, except as a part of bedding material and no jetting will be allowed / permitted at any time during the backfill of the material. If trenches are deeper than five (5) feet, shoring is required and shall be installed in accordance with O.S.H.A. regulations

2.8 SAND (ANGULAR WASHED SAND AND SAND GROWING MEDIUM)

A. Sand backfill and sand for top dressing shall be medium angular coarse washed USGA Sand, free of mica and meet or exceed recommended values:

B. A total silt and clay of no more than 4%.

C. Shall be naturally angled sand. No rounded silica sand.

D. Sand shall meet or exceed the following values of USGA sand particle distribution:

Sieve Size	USGA Spec Individual Percent Retained
#4	0
#10	0-3%
#18	0-7%
#35	Minimum 60% Combined
#60	
#100	20% Maximum
#270	5% Maximum

E. Sand shall be from one of the following sources or approved equal:

1. Top Dressing Sand available from Tim Smith of Brown Sand Inc. 209-234-1200.

2. G8 Sand available from TMT Enterprises 408-432-9040-Matt.

PART 3 - EXECUTION

3. 1 GENERAL REQUIREMENTS

A. Lay storm drains true to line and grade by accurate and accepted methods, beginning at the outlet and proceeding upgrade. Storm lines shall slope uniformly between elevations given.

B. Pipe, fittings, precast sections, drain inlets, trench drains, clean outs, frames and covers shall be carefully handled at all times.

C. No pipe shall be laid which is cracked, checked, spalled or damaged. All damaged, cracked, checked or spalled sections shall be removed from the site.

D. Chain slings are not permitted. Support pipe loaded on trucks or stacked one upon another with wooden blocking. Pipe handled or skidways shall not be skidded or rolled against pipe already on the ground.

E. Install all pipes in the approximate locations shown and of size indicated on the drawings.

F. All pipeline and fittings shall be kept clean and closed during construction.

G. Install piping pitch down in direction of flow at minimum 0.5 percent, except where indicated otherwise.

H. Place bell ends of piping facing upstream. Install gasket seals, sleeves and couplings in accordance with manufacturer's recommendations for use of lubricants, cements, and other installation requirements. Maintain swab or drag in line and pull past each joint as it is completed.

3.2 TRENCH EXCAVATION

A. All utility trenches shall be excavated in accordance with current OSHA excavation and trench safety trench safety standards. The contractor shall be solely responsible for the design and construction of all excavation and trench safety.

B. The bottom of trenches shall be free of loose material at the bottom of the trenches compacted and tested by the assigned Field Engineer to a minimum of 95% relative compaction, prior to placement of the liner or pipes in the trenches.

C. Storm drain line bedding material shall consist of specified bedding. The bedding shall extend from the bottom of the trench to 1-foot above the top of the pipe. Sand bedding shall be placed in a trench free of standing water, and mechanically compacted to a dense condition (as verified by the Geotechnical Engineer).

D. Trench backfill above the pipe bedding shall meet the criteria for fill in Section 31 00 00, Earthwork. The Geotechnical Engineer shall evaluate any proposed imported soil sample prior to it use as trench backfill. Trench backfill shall be placed in uniform layers not exceeding 8-inches in loose thickness, moisture-conditioned to near-optimum moisture content, and compacted. Backfill shall be compacted to at least 95 percent relative compaction in paved, synthetic turf, structural areas and engineered fills and 85 percent in planted areas. Jetting shall not be permitted for any backfill compaction.

E. Any groundwater infiltrating into utility trenches shall be pumped out prior to backfilling.

F. Unless otherwise shown on the drawings, the width of trenches at any point below the top of the pipe shall not be greater than the outside diameter of the pipe plus 16" for pipe diameters 33" or less. Sheeting and bracing, where required, shall be placed within the trench width.

G. Do not over-excavate. Remove stones necessary to avoid point bearing. Pipes shall be bedded in accordance with backfill herein, and additionally where rock, hardpan or other unyielding foundation material is encountered in trenches at the grade or the bottom of the pipe. The hard unyielding material shall be excavated to a minimum depth of 6" below the bottom of the pipe bell or coupling, and such overdepths shall be backfilled with materials specified, for backfill and for backfilling the lower portion of trenches, compacted to a relative compaction of not less than 90%.

H. Unsatisfactory material such as mud, quicksand or other unsuitable materials encountered below the grades shown or specified which are directed or specified to be removed shall be replaced with selected materials, compacted to a relative compaction of not less than 90%.

I. In the event of excavation exceeding the trench width specified, furnish higher strength pipe or other construction methods (i.e., improved bedding), as accepted by the Inspector, to provide for the resultant increased loading. The Geotechnical Engineer shall have the right to limit the amount of trench that is opened or partially opened at any one time, and to limit the amount of trench left without backfill at any one time.

J. All materials, regardless of character and subsurface condition, shall be excavated to the depths indicated or specified. During excavation, material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid

overloading and to prevent slides or cave-ins, or shall be separately stockpiled as required. Dispose of excess excavated material or unsalvageable material off of the property.

3.3 EXCAVATION FOR STRUCTURES AND APPURTENANCES

A. Excavation for inlets and similar structures shall be sufficient to provide at least 12" in the clear between the outer surfaces and the adjacent earth or timber that may be used to hold and protect the banks. Any overdepth excavation below such appurtenances that has not been directed will be considered unauthorized and shall be refilled with sand, selected materials, gravel or concrete, as directed and at the expense of the Contractor. Unsatisfactory material such as mud, quicksand or other unsuitable materials encountered below the grades shown or specified for structure foundations, when directed shall be removed and replaced as specified in Trench Excavation above.

3.4 DROP INLETS

A. Install plumb, level and square to adjacent structure or paving or as otherwise directed by Inspector.

B. Place mortar to slope bottom of inlet 1/4"/ft. for drain inlets.

C. Bolt grate to concrete drain box or secure with a chain to secure grate from vandals and allow for maintenance access; length as required. Anchor chain in concrete and fasten to grate as accepted. Submit sample.

D. Connect Drop Inlet directly to storm drainpipe and make a complete watertight connection.

E. Wrap exposed grates in triple layer of ¼” mesh galvanized hardware cloth. Provide mock up for acceptance.

3.5 SAND BACKFILL (PIPE BEDDING)

A. Pipe shall have sand bedding in accordance with the requirements specified herein.

B. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The bedding shall be at 3 to 6 inches below the pipe and 12 inches above the pipe.

C. Bedding shall be placed and compacted in thin lifts (8-inch maximum loose thickness) and compacted in-place.

3.6 SUBSURFACE DRAINS

A. Install subsurface drains where indicated on the drawings and backfill with permeable material as specified. Provide not less than 3" of permeable material under pipe. Bell and spigot, and tongue and groove concrete pipe shall be laid without mortar in the joints, and lengths shall be pressed firmly together to prevent infiltration of fine material. Lay all pipe perforations down. Where subsurface drains connect to storm drainage systems, verify inverts of connections and lay pipe accordingly to drain.

3.7 DITCHES AND SWALES

A. Construct ditches and swales as detailed and in the areas designated to convey storm water to the storm drainage facilities.

3.8 BACKFILLING

A. Do not backfill trenches until all required tests are performed and inspections made. Remove sheeting, bracing and shoring. Backfill trench with selected material suitable for the specified compaction. Trenches improperly backfilled shall be reopened to the depth required for proper compaction, then refilled and compacted as specified.

B. Compact granular material bedding by mechanical tampers to the specified relative compaction. Bedding and backfill materials as applicable shall be carefully compacted below the springline of the pipe, and shall be brought up simultaneously on both sides to the full specified depth so as to obviate any displacement of the pipe from its true alignment. Special care shall be taken not to damage the coating or wrapping of pipes.

C. Backfilling for Structures: Backfill material, placement and compaction for manholes and similar structures shall conform to the requirements stipulated above for the trench using 6” - 8" uniform layers.

3.9 RELATIVE COMPACTION

A. Each layer of bedding material and backfill over and around pipes, and each layer of backfill around and adjacent to structures, shall be compacted at the proper moisture content to 95% relative compaction.

B. Allow sufficient time to perform the necessary testing to assure that the backfill is being properly compacted. Backfill operations shall be scheduled in such manner as to permit making necessary control tests for each backfill lift prior to the placing of subsequent lifts. Field density tests will be performed in sufficient number to ensure that the specified density is being obtained.

3.10 DAMAGE BY LEAKS

A. The Contractor shall be responsible for all damage to any part of the premises caused by leaks or breaks in pipes, connections or appurtenances furnished and installed under this Specification for a period of one (1) year after date of acceptance of the project by the Owner.

3.11 CLOSING OF UNINSPECTED WORK

A. Do not allow any of the work installed to be covered up or enclosed before it has been inspected and accepted by the Inspector. Any work enclosed or covered before it has been accepted or directed to be covered shall be uncovered by the Contractor, at his expense, and replaced as directed.

3.12 FIELD QUALITY CONTROL

A. Per General Conditions.

B. Request inspection prior to and immediately after placing cover over pipe.

C. Compaction testing will be performed in accordance with the Standard Specifications.

D. Exfiltration Test, Deflection Test, and Pressure Test: Test in accordance with Standard Specifications.

E. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.13 CARE AND CLEANING: Per General Conditions

A. During construction, protect work from damage by accident, staining or otherwise. Upon completion, repair or replace broken, damaged or defective parts. All work shall be left in a condition satisfactory to the Owner. Remove all surplus materials and debris from the premises.

B. At completion, flush and clean out installed piping systems.

3.14 IDENTIFICATION

A. Underground Type Plastic Line Makers: The manufacturer's standard permanent, bright colored, continuous plastic tape intended for direct-burial services not less than 6-inches wide x 4-mils thick. Provide green tape with black printing reading "CAUTION STORM DRAIN LINE BURIED BELOW".

B. Tape markers shall be of detection type with foil backing.

C. Install continuous plastic underground warming tape during back-filling of trench. Locate 12" directly above piping.

3.15 CLOSEOUT

A. Before project acceptance demonstrate that installed piping system is flushed and clean.

B. 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.

C. Demonstrate to the Owner's personnel where the drains and perimeter drain cleanouts are located and how to open and clean them.

D. Mark the location s of the perimeter drain cleanouts on adjacent concrete surface.

E. Include copies of the storm drain material submittals in the Operations and Maintenance manuals as part of the closeout documents.

END OF SECTION

Redwood High School Ghilotti Field Site Improvements

Tamalpais Union High School District

APPENDIX A

CARDUCCI
ASSOCIATES

MILLER PACIFIC ENGINEERING GROUP

GEOTECHNICAL INVESTIGATION (REV[1])
REDWOOD HIGH SCHOOL –
2023 IMPROVEMENTS
LARKSPUR, CALIFORNIA

December 7, 2023

Project 867.193

Prepared For:
Tamalpais Union High School District
395 Doherty Drive
Larkspur, California 94939

Attn: Mr. Michael Woolard
Sr. Director of Facilities Planning

CERTIFICATION

Revisions:

1. Original report issued September 18, 2023

This document is an instrument of service, prepared by or under the direction of the undersigned professionals, in accordance with the current ordinary standard of care. The service specifically excludes the investigation of radon, asbestos or other hazardous materials. The document is for the sole use of the client and consultants on this project. No other use is authorized. If the project changes, or more than two years have passed since issuance of this report, the findings and recommendations must be reviewed by the undersigned.

MILLER PACIFIC ENGINEERING GROUP (a California corporation)



Benjamin S. Pappas
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MILLER PACIFIC ENGINEERING GROUP

GEOTECHNICAL INVESTIGATION
REDWOOD HIGH SCHOOL –
2023 IMPROVEMENTS
LARKSPUR, CALIFORNIA

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GEOTECHNICAL INVESTIGATION
REDWOOD HIGH SCHOOL –
2023 IMPROVEMENTS
LARKSPUR, CALIFORNIA

1.0 INTRODUCTION

This report summarizes our geotechnical investigation for the proposed 2023 Improvements at Redwood High School. The site located at 395 Doherty Drive in Larkspur, California as shown on the Site Location Map, Figure 1. Our work was performed in accordance with our Agreement for Professional Services, dated June 15, 2023. The purpose of our services is to evaluate site conditions and provide geotechnical recommendations for the proposed improvements. We are providing our services in three phases: 1) Geotechnical Investigation, 2) Geotechnical Consultation and 3) Geotechnical Construction Observation and Testing. This report concludes our Phase 1 services and includes:

- Review of readily available published geologic maps and subsurface data previously collected at the site;
- Exploration of subsurface conditions with two borings and two cone penetration tests (CPTs);
- Laboratory testing of collected soil samples;
- Evaluation of geologic hazards relevant to site development;
- Development of geotechnical design recommendations for the project; and,
- Preparation of this report summarizing our findings.

2.0 PROJECT DESCRIPTION

Based on our discussions with the design team, we understand the project includes renovating/converting the existing kitchen and cafeteria building into a student commons space; constructing a new approximate 11,000 square foot, one-story music; constructing an approximate 8,000 square-foot ceramics building; and constructing an approximate 12,600 square-foot, one-story cafeteria and kitchen building with an art studio occupying the upper level. We anticipate ancillary improvements including flatwork, site utilities and landscaping. A Site Plan indicating the locations of the proposed improvements is presented on Figure 2.

The new improvements will require demolishing existing classroom space. The loss of classroom space will be supplemented with approximately 5,500 square feet of temporary portable classrooms for use during construction of the proposed improvements. The temporary classrooms will be constructed on an existing, asphalt paved pedestrian area, and we understand the structures are planned to be used for approximately five years.

3.0 SITE CONDITIONS

The project site is located in the Coast Ranges geomorphic province of California, which is typified by generally northwest-trending ridges and intervening valleys formed as a result of movement along a group of northwest-trending fault systems, including the San Andreas Fault. Bedrock geology within Marin County is dominated by sedimentary, igneous, and metamorphic rocks of the Jurassic-Cretaceous age Franciscan Complex. Sandstone and shale comprise the majority of Franciscan rock types, while less common rocks include chert, serpentinite, basalt, greenstone, and exotic low- to high-grade metamorphic rocks, including phyllite, schist, and eclogite.

3.1 Regional Geology

As shown on Figure 3, regional geologic mapping (Smith, Rice, and Strand, 1976) indicates the site is underlain by artificial fill placed over Bay Mud (map symbol Qaf/Qm). This unit generally consists of highly variable deposits of rock, soil, and debris placed by man overlying marsh deposits locally known as Bay Mud. Bay Mud is described as a soft, highly compressible silt and clay marine marsh deposit. Franciscan sandstone and shale (map symbol Ks) are mapped on the northern end of the campus as well as to the west and southwest. The Franciscan sandstone and shale unit is generally described as variably interbedded medium- to coarse-grained sandstone and well-bedded siltstone shale.

3.2 Seismicity

The project site is located within a seismically active region that includes the Central and Northern Coast Mountain Ranges. Several active faults are present in the area including the San Andreas, San Gregorio, Hayward/Rodgers Creek, among others. An “active” fault is defined as one that shows displacement within the last 11,000 years and, therefore, is considered more likely to generate a future earthquake than a fault that shows no evidence of recent rupture. The California Department of Conservation, California Geologic Survey, formerly the Division of Mines and Geology, has mapped various active and inactive faults throughout California. Active faults located near the project site are shown on the Active Fault Map, Figure 4. The San Andreas Fault is the nearest known active fault and is located approximately 13.1-kilometers (8.2-miles) southwest of the site (www.usgs.gov/programs/earthquake-hazards/google-earthtmkml-files, accessed 2023).

3.6.1 Historic Fault Activity

Numerous earthquakes have occurred in the region within historic times. Earthquakes (magnitude 2.0 and greater) that have occurred in the San Francisco Bay Area between 1985 and 2023 have been plotted on a map shown on Figure 5. The three most significant earthquakes to have occurred in recent history that have impacted the greater Marin County area, including Larkspur, are outlined below:

1906 San Francisco Earthquake – The April 18, 1906, magnitude 8.3 earthquake occurred on the northern segment of the San Andreas Fault. The earthquake resulted in catastrophic damage throughout the greater Bay Area. Significant damage, including complete structural collapses, and 498 deaths were reported in San Francisco.

1969 Rodgers Creek/Healdsburg Fault Earthquake – Two earthquakes of magnitudes 5.6 and 5.7 originated on the Rodgers Creek and Healdsburg Faults. The resulting damage was concentrated in Santa Rosa with partial and near structural collapses. No loss of life was reported.

1989 Loma Prieta Earthquake – The magnitude 6.9 earthquake was a result of a rupture along the San Andreas Fault in the Santa Cruz Mountains. Significant damage was reported throughout the Bay Area, with a majority occurring in San Francisco, Oakland, and Santa Cruz in the form of structural collapses and loss of life. Significant damage was not reported in the Larkspur area.

3.6.2 Probability of Future Earthquakes

The site will likely experience moderate to strong ground shaking from future earthquakes originating on any of several active faults in the San Francisco Bay region. The historical records do not directly indicate either the maximum credible earthquake or the probability of such a future event. To evaluate earthquake probabilities in California, the USGS has assembled a group of researchers into the "Working Group on California Earthquake Probabilities" (USGS 2003 & 2008; Field et al 2015) to estimate the probabilities of earthquakes on active faults. These studies have been published cooperatively by the USGS, CGS, and Southern California Earthquake Center (SCEC) as the Uniform California Earthquake Rupture Forecast, Versions 1, 2, and 3 (aka UCERF, UCERF2, and UCERF3, respectively). In these studies, potential seismic sources were analyzed considering fault geometry, geologic slip rates, geodetic strain rates, historic activity, micro-seismicity, and other factors to arrive at estimates of earthquakes of various magnitudes on a variety of faults in California.

The 2003 study (UCERF) specifically analyzed fault sources and earthquake probabilities for the seven major regional fault systems in the Bay Area region of northern California. The 2008 study (UCERF2) applied many of the analyses used in the 2003 study to the entire state of California and updated some of the analytical methods and models. The most recent 2015 study (UCERF3) further expanded the database of faults considered and allowed for consideration of multi-fault ruptures, among other improvements.

Conclusions from the most recent UCERF3 indicate the highest probability of an M>6.7 earthquake on any of the active faults in the San Francisco Bay region by 2045 is assigned to the Hayward/Rodgers Creek Fault, located approximately 15.5 kilometers northeast of the site, at 33%. The San Andreas Fault, located approximately 12.7 kilometers southwest of the project site, assigned a probability of 22% for a M>6.7 earthquake by 2045. Additional studies by the USGS regarding the probability of large earthquakes in the Bay Area are ongoing. These current evaluations include data from additional active faults and updated geological data.

3.3 Surface Conditions

The project site is located in a mostly residential area of eastern Larkspur. The approximate 64-acre campus site is bounded to the north and northeast by Doherty Drive, to the south and east by undeveloped marshlands, and to the west by Corte Madera Creek and single-family residential developments. The campus is currently developed with one- and two-story classrooms and administrative structures, sports fields, concrete and asphalt pedestrian areas, and asphalt parking lots. Surface elevations within the campus range from a minimum of approximately +5 feet to +10. The campus structures appear to be performing well with no significant indications of distress. Additionally, we did not observe any significant cracking within the asphalt or concrete pavements.

3.4 Subsurface Exploration and Laboratory Testing

We explored subsurface conditions in the general vicinity of the planned improvements on July 18th and 19th, 2023 with two soil borings drilled with track-mounted equipment to maximum explored depths between about 25.0- and 40.5-feet below the ground surface. The borings were logged in the field by our geologist and soil samples were collected at select intervals for laboratory testing. Brief explanations of the terms and methodology used in classifying earth materials are provided

on the attached Soil and Rock Classification Charts, Figures A-1 and A-2, respectively. Boring Logs are shown on Figures A-3 through A-6.

Laboratory testing of select soil samples recovered from our soil boring included determination of moisture content, dry density, unconfined compressive strength, plasticity index, 1-D consolidation, and corrosion potential in general accordance with ASTM, Caltrans, EPA, and/or other applicable standards. The results of the moisture content, dry density, and unconfined compressive strength tests are presented on the Boring Logs. The results of the plasticity index, 1-D consolidation and corrosion potential tests are presented on Figures A-7 through A-9. The laboratory testing program is discussed in further detail in Appendix A.

We also performed two Cone Penetration Tests (CPTs) pushed to maximum depths between 41.8- and 45.3-feet below the ground surface. Shear wave velocities were also recorded during the CPT exploration. Our CPT subsurface exploration program is discussed in more detail in Appendix B. A description of the CPT instrument and exploratory CPT logs are presented on Figures B-1 through B-3. Additionally, the results of the shear wave velocity testing and the calculated V_{S30} value are presented on Figure B-4.

Additionally, we previously explored subsurface conditions with a combination of auger drilling and CPT equipment in the general vicinity of the proposed improvements in 2010 (MPEG, 2010), 2017 (MPEG, 2017) and 2023 (MPEG, 2023). The approximate locations of these data points are shown on Figure 2, with the results presented in Appendix C.

3.5 Subsurface Conditions

The results of our subsurface exploration are somewhat consistent with the regionally-mapped geologic conditions at the site. The subsurface conditions in the area of the proposed music building, cafeteria, and student commons structures in the eastern part of the site consist of roughly 5- to 12-feet of artificial fill; consisting of interbedded layers of low to medium plasticity, medium stiff sandy clay and medium dense silty sand, overlying roughly 13- to 35-feet of highly plastic, soft, compressible Bay Mud. The Bay Mud deposits locally overlie approximately 8- to 10-feet of old alluvial deposits consisting of medium stiff to very stiff sandy and silty clays and/or medium dense to dense silty and clayey sands. These old alluvial deposits were not observed in Borings 1 or 2 (2023) or CPT 6 (2014). Weathered sandstone bedrock was observed approximately 20- to 50-feet below the ground surface.

The results of our previous exploration in the general vicinity of the proposed temporary classrooms in the southern part of the site indicate that conditions in this area generally consist of 5- to 6-feet of artificial fill; consisting of interbedded layers of low to medium plasticity, medium stiff sandy clay and medium dense silty sand, overlying 15- to 25-feet of medium stiff sandy and silty clay alluvium. Weathered sandstone bedrock was observed roughly 20- to 27-feet below the ground surface. We interpreted the subsurface conditions to develop idealized cross sections presented on Figures 6 and 7.

Groundwater has been encountered at depths between 5- and 11-feet below the ground surface during our various investigations at the site. We performed pore a pressure dissipation test for this project at CPT-01 to determine a stabilized ground water level. The results of the dissipation test indicate groundwater levels were approximately 6.5- to 7.0 feet below the ground surface.

We also researched the State of California's Sustainable Groundwater Management Act (SGMA) database (https://sgma.water.ca.gov/) to identify any existing onsite or neighboring ground water data. The results of our search did not identify any existing groundwater wells in the immediate vicinity of the project site.

Therefore, based on the aggregated data, we anticipate the highest historic groundwater level at the project site to be 5-feet below the ground surface. Groundwater levels may fluctuate seasonally, with higher levels expected during the late winter and early spring months. Additionally, given the high school campus' close proximity to Corte Madera Creek and the San Francisco Bay, we anticipate the groundwater levels will be influenced by the tide.

4.0 GEOLOGIC HAZARDS EVALUATION

The principal geologic hazards which could potentially affect the project site are strong seismic shaking from future earthquakes in the San Francisco Bay Region, liquefaction, long term settlement, seiche inundation and flooding. Other hazards are not considered significant at the site. Geologic hazards, their impacts, and recommended mitigation measures are discussed below.

4.1 Fault Surface Rupture

Under the Alquist-Priolo Earthquake Fault Zoning Act, the California Geological Survey (CGS, 2007) produced 1:24,000 scale maps showing all known active faults and defining zones within which special fault studies are required. Based on currently available published geologic information, the project site is not located within an Alquist-Priolo Earthquake Fault Zone. Additionally, we did not observe any indications of active or historic faulting during our site reconnaissance. Therefore, the potential for fault surface rupture on the project site is considered to be very low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.2 Seismic Shaking

The site will likely experience seismic ground shaking from future earthquakes in the San Francisco Bay Area. Earthquakes along several active faults in the region, as shown on Figure 4, could cause moderate to strong ground shaking at the site.

4.2.1 Deterministic Seismic Hazard Analysis

Deterministic Seismic Hazard Analysis (DSHA) predicts the intensity of earthquake ground motions by analyzing the characteristics of nearby faults, distance to the faults and rupture zones, earthquake magnitudes, earthquake durations, and site-specific geologic conditions. Empirical relations (Abrahamson, Silva & Kamai, Boore, Stewart, Seyhan & Atkinson, Campbell & Borzognia, and Chiou & Youngs, (2014)) were used to provide approximate estimates of median peak site accelerations. Based on the shear wave

velocity profile, as shown on Figure B-4, we calculated a Vs_{30} value of 417 ft/s (127 m/s) for use in estimation of peak ground accelerations. A summary of the principal active faults affecting the site, their closest distance, moment magnitude of characteristic earthquake, probable median accelerations and plus one standard deviation (+1σ), peak ground accelerations (PGA) for earthquakes on faults near the site are shown in Table A.

TABLE A
DETERMINISTIC PEAK GROUND ACCELERATION
2023 Improvements –
Redwood High School
Larkspur, California

Fault Rupture Scenario	Fault Distance[1]	Moment Magnitude[2]	Median PGA[3,4]	+1σ PGA[3]
San Andreas Fault: SAO+SAN+SAP+SAS	12.7 km	8.0	0.28 g	0.43 g
San Gregorio Fault	14.4 km	7.4	0.25 g	0.39 g
Hayward Fault: RC+HN+HS+HE	15.5 km	7.6	0.25 g	0.39 g
West Napa	34.7 km	7.0	0.15 g	0.24 g

Notes:

1. Values derived from USGS Quaternary Fault and Fold Database, https://www.usgs.gov/programs/earthquake-hazards/faults, accessed 2023.
2. Values determined using USGS Earthquake Scenario Map (BSSC 2014), accessed 2023.
3. Values determined using V_{S30} = 127 m/s for "Site Class E". See Section 5.1 of this report for additional discussion regarding site classification.
4. Abrahamson, Silva and Kamai (2014); Boore, Stewart, Seyhan and Atkinson (2014); Campbell and Borzognia (2014); and Chiou and Youngs (2014).

Key:

RC – Rodgers Creek – Healdsburg Fault
HN – Hayward Fault, Northern Section
HS – Hayward Fault, Southern Section
HE – Hayward Fault, Southern Extension
SAO – San Andreas Fault, Offshore
SAN – San Andreas Fault, North Coast
SAP – San Andreas Fault, Peninsula
SAS – San Andreas Fault, Santa Cruz Mountains

4.2.2 Probabilistic Seismic Hazard Analysis

Probabilistic Seismic Hazard Analysis (PSHA) analyzes all possible earthquake scenarios while incorporating the probability of each individual event to occur. The probability is determined in the form of the recurrence interval, which is the average time for a specific earthquake acceleration to be exceeded. The design earthquake is not solely dependent on the fault with the closest distance to the site and/or the largest magnitude, but rather the probability of given seismic events occurring on both known and unknown faults.

We calculated the PGA for two separate probabilistic conditions, the 2% chance of exceedance in 50 years (2,475-year statistical return period), and the 10% chance of exceedance in 50 years (475-year statistical return period), utilizing the USGS Uniform Hazard Tool (USGS, accessed 2023). The results of the probabilistic analyses are presented below in Table B.

TABLE B
PROBABILISTIC SEISMIC HAZARD ANALYSES
2023 Improvements –
Redwood High School
Larkspur, California

	Statistical Return Period	Magnitude	PGA
2% in 50 years	2,475 years	7.9	0.71 g
10% in 50 years	475 years	7.9	0.45 g

Reference: USGS – Unified Hazard Tool (2023)

The potential for strong seismic shaking at the project site is high. Due to their proximity and probability of future rupture, the San Andreas and Hayward Faults present the highest potential for strong ground shaking. The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements.

Evaluation: *Less than significant with mitigation.*
Mitigation: *Minimum mitigation measures should include designing the structures and foundations in accordance with the most recent version (2022) of the California Building Code.*

4.3 Liquefaction Potential and Related Impacts

Liquefaction refers to the sudden, temporary loss of soil shear strength during strong ground shaking. Liquefaction-related phenomena include liquefaction-induced settlement, flow failure, and lateral spreading. These phenomena can occur within saturated, loose, granular deposits. Recent advances in liquefaction studies (Idriss & Boulanger, 2008 & 2010) indicate that liquefaction can occur in granular materials with a high fines content (35 to 50% clay and silt particles that pass the #200 sieve) provided the fines exhibit a plasticity index (PI) less than 7. As shown on Figure 8, a majority of the campus is mapped within a zone of “very high” susceptibility

to liquefaction by the Association of Bay Area Governments (ABAG). A small zone in the northern part of the campus, which is underlain by shallow sandstone, is mapped in a zone of "very low" liquefaction susceptibility.

4.3.1 Liquefaction Evaluation

To evaluate soil liquefaction, the seismic energy from an earthquake is compared with the ability of the soil to resist pore pressure generation, known as the Cyclic Resistance Ratio (CRR). Earthquake energy is termed the cyclic stress ratio (CSR) and is a function of the maximum considered earthquake peak ground acceleration (PGA) and depth. Soil resistance to liquefaction is based on its relative density, and the amount and plasticity of the fines (silts and clays). The relative density of cohesionless soil is correlated with the Standard Penetration Test (SPT) blow count data measured in the field and corrected for hammer efficiency, overburden, and percent fines to determine the $(N_1)_{60,CS}$ value. Cone Penetration Test data, corrected for overburden, can also be utilized to determine the relative density of a soils and subsequently its resistance to liquefaction.

We analyzed the potential for liquefaction utilizing our current and previous subsurface boring data and the liquefaction analysis procedures outlined by Idriss and Boulanger (2008, 2010 and 2014). We modeled a design seismic event consisting of a magnitude 8.0 earthquake producing a PGA of 0.64 g, which corresponds to the PGA_M value as defined in ASCE 7-16 for "Site Class E". The results of this analysis are presented on Figures 9 and 10, and indicate that granular layers within the fill and some of the older alluvial deposits underlying the bay mud are potentially liquefiable.

Additionally, we analyzed liquefaction potential utilizing the data from our CPTs, the design earthquake parameters discussed above, CLiq 3.0 (v.3.5.2.8, 2006) computer software, and the procedures outlined by Idriss and Boulanger (2008). The results of our liquefaction analyses are presented on Figures 11 and 12 and indicate thin layers within the fill and old alluvial soil layers would liquefy during a strong seismic event.

4.3.2 Post Liquefaction Settlement

We predicted the amount of post liquefaction settlement utilizing the procedures outlined by Idriss and Boulanger (2008, 2010). Post liquefaction settlement can occur in soils that exhibit a factor of safety against liquefaction of 2.0 or less.

The results of the CPT-based analysis indicate between 0.25 and 0.50-inches of total and up to 0.25-inches of differential (over a 30-foot span) of post liquefaction settlement is possible. However, our SPT-based analyses indicate between 0.5-inches and 3.0-inches of total and 0.25 to 1.5-inches of differential (over a 30-foot span) post liquefaction settlement may occur during the design seismic event. However, because the brings were not sampled continuously, they likely over-estimate the true thickness of liquefiable strata. Therefore, we judge it is appropriate to assign more weight to the CPT-based results than the results from the soil boring data. We recommend utilizing 1.0-inch of total and 0.5-inches of differential (over a 30-foot span) settlement for design purposes.

Additionally, we utilized the procedures outlined by Ozocak and Sert (2010) to calculate the Liquefaction Potential Index (LPI), which is a gauge to determine if liquefiable layers will impact the ground surface. LPI is a function of the thickness, depth, and factor of safety against liquefaction in the individual layers within a soil column. The resulting LPI value

corresponds to a relative potential for surface deformation impacting the ground surface. Typically, an LPI value of zero indicates the liquefiable layer will not impact the ground surface; while a value less than 5 has a low probability, value between 5 and 15 have a moderate probability and an LPI value greater than 15 have a high probability of surface impact. The results of our liquefaction analyses indicate LPI values of 16 or less, suggesting a moderate to high probability of liquefaction effects (i.e., sand boils) at the ground surface.

Evaluation: *Less than significant with mitigation.*
Recommendations: *The foundations for the proposed improvements should be designed to withstand at least 1.0- inches of total post liquefaction settlement and 0.5-inches of differential settlement, over a 30-foot span. The recommendations provided in the foundation section of this report should be followed.*

4.4 Seismically Induced Ground Settlement

Seismic ground shaking can induce settlement of unsaturated, loose, clean, granular soils. Settlement occurs as the loose soil particles rearrange into a denser configuration when subjected to seismic ground shaking. Varying degrees of settlement can occur throughout a deposit, resulting in differential settlement of structures founded on such deposits. Clean, loose, granular soils were not observed above the historic high groundwater level; therefore, the risk of seismically induced ground settlement is low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.5 Cyclic Softening and Related Impacts

Cyclic softening refers to a loss of shear strength within a sensitive, cohesive, fine-grained soil (silt and clay) as excess pore pressures are generated during a seismic event. The effects of cyclic softening can result in a reduction of the soil undrained shear strength that subsequently can cause a significant loss of bearing capacity or slope failures. Significant deposits of soft clay (Bay Mud) soils were encountered in the eastern part of the site; therefore, the risk of cyclic softening at the project site is moderate to high in these areas. The risk of cyclic softening at the location of the proposed temporary structures, which is underlain by stiffer/denser alluvial soils, is low.

Evaluation: *Less than significant with mitigation.*
Recommendations: *Mitigation measures include supporting the proposed structures on a shallow foundation system; provided the site has been load balanced with lightweight fill or the subsurface soils have been improved. Alternatively, a deep foundation system may be utilized to support the structures which gain support from the stiff clayey soils and weathered bedrock underlying the soft Bay Mud. Additional discussions of these foundation types, along with recommendations and design criteria, is provided in the Foundation Design section of this report.*

4.6 Lurching and Ground Cracking

Lurching and associated ground cracking can occur during strong ground shaking. The ground cracking generally occurs along the tops of slopes where stiff soils are underlain by soft deposits, or along steep slopes or channel banks. These conditions generally do not exist at the site, and the risk of lurching or ground cracking impacting the structures is very low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.7 Erosion

Sandy soils on moderate slopes or clayey soils on steep slopes are susceptible to erosion when exposed to concentrated water runoff. The high school campus is relatively flat and covered in vegetation, hardscaped surfaces and structures. Therefore, the risk of erosion due to surface water runoff is low. However, the risk of erosion will increase during construction when the surficial soils are exposed.

Evaluation: *Less than significant with mitigation.*
Mitigation: *The project Civil Engineer is typically responsible for site drainage design. Erosion control during and after construction should conform to a site-specific Stormwater Pollution Prevention Plan (SWPPP) prepared by the project Civil Engineer and the guidelines of the most recent edition of the Marin County Stormwater Pollution Prevention Program (2015).*

4.8 Flooding

As shown on Figure 13, the campus is mapped within a FEMA 100-year and 500-year flood zone. Therefore, widespread flooding may be considered a significant geologic hazard at the project site. Additionally, as with all development sites, localized ponding/flooding is possible due to changes in the natural drainage patterns. The project Civil Engineer is responsible for site drainage and should evaluate localized flooding potential and provide appropriate mitigation.

Evaluation: *Less than significant with mitigation.*
Mitigation: *The project Civil Engineer or Architect should locate finished floor elevations above flood levels and provide appropriate storm drain design for the maximum credible rainfall event.*

4.9 Seiche and Tsunami

Seiche and tsunami are short duration, earthquake-generated water waves in large, enclosed bodies of water and the open ocean, respectively. The extent and severity of a tsunami or seiche would be dependent upon ground motions and fault offset from nearby active faults. The project site is located adjacent to the San Francisco Bay and, as shown on Figure 14, is located within a mapped Tsunami Inundation Zone (ABAG, 2023). Therefore, seiche and tsunami are considered significant geologic hazards at the project site.

According to data from the National Oceanic and Atmospheric Administration (NOAA), approximately 77 credible seiche or tsunami have been recorded or observed within the San Francisco Bay area since 1700. Of these, the only waves to cause damage in eastern Marin County resulted from the 1960 Chile earthquake (Magnitude 9.5) and the 1964 Alaska earthquake

(Magnitude 9.2). The 1964 tsunami was the most damaging historic event, with a maximum wave height of 1.22-meters recorded at San Rafael (NOAA 2014b).

There have been eight credible local seiche events observed in San Francisco Bay between 1854 and 1906, six of which are attributed to earthquake activity and two to landslides. The Mare Island earthquake caused the largest seiche with 0.6-meter amplitude waves near Benicia, and is attributed to slip on the Rodgers Creek fault. No confirmed seiche have been recorded in San Francisco Bay since 1906. In light of the recorded history of seiche in San Francisco Bay, we judge that the risk of seiche or tsunami in excess of the height observed in 1964 (approximately 3.5-feet) is low.

Evaluation: *Less than significant with mitigation.*
Mitigation: *Mitigation should consist of raising finished floor elevations above predicted inundation levels. We judge that other mitigation measures, such as a new floodwall or other barrier, are likely neither warranted nor cost-effective for a project of this scale. The project Civil Engineer and Architect should anticipate inundation in the event of a seiche and consider this hazard during design of site grades, new structures, and site drainage improvements.*

4.10 Dam Failure Inundation

Based on our review of the Department of Water Resources, Division of Safety of Dams, Dam Breach Inundation Map Web Publisher (https://fmds.water.ca.gov/maps/damim/, accessed 2023), the Redwood High School campus is not located within a dam failure inundation zone. Therefore, the threat of inundation of the site from dam failure is judged to be low.

Evaluation: *No significant Impact.*
Mitigation: *No mitigation measures are required.*

4.11 Expansive Soil

Expansive soils will shrink and swell with fluctuations in moisture content and are capable of exerting significant expansion pressures on building foundations, interior floor slabs and exterior flatwork. Distress from expansive soil movement can include cracking of brittle wall coverings (stucco, plaster, drywall, etc.), racked door and/or window frames, and uneven floors and cracked slabs. Flatwork, pavements, and concrete slabs-on-grade are particularly vulnerable to distress due to their low bearing pressures. We did not encounter expansive soils within the upper 3-feet during our subsurface exploration, therefore, the risk of expansive soil affecting the proposed improvements is low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.12 Settlement/Subsidence

Significant settlement can occur when new loads are placed at sites due to consolidation of soft compressible clays (i.e., Bay Mud) or compression of loose granular soils. As previously discussed, the lower elevations of the project site are underlain with up to 50-feet of soft, compressible Bay Mud. Based on the results of our subsurface exploration, we developed estimated Bay Mud deposit thicknesses throughout the site and presented them as contours on the Site Plan, Figure 2. We performed a one-dimensional consolidation test of a sample of Bay

Mud collected during our subsurface exploration to determine its consolidation properties for future analysis. The results of our consolidation test is presented in Appendix A and summarized below on Table C.

TABLE C
1-D CONSOLIDATION TEST RESULTS SUMMARY
2023 Improvements –
Redwood High School
Larkspur, California

Consolidation Property	Value
Consolidation Index, $C_{C\varepsilon}$	0.27
Reconsolidation Index, $C_{R\varepsilon}$	0.01
Coefficient of Consolidation, C_V	10 ft^2/yr
Over Consolidation Ratio, OCR	1.0

The site was most likely filled in the 1950's when significant development occurred in Larkspur. We performed settlement analyses utilizing the laboratory data information summarized above and the assumption of 10-feet of artificial fill placed in 75-years ago. The results of our analysis indicate the Bay Mud has likely fully consolidated due to the placement of the artificial fill in the 1950's within the proposed improvement areas. However, areas where Bay Mud thicknesses exceed approximately 40-feet, roughly 1.5 to 2.0-inches of additional consolidation may be expected due to the original fill placement. These thicker Bay Mud deposits are located predominately in the northeastern parking lot adjacent to the existing creek and not in the proposed improvements area.

New structural and/or fill loads created due to the proposed site improvements will cause the underlying Bay Mud to consolidate further, resulting in additional surface settlements. The amount of settlement is proportional to the degree of loading, thickness of Bay Mud and site history. We do not anticipate significant site grading will be required to develop the project site. However, surficial foundation loads will result in surface settlements and differential settlements of the structure. We can provide a detailed estimate of predicted site settlements and time rate predictions given grading plans and anticipated building loads.

Mitigation measures include supporting the proposed structures on a shallow foundation system; provided the site has been load balanced with lightweight fill or the subsurface soils have been improved. Alternatively, a deep foundation system (i.e., auger-cast-piles, torque down piles, drilled piers, etc.) may be utilized to support the structures which extend through the Bay Mud, embedding into the stiff clayey soils and weathered bedrock. Additional discussions of these foundation types, along with recommendations and design criteria, is provided in the Foundation Design section of this report.

Evaluation: *Less than significant with mitigation.*
Mitigation: *Mitigation measures include supporting the proposed structures on a shallow foundation system; provided the site has been load balanced with lightweight fill or*

the subsurface soils have been improved. Alternatively, a deep foundation system (i.e., auger-cast-piles, torque down piles, drilled piers, etc.) may be utilized to support the structures which extend through the Bay Mud, embedding into the stiff clayey soils and weathered bedrock. Additional discussions of these foundation types, along with recommendations and design criteria, is provided in the Foundation Design section of this report.

4.13 Slope Instability/Bearing Failure

Slope instability generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The project site consists of relatively flat topography and traditional (hillside) slope instability is not considered a hazard. However, the Bay Mud exhibits relatively low strength and instability due to bearing failure under the new fill and seismic loads may pose a significant hazard. Generally, the risk of instability is highest immediately following fill placement and reduces over time as the Bay Mud consolidates and gains strength.

Evaluation: *Less than significant with mitigation.*
Mitigation: *Mitigation measures generally consist of limiting the thickness of the new fills as required to maintain adequate factors of safety against instability. Incorporating ground improvement or geosynthetic reinforcing materials into the project design could also be considered to improve stability. We should be consulted when a grading plan is finalized to determine if a bearing failure would occur based on the planned fill and structural loads.*

4.14 Soil Corrosion

Corrosive soil can damage buried metallic structures, cause concrete spalling, and deteriorate rebar reinforcement. Laboratory testing was performed on representative samples of the near-surface site soils to evaluate pH, electrical resistivity, chloride, and sulfate contents. These laboratory test results are presented in Appendix A.

The results of our corrosivity testing indicate the upper soil layers have a pH of 8.42, a chloride concentration of 83 parts per million (ppm), and sulfate concentration of 96 ppm. Per Caltrans Corrosion Guidelines (2003) a soil is considered corrosive if the pH level is less than 5.5, the chloride concentration is greater than 500 ppm, and/or the sulfate concentration is 2,000 ppm or greater. Based on the results of the laboratory testing corrosive soil is not considered a significant geologic hazard at the project site.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.15 Radon-222 Gas

Radon-222 is a product of the radioactive decay of uranium-238 and raduim-226, which occur naturally in a variety of rock types, mainly phosphatic shales, but also in other igneous, metamorphic, and sedimentary rocks. While low levels of radon gas are common, very high levels, which are typically caused by a combination of poor ventilation and high concentrations of uranium and radium in the underlying geologic materials, can be hazardous to human health.

The project site is located in Marin County, California, which is mapped in radon gas Zone 3 by the United States Environmental Protection Agency (USEPA, 2023). Zone 3 is classified by the EPA as exhibiting a “low” potential for Radon-222 gas with average predicted indoor screening levels less than 2 pCi/L. Therefore, the potential for hazardous levels of radon at the project site is low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.16 Volcanic Eruption

Several active volcanoes with the potential for future eruptions exist within northern California, including Mount Shasta, Lassen Peak, and Medicine Lake in extreme northern California, the Mono Lake-Long Valley Caldera complex in east-central California, and the Clear Lake Volcanic Field, located in Lake County approximately 76-miles north of the project site. The most recent volcanic eruption in northern California was at Lassen Peak in 1917, while the most recent eruption at the nearest volcanic center to the project site, the Clear Lake Volcanic Field, was about 10,000 years ago. All of northern California’s volcanic centers are currently listed under “normal” volcanic alert levels by the USGS California Volcano Observatory (USGS, 2023a). While the aforementioned volcanic centers are considered “active” by the USGS, the likelihood of damage to the proposed improvements due to volcanic eruption is generally low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.17 Naturally Occurring Asbestos (NOA)

Naturally occurring asbestos is commonly found in association with serpentinite and associated ultramafic rock types. These rocks are a major constituent of the Franciscan Complex, which underlies vast portions of the greater San Francisco Bay Area. The site is underlain by relatively thick native alluvial soils, and while it lies in a region dominated in part by Franciscan Complex bedrock, no evidence suggesting the presence of serpentinite or related rock types was observed during our exploration. Therefore, the likelihood that significant deposits of naturally-occurring asbestos will be encountered at the site is low.

Evaluation: *No significant impact.*
Mitigation: *No mitigation measures are required.*

4.18 Hazardous Materials

Hazardous materials were not observed during our subsurface exploration. While environmental testing for hazardous materials was beyond the scope of our services, we did observe enclosures that contain HVAC units and other industrial equipment that has the potential for creating hazardous materials. Therefore, we judge the potential for hazardous materials being present on the project site, currently or in the future, is moderate.

Evaluation: *Less than significant with mitigation.*
Mitigation: *The campus should comply with all local, state, and federal guidelines to minimize the exposure to hazardous materials. If a possible hazardous material spill occurs on campus, a qualified environmental specialist should be consulted.*

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our review of readily available geologic data, and experience with similar projects, it is our professional opinion that the proposed improvements are geotechnically feasible at the project site. The primary geotechnical issues to be considered during project development and design include appropriate seismic design, flooding, tsunami inundation, liquefaction and long-term settlement. Geotechnical recommendations and development guidelines to address the geotechnically pertinent hazards and other issues are discussed in more detail below.

5.1 Seismic Design

The project site is located in a seismically active area of Northern California. Therefore, structures should be designed in conformance with the seismic provisions of the California Building Code (CBC, 2022) and ASCE 7-16 to mitigate the potential effects of strong seismic ground shaking to the proposed improvements. The goal of the building code is protection of life safety, some structural damage may still occur during strong ground shaking.

Saturated granular soil layers prone to liquefaction were observed within the artificial fill overlying the Bay Mud deposits; therefore, we judge the site should be classified as “Site Class F” per the 2022 California Building Code (CBC). Per the 2022 CBC, an equivalent linear site-specific response analysis, per ASCE 21.1, is required on sites classified as “Site Class F”. However, per section 20.3.1 of the ASCE 7-16, an equivalent linear site-specific response analysis (i.e., SHAKE, DeepSoil, etc.) is not required if the proposed structure has a fundamental period less than 0.5 seconds. We anticipate the proposed improvements will have a fundamental period less than 0.5-seconds; therefore, based on the shear wave velocity profiles, we recommend classifying the site as a “Site Class E”.

Per ASCE 7-16 Section.11.4.8, a Site-Specific Ground Motion shall be developed for S_S values greater than 1.0 g for Site Class E sites. The S_s value for the site conditions and location is 1.50 g; therefore, we performed a Site-Specific Ground Motion Hazard Analysis as described in Appendix D with the results summarized on Table D.

TABLE D
Site-Specific Ground Motion Hazard Analysis
ASCE 7-16 / 2022 CBC FACTORS
2023 Improvements –
Redwood High School
Larkspur, California

Factor Name	Coefficient	2022 CBC Site Specific Value
Site Class[1]	$S_{A,B,C,D,E, or F}$	S_E
Spectral Response (short)	S_{MS}	1.58 g
Spectral Response (1-sec)	S_{M1}	3.24 g
Design Spectral Response (short)	S_{DS}	1.05 g
Design Spectral Response (1-sec)	S_{D1}	2.16 g
MCE_G[2] PGA adjusted for Site Class	PGA_M	0.67 g

Notes:

1. Site Class E Description: Soft soil profile with shear wave velocities less than 600 ft/sec (180 m/s), standard blow counts less than 15 blows per foot, and undrained shear strength less than 1,000 psf.
2. Maximum Considered Earthquake Geometric Mean.

However, per ASCE 7-16 Supplement 3; Ground Motion Hazard Analysis is not required if the equivalent lateral force procedure is used for design and the value of Cs is determined by Eq. (12.8-2) for all values of T, or where the value of Sa_i is determined by Eq. (15.7-7) for all values of T_i and the value of the parameter S_{D1} is replaced with $1.5xS_{D1}$ in Eq. (15.7-10) and Eq. (15.7-11). If the Project Structural Engineer utilizes this exception the seismic design values summarized on Table E below should be utilized.

TABLE E
ASCE 7-16 / 2022 CBC FACTORS
2023 Improvements –
Redwood High School
Larkspur, California

Factor Name	Coefficient	2022 CBC Site Specific Value
Site Class[1]	$S_{A,B,C,D,E, or F}$	S_E
Spectral Acc. (short)	S_S	1.50 g
Spectral Acc. (1-sec)	S_1	0.60 g
Site Amplification Factor at 0.2 sec.	F_a	1.2
Site Amplification Factor at 1.0 sec.	F_v	2.0
Spectral Response (short)	S_{MS}	1.80 g
Spectral Response (1-sec)	S_{M1}	1.20 g
Design Spectral Response (short)	S_{DS}	1.20 g
Design Spectral Response (1-sec)[2]	S_{D1}	1.20 g
MCE_G[3] PGA adjusted for Site Class	PGA_M	0.76 g

Notes:

1. Site Class E Description: Soft soil profile with shear wave velocities less than 600 ft/sec (180 m/s), standard blow counts less than 15 blows per foot, and undrained shear strength less than 1,000 psf.
2. SD_1 value includes a 50% increase to the value determined by ASCE 7-16 Equation 11.4-2.
3. Maximum Considered Earthquake Geometric Mean.

The project includes converting and renovating the existing kitchen and cafeteria building into a student commons building. Renovating the kitchen and cafeteria building will include constructing seismic upgrades to the existing structure. The seismic code for existing structures utilizes ASCE 41-17 to develop a design spectrum. ASCE 41-17 code gives the engineer the option to design the retrofit of an existing structure with seismic forces for a new building, BSE-2N and BSE-1N, or with lower performance objectives for existing structures.

Based on our discussion with the design team, we understand the project structural engineer will utilize BSE-2N and BSE-1N values to design the seismic upgrades for existing structures. We utilized the SEAOC Design Maps website application (https://www.seismicmaps.org/, accessed 2023) to determine the BSE-2N and BSE-1N seismic parameter coefficients for a Site Class E. The BSE-2N and BSE-1N seismic parameter coefficients given on Table F should be utilized for design of structural upgrades to existing campus structures.

TABLE F
ASCE 41-17 Seismic Design Coefficients
2023 Improvements –
Redwood High School
Larkspur, California

Factor Name	Coefficient	2022 CBC Site Specific Value
Site Class[1]	$S_{A,B,C,D,E, or F}$	S_E
Spectral Acc. (short)	S_S	1.50 g
Spectral Acc. (1-sec)	S_1	0.60 g
Site Amplification Factor at 0.2 sec.	F_a	1.3
Site Amplification Factor at 1.0 sec.	F_v	4.2
Basic Safety Earthquake BSE-2N		
Spectral Response Parameter (Short Period, 0.2-sec)	S_{XS}	1.95 g
Spectral Response Parameter (Long Period, 1.0-sec)	S_{X1}	2.52 g
Basic Safety Earthquake BSE-1N		
Spectral Response Parameter (Short Period, 0.2-sec)	S_{XS}	1.30 g
Spectral Response Parameter (Long Period, 1.0-sec)	S_{X1}	1.68 g

Notes:
1. Site Class E Description: Soft soil profile with shear wave velocities less than 600 ft/sec (180 m/s), standard blow counts less than 15 blows per foot, and undrained shear strength less than 1,000 psf.

5.2 Site Preparation and Grading

The general grading recommendations presented below are appropriate for construction in the late spring through fall months. From winter through the early spring months, on-site soils may be saturated due to rainfall and may be difficult to compact without drying by aeration or the addition of lime and/or cement (or a similar product) to dry the soils. Site preparation and grading should conform to the recommendations and criteria outlined below. General recommendations for wintertime construction are provided later in this report.

5.2.1 Lightweight Fill

As previously discussed, the area of the proposed permanent structures is underlain by roughly 5- to 11-feet of fill overlying up to 40-feet of soft, compressible, Bay Mud which will consolidate under new surface loads (i.e., foundation and/or fill). To reduce or eliminate consolidation of the Bay Mud soils associated with new fill placement, we recommend using light weight fill (unit weight between 30 and 60 pcf) which weighs less than “regular” fill (unit weight of 120 pcf) to raise grades. Existing fill should be removed and

replaced with lightweight fill to theoretically “balance” the loads. An additional volume of existing soil may be removed and replaced with lightweight fill to balance anticipated building loads. Light weight fill may consist of lava rock (~60 pcf) or cell-crete (~30 pcf). Due to the proximity of the project site to the San Francisco Bay and the risk of widespread flooding, we do not recommend utilizing Geofoam blocks to raise grades without a “hold-down” system (i.e. integrated in a deep foundation system), as the geofoam may become buoyant. We should provide more detailed settlement analyses at the site as the structural and civil engineering plans are being prepared and the structural loads and site grading plans are better developed.

5.2.2 Site Preparation

Clear pavements, foundations, over-sized debris, and organic material from areas to be graded. Excavated areas (i.e., excavations for foundation removal) should be restored with properly moisture conditioned and compacted fill as described in the following sections. Any loose soil or rock at subgrade will need to be excavated to expose firm natural soils or bedrock. Debris, rocks larger than six inches and vegetation are not suitable for structural fill and should be removed from the site. Alternatively, vegetation strippings may be used in landscape areas.

Where fills or other structural improvements are planned on level ground, the subgrade surface should be scarified to a depth of about eight inches, moisture conditioned to near the optimum moisture content, and compacted to a minimum of 90% relative compaction (ASTM D-1557) and should be increased to a minimum of 95% where new asphalt pavements are planned. Relative compaction refers to the ratio, in percent, of the in-situ dry density to the maximum laboratory density of the soil. If soft, wet, or otherwise unsuitable materials are encountered at the subgrade elevation during construction, we will provide supplemental recommendations/field directives to address the specific condition.

5.2.3 Materials

Based on our laboratory testing, onsite fill soils may be suitable for use as fill. On-site and, if required, imported fill shall consist of soil and rock mixtures that: (1) are free of organic material, (2) have a Liquid Limit less than 40 and a Plasticity Index of less than 15, (3) consist of at least 50% material retained on the #200 sieve, and (4) have a maximum particle size of 4-inches. Any imported soil shall be tested to determine its suitability for use as fill material.

5.2.4 Excavations

Excavations in the area of the new permanent buildings will encounter between about 5- and 11-feet of clayey sand fill over soft bay mud, while excavations in the area of the proposed temporary classrooms will encounter similar fills over sandy clay alluvial soils. We anticipate onsite soils may be excavated with standard equipment (i.e., excavators, dozers, scrapers, etc.) and should be considered Cal OSHA Type “C”. Excavations having a depth of five-feet or more and which will be entered by workers must be sloped, braced, or shored in accordance with current Cal/OSHA regulations. All excavations can result in collapse of sidewalls, slopes and/or bottom that could result in injury or death of workers. Therefore, excavations should be evaluated by the Contractor’s

safety officer and designated competent person prior to workers entering in accordance with current Cal/OSHA regulations.

5.3 Foundation Design

A majority of the campus is underlain by 5- to 11-feet of fill overlying upwards of 50-feet of soft compressible Bay Mud which will consolidate under new fill and structural loads. Additionally, isolated layers of liquefiable soils are present within the artificial fill, and deeper alluvial soils underlying the Bay Mud which could result in 1.0-inch of total and 0.5-inches of differential settlement (over a 30-foot span) of post liquefaction settlement. There are several alternative approaches by which mitigation for total and differential settlements (both as a result of structural loading, site grading and liquefaction) and uniform foundation support for permanent structures may be provided. These alternatives include utilization of a deep foundation system (i.e. drilled piers, auger cast piles, torque down piles, etc.), specialized ground-improvement techniques, or a “zero net load” in conjunction with shallow foundations or deep foundation system. Each option is discussed in greater detail below:

Shallow Foundations with “Zero Net Loading”

To reduce total and differential settlement to acceptable levels, the weight of the structures may be effectively offset by over-excavating and removing an equivalent weight of soil; roughly 120 pcf, by creating a deepened crawl space or basement. Alternatively, the building footprints could be over-excavated and backfilled with a low-density material such as cellcrete; roughly 25 pcf, or lava rock; roughly 60 pcf. The depth of the required over-excavation would be dependent on the building weight and new fill thickness to create a net “zero” load after the structure has been constructed. Relatively shallow groundwater at the site is expected to complicate construction of below-grade facilities. Additionally, heavier structures will require deeper over-excavations that could encroach upon the underlying Bay Mud. Over-excavating and replacing with lightweight fill would reduce the total and differential settlement but would not completely eliminate it. Some settlements, including the settlement continuing due to the original fill placement, will occur. Additionally, this approach will not eliminate the liquefaction potential hazard; therefore, the structure should be designed to withstand the predicted total and differential post liquefaction settlements. We should be consulted if the design team is contemplating utilizing lightweight fill and shallow foundations to support the structure to determine the depth of over-excavation and further evaluate its feasibility. If this option is chosen to support the temporary classroom structures the project structural engineer should utilize the shallow design criteria on Table G.

TABLE G
SHALLOW FOUNDATION DESIGN CRITERIA
2023 Improvements
Redwood High School
Larkspur, California

Minimum embedment below existing grade:	18-inches
Minimum width[1]:	
One-story:	12 inches
Two-story:	15-inches
Allowable bearing pressure[2]:	
Dead plus live loads:	2,500 psf
Total including wind and seismic	3,300 psf
Base friction coefficient:	0.40
Lateral passive resistance[3,4]:	350 pcf

Notes:
1. Design shallow foundations to similar bearing pressures, i.e. size footing widths to maintain uniform bearing loads. Maintain above optimum moisture contents until concrete slabs are completed.
2. Bearing pressures given are for foundations gaining support from imported lava rock or cell-crete.
3. May increase design values by 1/3 for total design loads including wind and seismic.
4. Neglect upper 6-inches unless confined by concrete. Equivalent Fluid Pressure, not to exceed 3,500 psf.

Ground Improvement with Shallow Foundations

Another option for foundations and liquefaction/settlement mitigation is to couple subsurface improvements that increase soil bearing capacity with a shallow foundation system. Drill Displacement Columns (DDC) involve drilling to design depths and injecting Controlled Low Strength Material (CLSM) under pressure, which creates large diameter, well-defined compaction columns and effectively increases soil strength. DDC does not structurally connect to the foundation; as such, structures would need to incorporate shallow foundations. Other ground-improvement options include deep soil-cement mixing (DSCM), whereby Portland cement is mixed continuously with soil to create overlapping columns if increased strength, and “geopiers” or stone columns, where columns of dense aggregate are created by “vibro-replacement”, which reinforces soft native soils.

Based on our experience with similar projects, we judge that, given the scope of the proposed development, it is likely that settlement can be mitigated by implementation of one of the above ground-improvement techniques and bearing capacities for the shallow foundation system would be on the order of 5,000 psf. If additional information or design criteria for ground improvement techniques are desired, we recommend consulting with a ground improvement, design-build contractor, i.e., Keller North America, Malcolm Drilling, Ferrell Design-Build, etc.

Shallow Foundation Stress Distribution

An equivalent 1:2 (horizontal:vertical) stress method may be utilized to determine the foundation stress distribution foundation with depth. The 1:2 (horizontal:vertical) empirical method assumes the area over which the load acts increases with depth, at the aforementioned ratio, to a maximum depth of 3 times the foundation width, as shown on Figure 15. Since the same vertical force is spread over a larger area with depth, the stress also decreases with depth.

Deep Foundations

A deep foundation system which gains support in firm material beneath any compressible and liquefiable soils and provides good long-term performance with minimal anticipated settlement. There are several alternative deep foundation systems which may be considered for the project, including traditional cast-in-drilled-hole (CIDH) concrete piers, auger-cast concrete piers (ACP), driven concrete or steel piles, and “torque-down” piles (TDP). While each system should provide comparable performance and settlement mitigation, variations in cost and constructability should be considered during selection of the “preferred” system.

Traditional CIDH pier excavations will likely need to be cased and de-watered to avoid collapse given the relatively shallow water table and potential for unpredictable zones of very soft soils susceptible “squeezing” and/or collapse. Additionally, CIDH pier construction will result in the need for off haul and disposal of drilling spoils which will incur additional transport and disposal costs. Auger-cast pile (ACP) construction avoids this complexity by effectively using the hollow drill auger as temporary casing and pumping concrete directly into the excavation as the auger is withdrawn but requires the use of specialized equipment. ACP construction will still result in some soil spoils requiring off haul; however, the quantity will be less than CIDH. The project Structural Engineer should utilize the design criteria on Table I below to design CIDH or ACP. The values provided in Table H were determined utilizing the procedures outlined by Reese & O’Neill (1988).

TABLE H
DRILLED PIER FOUNDATION DESIGN CRITERIA
2023 Improvements
Redwood High School
Larkspur, California

Minimum diameter:		18-inches
Minimum bedrock embedment:		5-feet
Allowable skin friction[1,2]:		
	Seismic Loading	Static Loading
Artificial Fill	300 psf	300 psf
Bay Mud:	50 psf	100 psf
Weathered Bedrock:	1,000 psf	1,000 psf
Lateral passive resistance[1,4]:		
	Seismic Loading	Static Loading
Upper 5 feet:	Neglect	Neglect
Artificial Fill	200 pcf	200 pcf
Bay Mud:	50 pcf	100 pcf
Weathered Bedrock:	750 psf	750 psf
Down-drag load[5,6]:		150 psf

Notes:
1. May increase design values by 1/3 for total design loads including wind and seismic.
2. Uplift capacity is equal to 80% of the skin friction resistance.
3. Neglect upper 24-inches unless confined by concrete. Equivalent Fluid Pressure, not to exceed 3,000 psf.
4. Apply over 2-pier diameters.
5. Apply to the portion of the pier above the bedrock contact.
6. Downdrag loads are loads that should be utilized to size the pier. Downdrag loads should not be considered as an additional vertical structural load to be resisted by the pier.

Driven piles, which do not require spoils off haul or stabilization of excavations, have been successfully utilized on projects of similar scale in the area. However, it may be difficult to acquire permits for given the site's location in a central residential district and the noise, vibration, and general disturbance inherent to the pile-driving process. Additionally, driven piles require the use of specialty equipment which, like ACP equipment, will be very large and potentially cost-prohibitive for a project of this scale. We can provide additional design criteria for other deep foundation options once the design team determines the appropriate foundation system.

Temporary Classroom Foundations

The project includes constructing temporary classroom structures which will remain in place for approximately 5-years during the construction of the planned improvements. We anticipate these structures will consist of prefabricated, lightweight, portable buildings founded on pressure treated timber foundations bearing on the existing asphalt surface. Provided the structures are temporary, it is our opinion timber foundations may be utilized to support the portable structures.

5.4 Site and Foundation Drainage

The site is relatively flat and there is a possibility that new grading could result in adverse drainage patterns and water ponding around buildings. Careful consideration should therefore be given to design of finished grades at the site. We recommend that landscaped areas adjoining new structures be sloped downward at least 0.25 feet for 5 feet (5%) from the perimeter of building foundations. Where hard surfaces, such as concrete or asphalt adjoin foundations, slope these surfaces at least 0.10 feet in the first 5 feet (2%). Roof gutter downspouts may discharge onto the pavements but should not discharge onto any landscaped areas. Provide area drains for landscape planters adjacent to buildings and parking areas and collect downspout discharges into a tight pipe collection system. Site drainage improvements should be connected into the existing campus storm drainage system.

5.5 Concrete Slabs-On-Grade

We generally recommend that interior concrete slabs have a minimum thickness of 5-inches and be reinforced with steel reinforcing bars (not mesh). Slabs should be placed on a moist subgrade as previously described above. To reduce (i.e., improve) interior moisture conditions, a minimum of four inches of clean, free draining, ¾-inch angular gravel should be placed beneath interior concrete slabs to form a capillary moisture break. The drain rock must be placed on a properly moisture conditioned and compacted subgrade that has been approved by the Geotechnical Engineer. A 15-mil, or thicker, vapor barrier should be placed over the compacted drain rock. The vapor barrier shall meet the ASTM E 1745 Class A requirements and be installed per ASTM E 1643. Eliminating the capillary moisture break and/or plastic visqueen may result in excess moisture intrusion through the floor slabs resulting in poor performance of floor coverings, mold growth, or other adverse conditions.

The industry standard approach to floor slab moisture control, as discussed above, does not assure that floor slab moisture transmission rates will meet the building use requirements or that indoor humidity levels will be low enough to inhibit mold growth. Building design, construction, and intended use have a significant role in moisture problems and should be carefully evaluated by the owner, designer, and builder in order to meet the project requirements.

Exterior concrete slabs should be at least 5-inches thick and reinforced with steel bars (not wire mesh). Additionally, contraction joints should be incorporated in the concrete slab in both directions, no greater than 10 feet on center and the reinforcing bars should extend through these control joints. For improved performance, exterior concrete slabs may be underlain with at least 4-inches of Caltrans Class 2 Aggregate Base compacted to at least 92% relative compaction.

5.6 Asphalt Pavement

Typically, asphalt pavement sections are designed utilizing two variables, the R-Value (a measure of the subgrade resistance) and the Traffic Index (a measure of the amount of daily traffic). Based on the subsurface conditions we judge an R-Value of 5 is appropriate for the site. The project Civil Engineer should select an appropriate Traffic Index for the driveway, or the existing section could be “matched”. Based on this assumed R-value, we calculated pavement sections for a range of Traffic Indexes in accordance with Caltrans procedures for flexible pavement design (2006). The results of our analyses are presented on Table I.

TABLE I
PAVEMENT DESIGN CRITERIA
2023 Improvements –
Redwood High School
Larkspur, California

Traffic Index	Asphalt Concrete	Aggregate Baserock
4.0	2.5 inches	8.0 inches
5.0	3.0 inches	10.0 inches
6.0	3.5 inches	13.0 inches

Note:

To reduce the section thickness, the general rule of thumb of 2-inches of Class 2 Aggregate Baserock is equivalent to 1-inch od asphalt may be applied.

Preparation of the existing subgrade soils should be performed per the recommendations in Section 5.2, including removal of existing vegetation, scarifying to a depth of about eight inches, moisture conditioning to above optimum, and compacting the finished subgrade to at least 95% relative compaction (ASTM D1557). The base rock should consist of Class 2 Aggregate Base (Caltrans, 2016), compacted to at least 95 percent relative compaction. Asphalt concrete should be placed to conform to the 2016 Caltrans Standard Specifications.

5.7 Utility Trench Excavations and Backfills

Excavations for utilities will most likely extend into medium dense to dense granular soils. Trench excavations having a depth of five feet or more that will be entered by workers must be sloped, braced, or shored in accordance with current Cal/OSHA regulations. On-site soils appear to be Type C. All excavations where collapse of excavation sidewall, slope or bottom could result in injury or death of workers, should be evaluated by the contractor's safety officer and designated competent person prior to entering in accordance with current Cal/OSHA regulations.

Excavations which run parallel to existing structures should consider the potential "zone of influence" of adjacent structures. The "zone of influence" may be taken as a projected 1:1 (horizontal:vertical) line from the bottom of the existing footing and extending down at least 3 times the foundation width. Any proposed trenches which intersect this projected line will undermine the adjacent structure. To mitigate potential undermining trenches may be relocated away from the "zone-of-influence", the existing structure may be underpinned, or the trench may be excavated in 10-foot segments and backfilled prior to constructing additional trench segments.

Bedding materials for utility pipes should be well graded sand with 90 to 100% of particles passing the No. 4 sieve and no more than 5% finer than the No. 200 sieve. Provide the minimum bedding beneath the pipe in accordance with the manufacturer's recommendation, typically 3 to 6 inches. Trench backfill may consist of on-site soils, moisture conditioned to within 2% of the optimum moisture content, placed in thin lifts and compacted to a minimum of 90% relative compaction. Backfill for trenches within pavement areas should consist of non-expansive granular fill. Use

equipment and methods that are suitable for work in confined areas without damaging utility conduits. Where utility lines cross under or through perimeter footings, they should be sealed to reduce moisture intrusion into the areas under the slabs and/or footings.

5.8 Wintertime Construction

Wintertime/wet weather site work is feasible during the construction phase of this project, provided that weather conditions do not adversely impact the planned grading and proper erosion control measures are implemented to prevent excessive silt and mud from entering the storm drain system. High soil moisture contents and muddy site conditions may impact placing fills, compacting subgrades, and excavating foundation trenches. Several alternatives may be considered to improve the site conditions to allow site work to proceed in rainy conditions:

- Prior to the onset of winter rains, maintain a drier site by covering the work area and any stockpiled materials with plastic visqueen sheeting or other impermeable membrane. Where asphalt pavements, other hardscape or drainage improvements currently exist in work areas, consider leaving these improvements in place until the last possible moment to maintain a drier subgrade condition.

- Cement treat the subgrade soils when site work commences to "weatherproof" the site. The disadvantage to this alternative is that future landscaping will likely require excavation and replacement of the treated soils for acceptable plant growth.

- Finally, imported, drier fill materials could be used to stabilize the site. Soft or wet on-site materials could be excavated to firm materials and drier (preferably granular) soils with good drainage characteristics would be imported to restore site grades. This alternative might also require future excavation and replacement of landscaping soils.

If construction occurs relatively early in the winter, we judge the first option (covering the site prior to winter rains) could be an effective method of maintaining a workable site. When the construction schedule and weather conditions are known, we can meet with the project team to further discuss alternatives to continuing wintertime construction.

6.0 SUPPLEMENTAL GEOTECHNICAL SERVICES

We should review the plans and specifications for the structures when they are nearing completion to confirm that the intent of our geotechnical recommendations has been incorporated and to provide supplemental recommendations, if needed. During construction, we must observe the site preparation, grading, and foundation preparation to confirm that the subsurface conditions are as expected and to adjust foundation depths, if required. We also must test compaction of new fill, backfill, pavement subgrade and aggregate baserock.

7.0 LIMITATIONS

This report has been prepared in accordance with generally accepted geotechnical engineering practices in Marin County at the time the report was prepared. This report has been prepared for the exclusive use of Tamalpais Union High School District and/or their assignees specifically for this project. No other warranty, expressed or implied, is made. Our evaluations and recommendations are based on the data obtained during our subsurface exploration program and our experience with soils in this geographic area.

Our approved scope of work did not include an environmental assessment of the site. Consequently, this report does not contain information regarding the presence or absence of toxic or hazardous wastes.

The evaluations and recommendations do not reflect variations in subsurface conditions that may exist between boring locations or in unexplored portions of the site. Should such variations become apparent during construction, the general recommendations contained within this report will not be considered valid unless MPEG is given the opportunity to review such variations and revise or modify our recommendations accordingly. No changes may be made to the general recommendations contained herein without the written consent of MPEG.

We recommend that this report, in its entirety, be made available to project team members, contractors, and subcontractors for informational purposes and discussion. We intend that the information presented within this report be interpreted only within the context of the report as a whole. No portion of this report should be separated from the rest of the information presented herein. No single portion of this report shall be considered valid unless it is presented with and as an integral part of the entire report.

8.0 LIST OF REFERENCES

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SITE COORDINATES
LAT. 37.93793°
LON. -122.52411°

SITE LOCATION

N.T.S.

NORTH

REFERENCE: Google Earth, 2023

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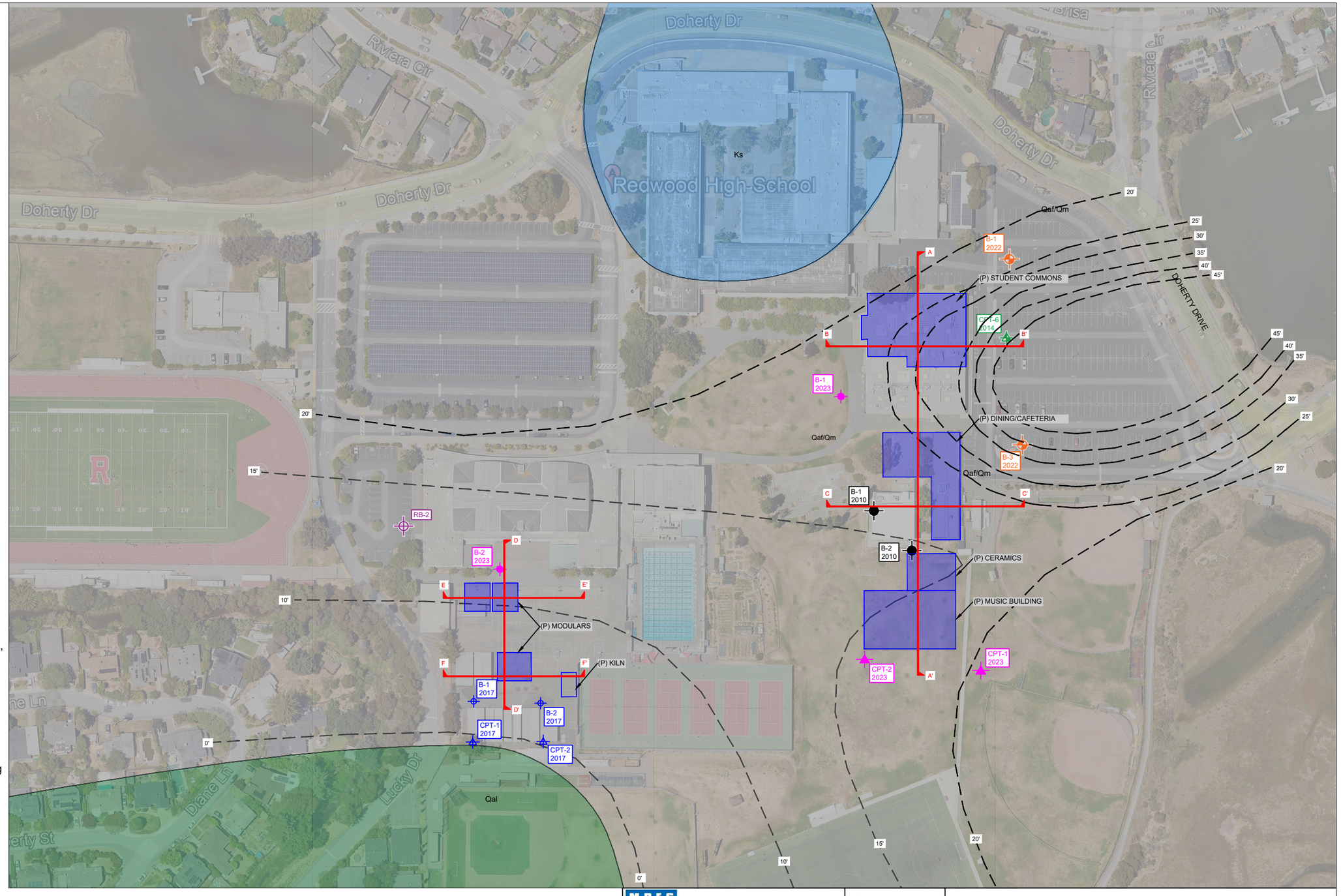
SITE LOCATION MAP

TUHSD Redwood High School
2023 Improvements
Larkspur, California

Project No. 867.193 Date: 10/18/2023

Drawn EIC
Checked

1
FIGURE



- Approximate location of boring completed by MPEG, 2023
- Approximate location of CPT completed by MPEG, 2023
- Approximate location of boring completed by MPEG, 2022
- Approximate location of boring completed by MPEG, 2017
- Approximate location of CPT completed by MPEG, 2017
- Approximate location of boring completed by MPEG, 2010
- Approximate location of boring completed by MACTEC, 2001
- Approximate location of CPT completed by MPEG, 2014
- Simplified geologic cross sections, see Figures 6 and 7
- Estimated Bay Mud Thickness Contours
- Proposed structures

Geologic Legend:

- Qaf/Qm — Artifical Fill/Bay Mud - Consisting of artificial fill placed over highly compressible bay mud.
- Qal — Alluvium
- Ks — Sandstone and shale
- Inferred geologic contact

Approximate location of boring completed by MPEG, 2023

SCALE

0 70 140 280 FEET

NORTH

REFERENCE: Google Earth, 2023.

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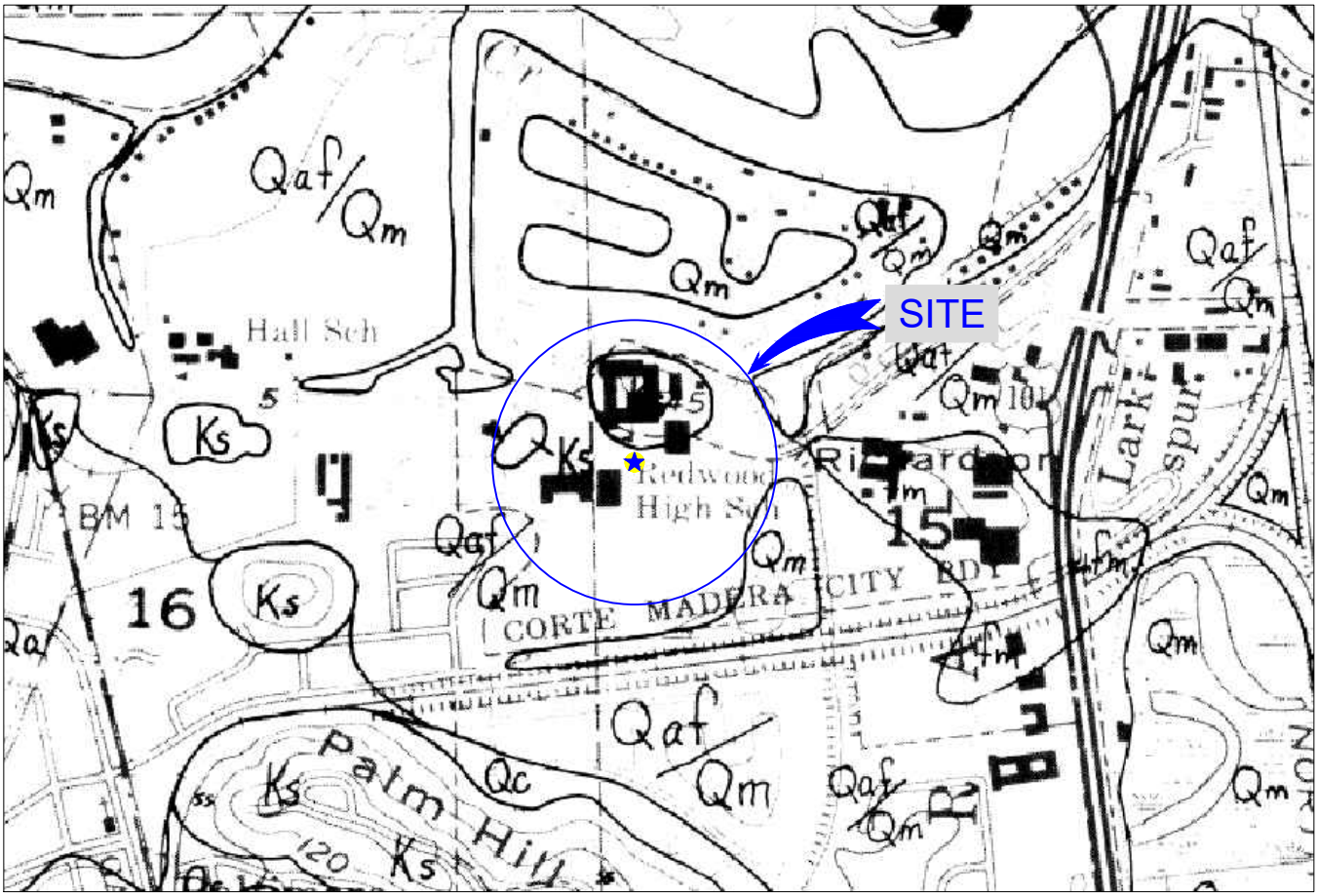
SITE PLAN AND GEOLOGIC MAP

TUHSD Redwood High School
2023 Improvements
Larkspur, California

Project No. 867.193 Date: 10/18/2023

Designed MMC
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2
FIGURE



REGIONAL GEOLOGIC MAP

NORTH

LEGEND

Qaf **Artificial Fill** [Quaternary] - Deposits of rock, soil, garbage and trash, or bay mud placed by man upon natural surfaces, mostly for engineering purposes. Highly variable as to composition, degree of compaction, etc. **Qaf/Qm** indicates artificial fill placed on bay mud.

Qm **Bay Mud** [Quaternary] - Thick deposits of unconsolidated, low-density, semi-fluid, highly compressible, highly impermeable silty clay. Contains lenses of peat and likely contains lenses of sand in many areas.

Qa **Alluvium** [Quaternary] - Unconsolidated deposits of clay, silt, sand, and gravel underlying the bottom lands of the main stream valleys, consisting of materials transported and deposited by the streams.

Qc **Colluvium** [Quaternary] - Unconsolidated and unsorted soil material and weathered rock fragments accumulated on or at the base of slopes by natural gravitational or slope wash processes. Derived by weathering and decomposition of bedrock materials underlying the slopes.

Ks **Sandstone and Shale** [Cretaceous] - Sandstone (**ss**) is mainly thick bedded, medium- to coarse-grained arkose and arkose-wacke, light gray where fresh, but buff to almost white in typical weathered exposures. Shale (**sh**) is gnerally well-bedded siltstone, dark gray where fresh, light gray, buff, or stained brown by iron oxides where weathered. Sandstone and shale (**ssh**) composed of thin beds of light gray, fine-grained sandstone that grade upward into and alternate rhythmically with, thin beds of gray to black shale.

fm **Franciscan Melange** [Jurassic-Cretaceous] - A tectonic mixture consisting of small to large masses of resistant rock types, principally of sandstone (**ss**), greenstone (**gs**), chert (**ch**) and serpentine (**sp**), but including various exotic metamorphic rock types, embedded in a matrix of pervasively sheared or pulverized rock material.

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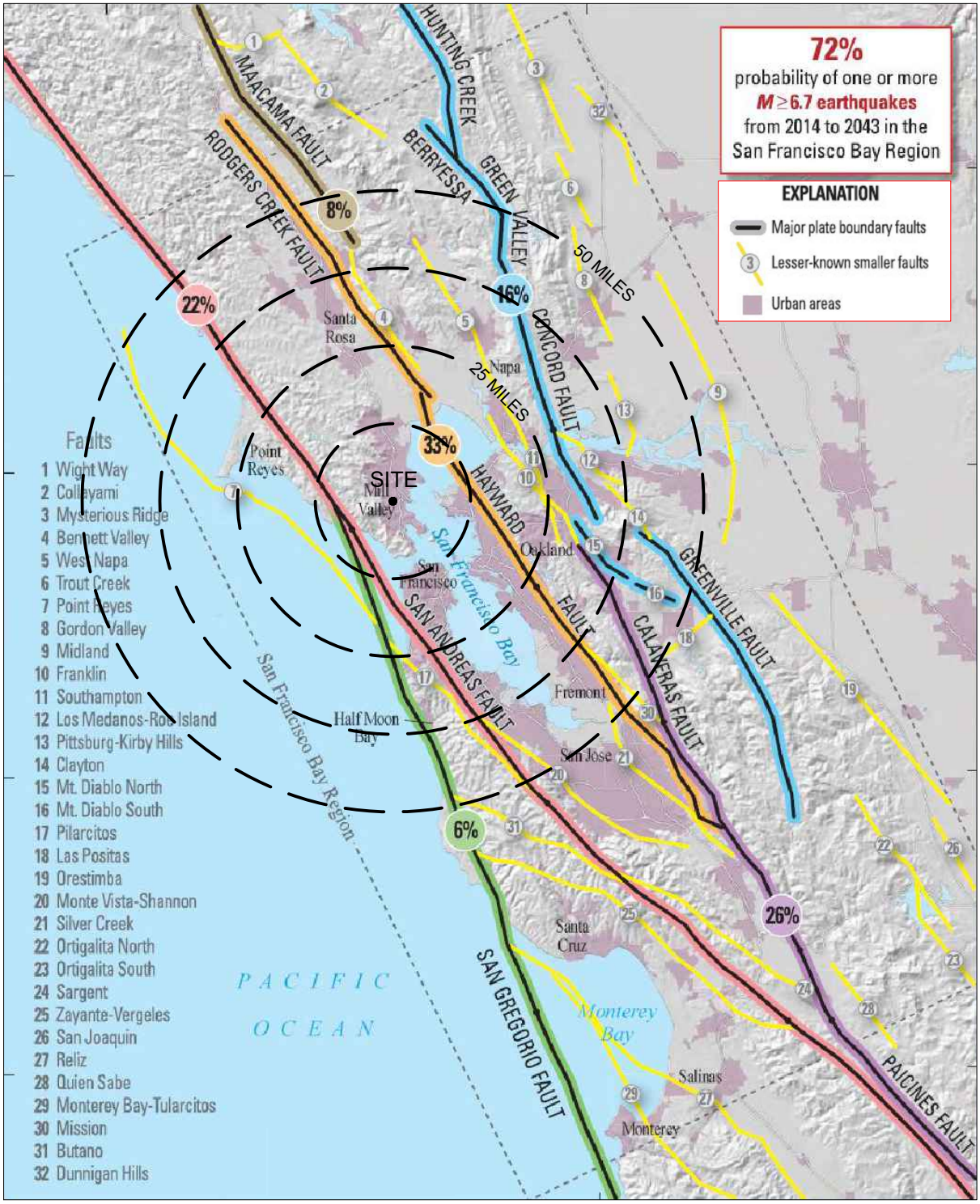
REGIONAL GEOLOGIC MAP

TUHSD Redwood High School
2023 Improvements
Larkspur, California

Project No. 867.193 Date: 10/18/2023

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3
FIGURE



SITE COORDINATES
LAT. 37.93793°
LON. -122.52411°

SCALE
0 12.5 25 50 MILES

NORTH

DATA SOURCE:
1) U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).

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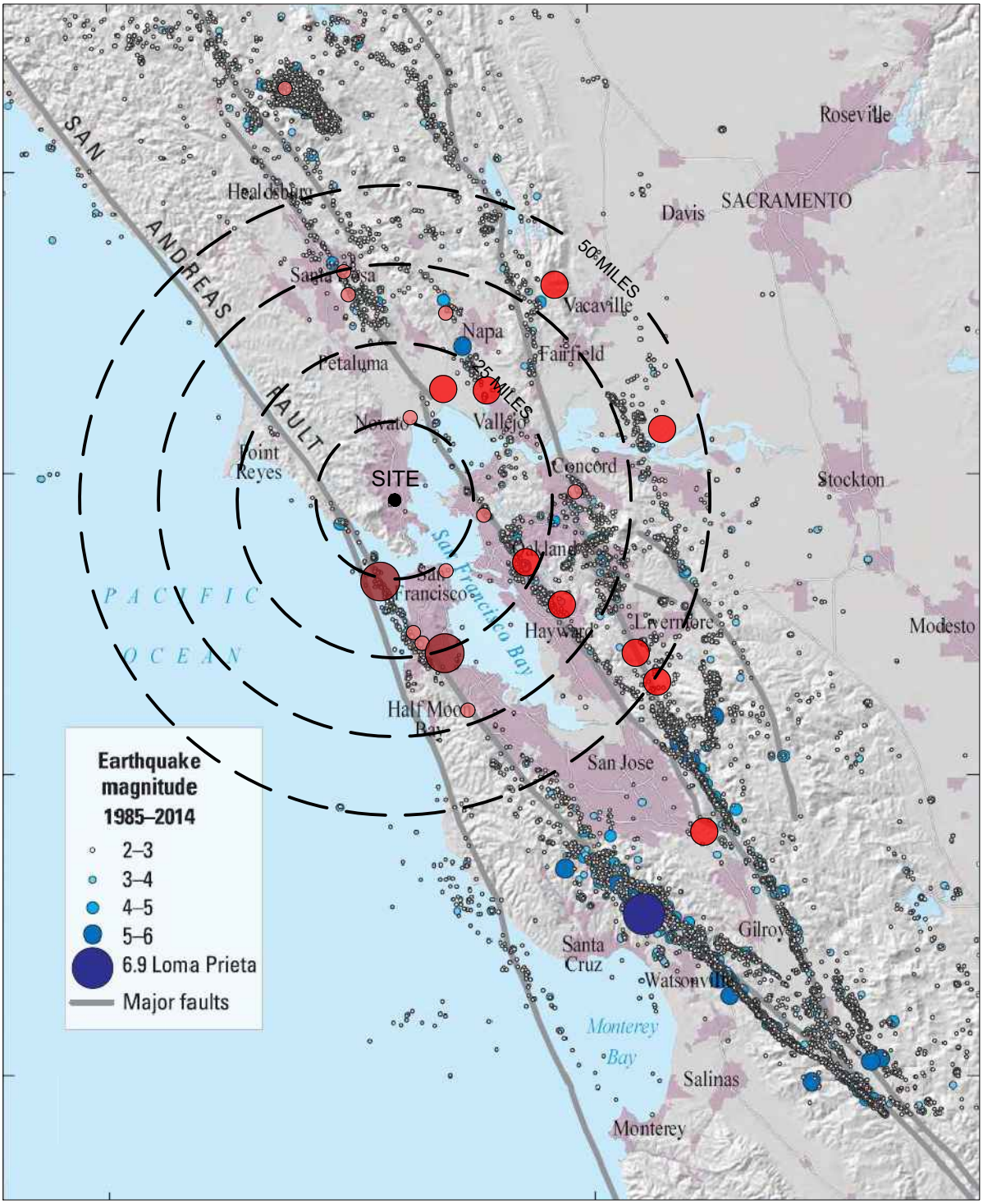
ACTIVE FAULT MAP

TUHSD Redwood High School
2023 Improvements
Larkspur, California

Project No. 867.193 Date: 10/18/2023

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4
FIGURE



SITE COORDINATES
LAT. 37.93793°
LON. -122.52411°

SCALE
0 12.5 25 50 MILES

NORTH

LEGEND & DATA SOURCE:

See legend above. U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1). Large circles indicate earthquakes M>7.0, medium circles indicate 6.0<M<7.0 and small circles indicate 5.0<M<6.0 .U.S. Geological Survey, Earthquake Catalog Search, https://earthquake.usgs.gov/earthquakes/search/. Earthquakes between 1830 and 2021.

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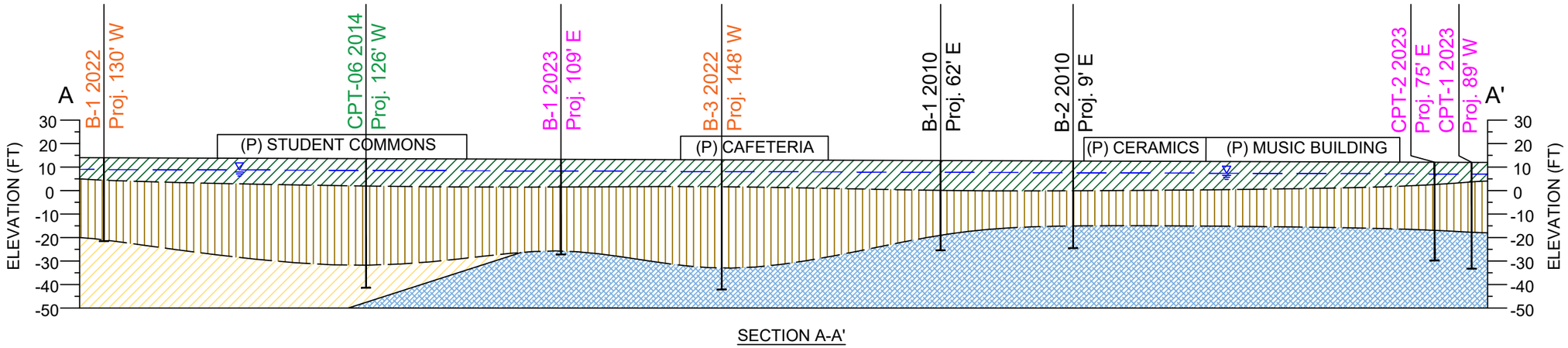
HISTORIC EARTHQUAKE MAP

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Larkspur, California

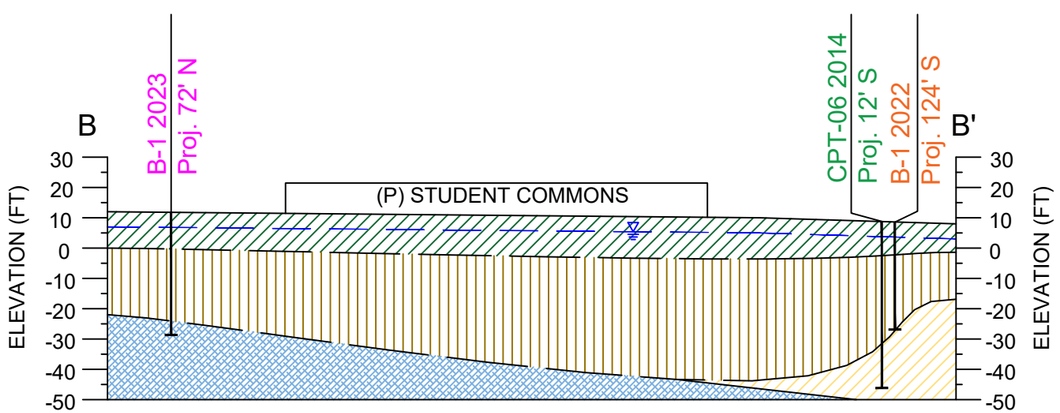
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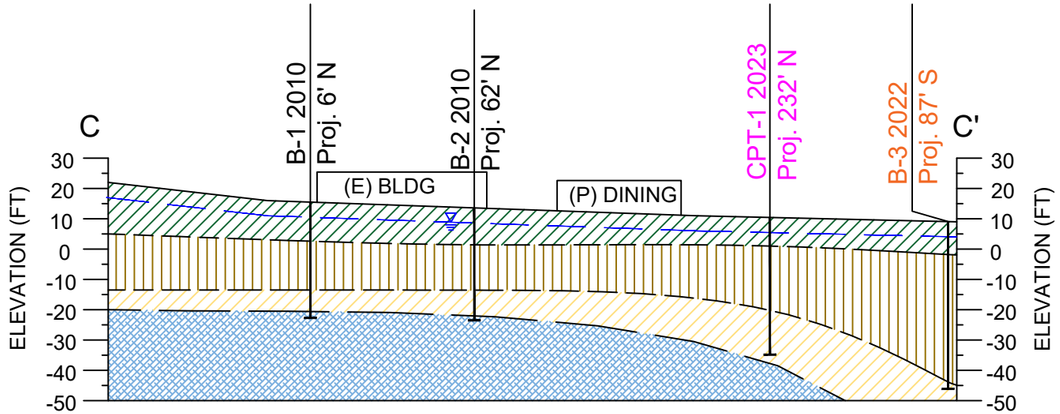
5
FIGURE



SECTION A-A'



SECTION B-B'



SECTION C-C'

LEGEND:

- Inferred Geologic Contact
- Assumed Highest Historic Groundwater Level
- Sandy CLAY (CL) [Fill]
- Silty CLAY (CH) [Bay Mud]
- Sandy CLAY (CL) [Alluvium]
- Sandstone [Bedrock]

SCALE

0 25 50 100 FEET

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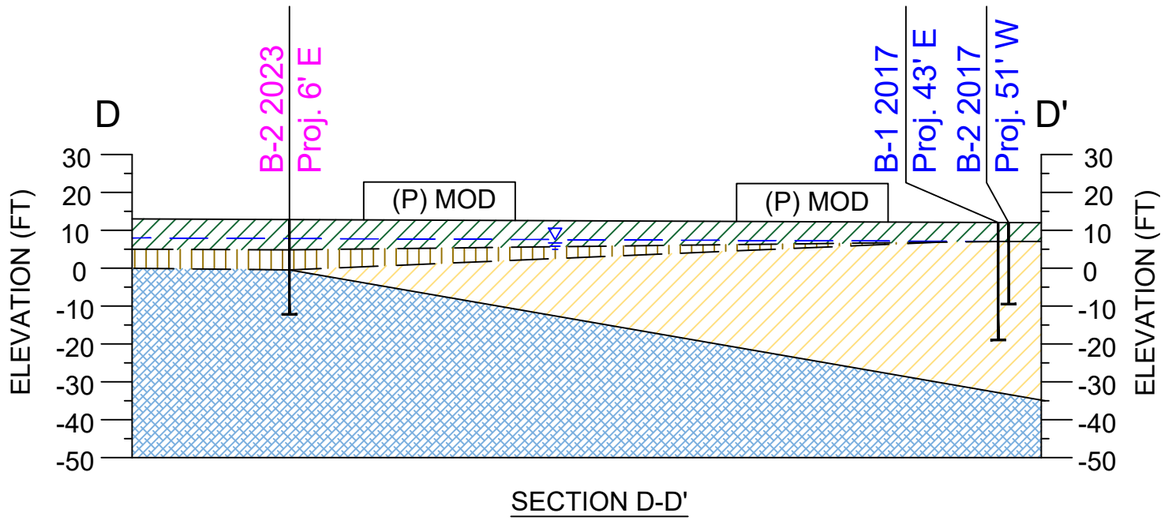
SIMPLIFIED GEOLOGIC CROSS SECTIONS

TUHSD Redwood High School
2023 Improvements
Larkspur, California

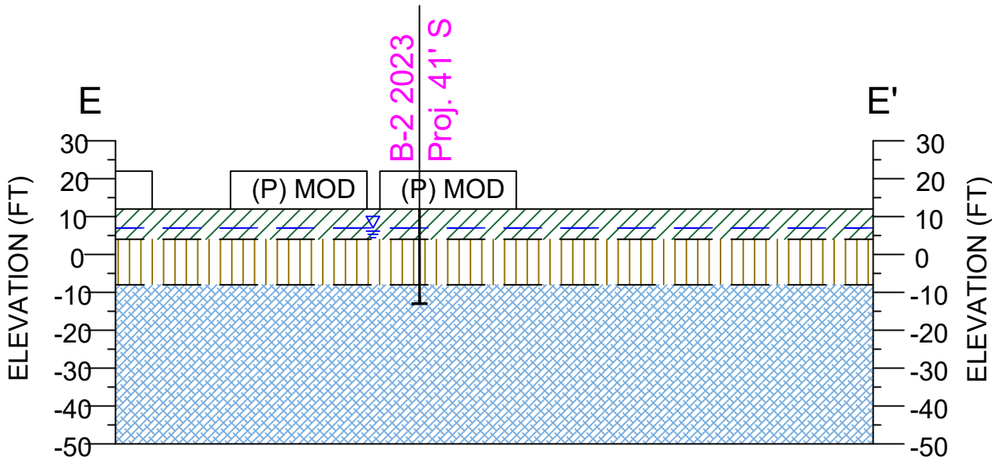
Project No. 867.193 Date: 10/18/2023

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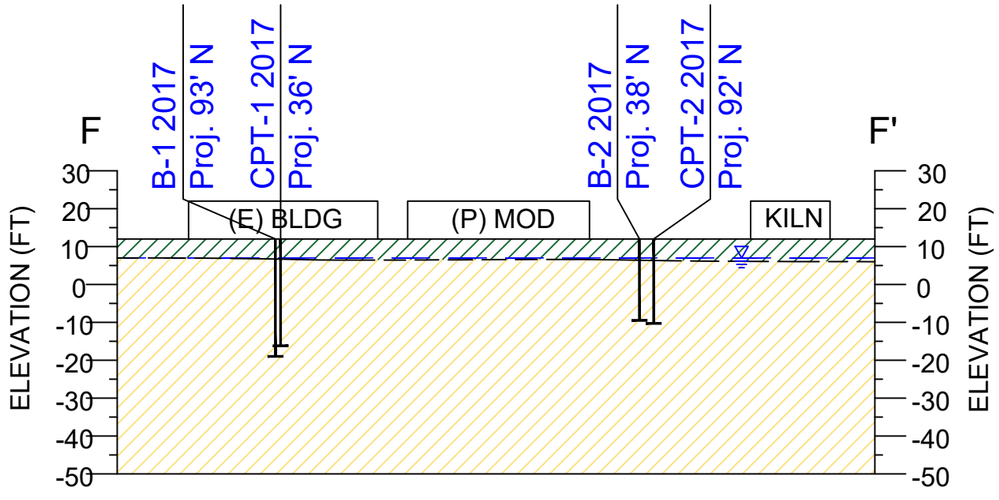
FIGURE 6



SECTION D-D'



SECTION E-E'



SECTION F-F'

LEGEND:

- Inferred Geologic Contact
- Assumed Highest Historic Groundwater Level
- Sandy CLAY (CL) [Fill]
- Silty CLAY (CH) [Bay Mud]
- Sandy CLAY (CL) [Alluvium]
- Sandstone [Bedrock]

SCALE

0 20 40 80 FEET

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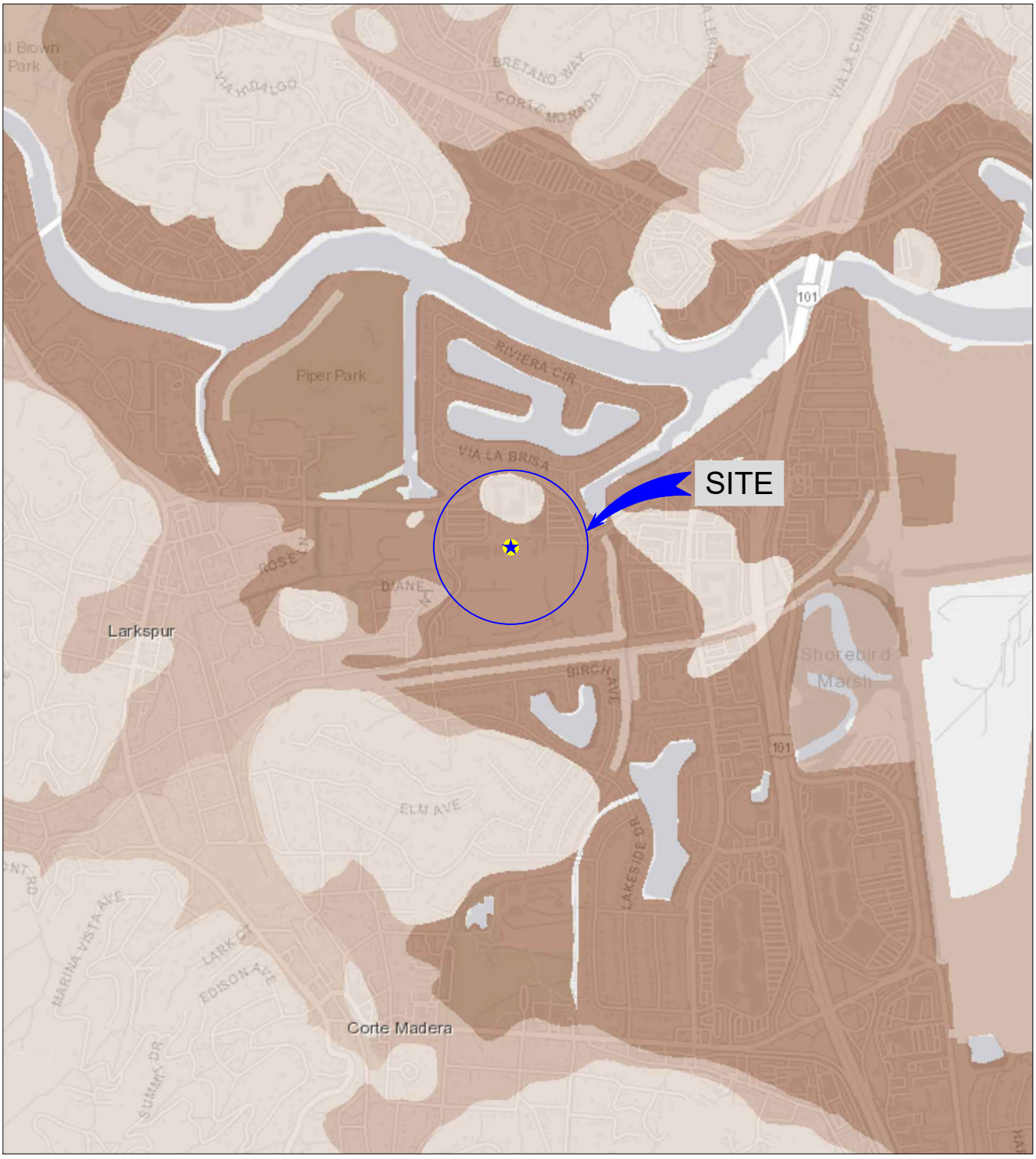
SIMPLIFIED GEOLOGIC CROSS SECTIONS

TUHSD Redwood High School
2023 Improvements
Larkspur, California

Project No. 867.193 Date: 10/18/2023

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7
FIGURE



REFERENCE: ABAG Hazard Viewer Map, 2023

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LIQUEFACTION SUSCEPTIBILITY MAP

TUHSD Redwood High School
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Project No. 867.193 Date: 10/18/2023

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8
FIGURE

Liquefaction Analysis Utilizing
Standard Penetration Test Data

Project: TUHSD - RWHS 2023 Improvements
Job No: 867.193

Analyzed by: BSP
Date: 9/19/2023

Soil & Seismic Properties

Magnitude, M_w: 8.0
PGA, g: 0.76
GW Depth, ft: 5.0

Layer	UCS Type	γ_d, pcf	ω%	Depth, ft Upper	Depth, ft Lower	γ_t, pcf	Thickness, ft
1	Qaf	120	10%	0	10	132	10
2	MH (Bay Mud)	45	100%	10	30	90	19.9
3	Qal	115	20%	30	40	138	10.1

Cyclic Resistance Ratio (CRR)

MC to SPT: 0.6
Borehole Dia: 6.0
Hammer Eff: 0.8

Sample	Depth, ft	N_{FIELD}, bpf	Fines Cont., %	Sampler Type	Liner Correction	UCS Type	σ, psf	σ', psf	Sampler Corr.	N_{COR}, bpf
B1, 2023	5.0	25	20	MC	NO	Qaf	660	660	0.6	15.0
B1, 2023	10.0	12	18	MC	NO	Qaf	1320	1008	0.6	7.2
B2, 2023	5.0	20	30	MC	NO	Qaf	660	660	0.6	12.0
B3, 2022	10.0	4	20	SPT	NO	Qaf	1320	1008	1.0	4.0
B1, 2010	8.0	26	15	MC	NO	Qaf	1056	869	0.6	15.6
B1, 2010	30.0	15	23	MC	NO	Qal	3144	1584	0.6	9.0

Sample	Depth (ft)	C_E	C_B	C_R	C_S	C_N	N_{60}, bpf	$(N_1)_{60}$, bpf	$\Delta(N_1)_{60}$, bpf	$(N_1)_{60CS}$, bpf	$CRR_{M=7.5,\sigma'=1}$
B1, 2023	5.0	1.33	1.05	0.75	1.00	1.52	**20.0**	**23.9**	**4.5**	**28**	**0.40**
B1, 2023	10.0	1.33	1.05	0.80	1.00	1.39	**9.6**	**11.2**	**4.1**	**15**	**0.16**
B2, 2023	5.0	1.33	1.05	0.75	1.00	1.56	**16.0**	**19.6**	**5.4**	**25**	**0.29**
B3, 2022	10.0	1.33	1.05	0.80	1.00	1.44	**5.3**	**6.4**	**4.5**	**11**	**0.12**
B1, 2010	8.0	1.33	1.05	0.75	1.00	1.39	**20.8**	**22.7**	**3.3**	**26**	**0.32**
B1, 2010	30.0	1.33	1.05	0.95	1.00	1.11	**12.0**	**13.3**	**4.9**	**18**	**0.19**

Cyclic Stress Ratio Induced by Earthquake (CSR)

Sample	Depth, ft	σ, psf	σ', psf	r_d	C_σ	K_σ	MSF_{MAX}	MSF	$CSR_{M,\sigma'}$	$CSR_{M=7.5,\sigma'=1}$	F.S.
B1, 2023	5	660	660	1.00	0.19	1.10	1.90	0.88	**0.49**	**0.51**	**0.78**
B1, 2023	10	1320	1008	0.99	0.11	1.08	1.33	0.88	**0.64**	**0.68**	**0.23**
B2, 2023	5	660	660	1.00	0.16	1.10	1.72	0.88	**0.49**	**0.51**	**0.57**
B3, 2022	10	1320	1008	0.99	0.10	1.07	1.21	0.88	**0.64**	**0.69**	**0.18**
B1, 2010	8	1056	869	0.99	0.17	1.10	1.77	0.88	**0.60**	**0.62**	**0.51**
B1, 2010	30	3144	1584	0.94	0.12	1.03	1.42	0.88	**0.92**	**1.02**	**0.18**

Post Liquefaction Settlement Analysis

Sample	Depth, ft	$(N_1)_{60CS}$, bpf	F.S.	γ_{LIM}	F_α	γ_{MAX}	ε_v	Thickness, ft	Settlement, in
B1, 2023	5	28	0.78	0.06	0.02	0.06	**1.2%**	**5.0**	**0.7**
B1, 2023	10	15	0.23	0.27	0.74	0.27	**2.8%**	**1.0**	**0.3**
B2, 2023	5	25	0.57	0.09	0.23	0.09	**1.9%**	**4.0**	**0.9**
B3, 2022	10	11	0.18	0.43	0.89	0.43	**3.5%**	**1.5**	**0.6**
B1, 2010	8	26	0.51	0.08	0.17	0.08	**1.8%**	**6.0**	**1.3**
B1, 2010	30	18	0.18	0.19	0.61	0.19	**2.5%**	**6.0**	**1.8**

Liquefaction Potential Index (LPI)

Boring	Depth (ft)	Depth (m)	F.S.	Fi	Thickness (ft)	Thickness (m)	w(i)	LPI(i)	LPI
B1, 2023	5	1.52	0.78	0.22	5.0	1.52	9.24	3.1	5.1
B1, 2023	10	3.05	0.23	0.77	1.0	0.30	8.48	2.0	
B2, 2023	5	1.52	0.57	0.43	4.0	1.22	9.24	4.9	4.9
B3, 2022	10	3.05	0.18	0.82	1.5	0.46	8.48	3.2	3.2
B1, 2010	8	2.44	0.51	0.49	6.0	1.83	8.78	7.9	16.0
B1, 2010	30	9.14	0.18	0.82	6.0	1.83	5.43	8.1	

Liquefaction Severity asa function of Liquefaction Potential Index (LPI)

Severity	Little to none	Minor	Moderate	Major
LPI	LPI = 0	0 < LPI < 5	5 < LPI < 15	15 < LPI

Liquefaction damage appears typically when LPI > 5

Soil Liquefaction During Earthquakes, Idriss, I.M. & Boulanger, R.W., Earthquake Engineering Research Institute, MNO-12, 2008
SPT-Based Liquefaction Triggering Procedures, Idriss, I.M. & Boulanger, R.W., UC Davis, UCD/CGM-10/02, 2010
CPT and SPT Based Liquefaction Triggering Procedures, Boulanger, R.W. & Idriss, I.M., UC Davis, UCD/CGM-14/01, 2014
Dixit, Dewaikar, & Jangid 2012 and Ozocak & Sert 2010

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FILENAME: 867.193 Figures.dwg

LIQUEFACTION ANALYSIS

TUHSD Redwood High School
2023 Improvements
Larkspur, California

Project No. 867.193 Date: 10/18/2023

Drawn EIC
Checked

9
FIGURE

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 01-121720	**School Name:** Redwood HS	**School District:** Tamalpais Union High School District
DSA File Number: 21-H2	**Increment Number:**	**Date Created:** 2024-08-09 13:57:17

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required **Periodic –** Indicates that a periodic special inspection is required **Test –** Indicates that a test is required	**GE (Geotechnical Engineer) –** Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative. **LOR (Laboratory of Record) –** Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335. **PI (Project Inspector) –** Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA. **SI (Special Inspection) –** Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
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Geotechnical Reports: Project has a geotechnical report, or CDs indicate soils special inspection is required by GE

	S1. GENERAL:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	a. Verify that: •Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations. •Foundation excavations are extended to proper depth and have reached proper material. •Materials below footings are adequate to achieve the design bearing capacity.	**Periodic**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix (end of this form) form for exemptions.)

	S2. SOIL COMPACTION AND FILL:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Perform classification and testing of fill materials.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer.
☐	**b.** Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. (Refer to specific items identified in the Appendix (end of this form) form for exemptions where soils SI and testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil SI and test reporting requirements for the exempt items.)
☐	**c.** Compaction testing.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer. (Refer to specific items identified in the Appendix (end of this form) for exemptions where soils testing may be conducted under the supervision of a geotechnical engineer or LOR's engineering manager. In such cases, the LOR's form DSA 291 shall satisfy the soil test reporting requirements for the exempt items.)

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number:	**School Name:**	**School District:**
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	S3. DRIVEN DEEP FOUNDATIONS (PILES):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify pile materials, sizes and lengths comply with the requirements.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**b.** Determine capacities of test piles and conduct additional load tests as required.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer.
☐	**c.** Inspect driving operations and maintain complete and accurate records for each pile.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**d.** Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**e.** Steel piles.	Provide tests and inspections per STEEL section below.		
☐	**f.** Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
☐	**g.** For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Note**
☑	**a.** Inspect drilling operations and maintain complete and accurate records for each pier.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix (end of this form) for exemptions.)

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number:	**School Name:**	**School District:**
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DSA File Number:	**Increment Number:**	**Date Created:**
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	Test or Special Inspection	**Type**	**Performed By**	**Code References and Note**
☑	**b.** Verify pier locations, diameters, plumbness, bell diameters (if applicable), lengths and embedment into bedrock (if applicable); record concrete or grout volumes.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix (end of this form) for exemptions.)
☑	**c.** Confirm adequate end strata bearing capacity.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. (See Appendix (end of this form) for exemptions.)
☑	**d.** Concrete piers.	Provide tests and inspections per CONCRETE section below.		

	S5. RETAINING WALLS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Placement, compaction and inspection of backfill.	**Continuous**	**GE***	**1705A.6.1.** * By geotechnical engineer or his or her qualified representative. (See section S2 above).
☐	**b.** Placement of soil reinforcement and/or drainage devices.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.** Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
☐	**d.** Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
☐	**e.** Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
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	S6. OTHER SOILS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Soil Improvements	**Test**	**GE***	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
☐	**b.** Inspection of Soil Improvements	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
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	C1. CAST-IN-PLACE CONCRETE			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify use of required design mix.	**Continuous**	**SI**	**Table 1705A.3 Item 5, 1910A.1.**
☑	**b.** Identifiy, sample, and test reinforcing steel.	**Test**	**LOR**	**1910A.2;** ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
☑	**c.** During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	**Test**	**LOR**	**Table 1705A.3 Item 6**; ACI 318-19 Sections 26.5 & 26.12.
☑	**d.** Test concrete (f'_c).	**Test**	**LOR**	**1905A.1.17;** ACI 318-19 Section 26.12.
☑	**e.** Batch plant inspection: **Periodic**	**See Notes**	**SI**	Default of **'Continuous'** per **1705A.3.3**. If approved by DSA, batch plant inspection may be reduced to **'Periodic'** subject to requirements in Section **1705A.3.3.1,** or not required per **1705A.3.3.2.** See IR 17-13. (See Appendix (end of this form) for exemptions.)
☐	**f.** Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

	C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Sample and test prestressing tendons and anchorages.	**Test**	**LOR**	**1705A.3.4, 1910A.3**
☐	**b.** Inspect placement of prestressing tendons.	**Periodic**	**SI**	**1705A.3.4, Table 1705A.3 Items 1 & 9.**

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	**c.** Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	**Periodic**	**SI**	**Table 1705A.3 Item 13.** Special inspector to verify specified concrete strength test prior to stressing.
☐	**d.** Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	**Continuous**	**SI**	**1705A.3.4, Table 1705A.3 Item 9;** ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect fabrication of precast concrete members.	**Continuous**	**SI**	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
☐	**b.** Inspect erection of precast concrete members.	**Periodic**	**SI***	**Table 1705A.3 Item 10.** * May be performed by PI when specifically approved by DSA.
☐	**c.** For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	**Continuous**	**SI**	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
☐	**d.** Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	**Periodic**	**SI**	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

	C4. SHOTCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect shotcrete placement for proper application techniques.	**Continuous**	**SI**	**1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3.** See ACI 506.2-13 Section 3.4, ACI 506R-16.
☐	**b.** Sample and test shotcrete (f'_c).	**Test**	**LOR**	**1908A.2, 1705A.3.9**

	C5. POST-INSTALLED ANCHORS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Inspect installation of post-installed anchors	**See Notes**	**SI***	**1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8** (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
☑	**b.** Test post-installed anchors.	**Test**	**LOR**	**1910A.5.** (See Appendix (end of this form) for exemptions.)

	C6. OTHER CONCRETE:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
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	S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. •Material sizes, types and grades comply with requirements.	**Periodic**	*	**Table 1705A.2.1 Item 3a–3c.** 2202A.1**;** AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
☑	**b.** Test unidentified materials	**Test**	**LOR**	**2202A.1.**
☑	**c.** Examine seam welds of HSS shapes	**Periodic**	**SI**	DSA IR 17-3.
☑	**d.** Verify and document steel fabrication per DSA-approved construction documents.	**Periodic**	**SI**	Not applicable to cold-formed steel light-frame construction, except for trusses (**1705A.2.4**).
☐	**e.** Buckling restrained braces.	**Test**	**LOR**	Testing and special inspections in accordance with IR 22-4.

	S/A2. HIGH-STRENGTH BOLTS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	**Periodic**	**SI**	**Table 1705A.2.1 Items 1a & 1b, 2202A.1;** AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
☐	**b.** Test high-strength bolts, nuts and washers.	**Test**	**LOR**	**Table 1705A.2.1 Item 1c, 2213A.1**; RCSC 2014 Section 7.2; DSA IR 17-8.
☐	**c.** Bearing-type ("snug tight") connections.	**Periodic**	**SI**	**Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2**; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
☐	**d.** Pretensioned and slip-critical connections.	*	**SI**	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. *"Continuous" or "Periodic" depends on the tightening method used.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
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	S/A3. WELDING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	**Periodic**	**SI**	**1705A.2.5, Table 1705A.2.1 Items 4 & 5**; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
☐	b. Verify weld filler material manufacturer's certificate of compliance.	**Periodic**	**SI**	DSA IR 17-3.
☐	**c.** Verify WPS, welder qualifications and equipment.	**Periodic**	**SI**	DSA IR 17-3.

	S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	**Continuous**	**SI**	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	**Periodic**	**SI**	**1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect welding of stairs and railing systems.	**Periodic**	**SI**	**1705A.2.1**; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
☐	**d.** Verification of reinforcing steel weldability other than ASTM A706.	**Periodic**	**SI**	**1705A.3.1**; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**e.** Inspect welding of reinforcing steel.	**Continuous**	**SI**	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 01-121720	**School Name:** Redwood HS	**School District:** Tamalpais Union High School District
DSA File Number: 21-H2	**Increment Number:**	**Date Created:** 2024-08-09 13:57:17

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	**Continuous**	**SI**	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	b. Inspect single-pass fillet welds ≤ 5/16".	**Periodic**	**SI**	**Table 1705A.2.1 Item 5a.5;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect end-welded studs (ASTM A-108) installation (including bend test).	**Periodic**	**SI**	**2213A.2**; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
☐	**d.** Inspect floor and roof deck welds.	**Periodic**	**SI**	**1705A.2.2, Table 1705A.2.1 Item 5a.6;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
☐	**e.** Inspect welding of structural cold-formed steel.	**Periodic**	**SI***	**1705A.2.5; AWS D1.3; DSA IR 17-3.** The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
☐	**f.** Inspect welding of stairs and railing systems.	**Periodic**	**SI***	**1705A.2.1;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
☐	**g.** Verification of reinforcing steel weldability.	**Periodic**	**SI**	**1705A.3.1**; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**h.** Inspect welding of reinforcing steel.	**Continuous**	**SI**	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
21-H2		2024-08-09 13:57:17

	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Ultrasonic	**Test**	**LOR**	**1705A.2.1, 1705A.2.5;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**b.** Magnetic Particle	**Test**	**LOR**	**1705A.2.1, 1705A.2.5;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**c.**	**Test**	**LOR**	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	**Continuous**	**SI**	**1705A.2.3, Table 1705A.2.3;** AWS D1.1; DSA IR 22-3 for steel joists only. **1705A.2.4;** AWS D1.3 for cold-formed steel trusses.

Application Number: 01-121720	**School Name:** Redwood HS	**School District:** Tamalpais Union High School District
DSA File Number: 21-H2	**Increment Number:**	**Date Created:** 2024-08-09 13:57:17

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	**Periodic**	**SI**	**1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.**
☐	**b.** Test density.	**Test**	**LOR**	**1705A.15.1, 1705A.15.5, ASTM E605**
☐	**c.** Bond strength adhesion/cohesion.	**Test**	**LOR**	**1705A.15.1, 1705A.15.6, ASTM E736**

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Anchor Bolts and Anchor Rods	**Test**	**LOR**	Identify, sample and test anchor bolts and anchor rods **not** meeting exemptions identified in Section 1 of IR 17-11.
☐	**b.** Threaded rod not used for foundation anchorage.	**Test**	**LOR**	Identify, sample and test threaded rods **not** meeting exemptions identified in Section 1 of IR 17-11.

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	**Periodic**	**SI**	Table 1705A.13.7
☐	**b.** Fabricated storage rack elements.	**Periodic**	**SI**	1704A.2.5; Table 1705A.13.7

Application Number:	**School Name:**	**School District:**
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
21-H2		2024-08-09 13:57:17

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	**c.** Storage rack anchorage installation.	**Periodic**	**SI**	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
☐	**d.** Completed storage rack system to indicate compliance with the approved construction documents.	**Periodic**	**SI***	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (OTHER), 2022 CBC

Application Number:
01-121720

School Name:
Redwood HS

School District:
Tamalpais Union High School District

DSA File Number:
21-H2

Increment Number:

Date Created:
2024-08-09 13:57:17

	X1. OTHER:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Load test for identified product(s):	**Test**	**LOR**	**1709A.2, 1709A.3**. Testing is not required for: 1) a product with a valid evaluation service report per DSA IR A-5, or 2) a product that can be justified by structural calculation.
☐	**b.** Installation torque for non-HS bolts	**Continuous**	**SI***	Applicable to communication towers identified as Essential Service Facility Projects (ESFP). Calibrated wrench use required, verified by SI during installation. DSA Policy PL 18-01: Communication Towers, Poles and Buildings Utilized by State Agencies for Essential Services Communications.*EXCEPTION: Non-ESFP may use PI without need for notification to DSA.
☐	**c.**			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number:	School Name:	School District:
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
21-H2		2024-08-09 13:57:17

Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests **/** special inspections noted. **Items marked as exempt shall be identified on the approved construction documents**. The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
☐	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
☐	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
☐	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
☐	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
☐	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
☐	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number:	School Name:	School District:
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
21-H2		2024-08-09 13:57:17

	CONCRETE/MASONRY:
☐	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
☐	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
☐	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
☐	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
☐	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
☐	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
☐	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number:	School Name:	School District:
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
21-H2		2024-08-09 13:57:17

	WELDING:
☐	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

Application Number:
01-121720

School Name:
Redwood HS

School District:
Tamalpais Union High School District

DSA File Number:
21-H2

Increment Number:

Date Created:
2024-08-09 13:57:17

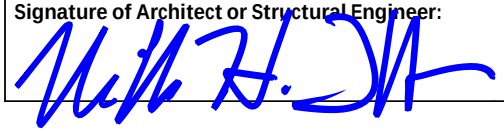
Name of Architect or Engineer in general responsible charge:

Chris Warner

Name of Structural Engineer (When structural design has been delegated):

William H. Thorpe

Signature of Architect or Structural Engineer:



Date:

8/9/24

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☐ ACS ☐
DATE: 10/7/2024

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number:	School Name:	School District:
01-121720	Redwood HS	Tamalpais Union High School District
DSA File Number:	**Increment Number:**	**Date Created:**
21-H2		2024-08-09 13:57:17

1. Soils Testing and Inspection: Geotechnical Verified Report Form DSA 293
2. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291
3. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291
4. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292
5. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS

395 DOHERTY DRIVE, LARKSPUR, CA 94939

DSA SUBMITTAL
AUGUST 2024

THE CERTIFICATION OF THIS PROJECT IS CONTINGENT ON THE CERTIFICATION OF THE SOLAR PARKING PROJECT 01-121040



PROJECT TEAM

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Peter Stanley 9/9/2024 4:11 PM

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APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

ARCHITECT/ ENGINEER
ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z — zfa.com
santa rosa ca 95404 — 707.526.0992
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STAMP

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SAN FRANCISCO, CA 94133
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STAMP
12.31.2024
09.11.2024

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

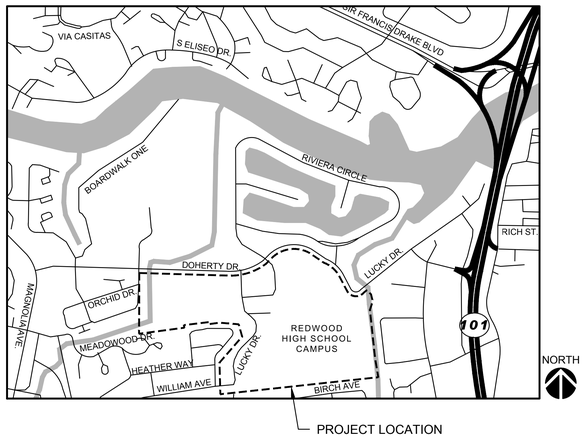
SHEET TITLE
COVER

SHEET NUMBER
G00.01

ABBREVIATIONS

@	AT
AC	ASPHALT CONCRETE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT
BJB	BURIED JUNCTION BOX
CL	CENTER LINE
CLF	CHAIN LINK FENCE
CLR	CLEAR
COM	COMMUNICATIONS BOX
CONC.	CONCRETE
DI	DRAIN INLET
DSA	DIVISION OF STATE ARCHITECT
(E)	EXISTING
EP	EXISTING PAVING
EQ	EQUAL
EXIST	EXISTING
FG	FINISH GRADE
HP	HIGH POINT
INV	INVERT
LOW	LIMIT OF WORK
MAX	MAXIMUM
MH	MAN HOLE
ML	MAIN LINE (IRRIGATION)
PB	PULL BOX
PD	PERIMETER DRAIN
PP	PERF PIPE
POT	PATH OF TRAVEL
QCV	QUICK COUPLER VALVE
RC	RELATIVE COMPACTION
RIM	RIM ELEVATION
SCD	SEE CIVIL DRAWINGS
SSD	SEE STRUCTURAL DRAWINGS
SD	STORM DRAIN
SDMH	STORM DRAIN MAN HOLE
ST	SYNTHETIC TURF (FINISH GRADE)
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TCB	TRENCH DRAIN CATCH BASIN
TP	TOP OF PAVING
TPZ	TREE PROTECTION ZONE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
W/	WITH

VICINITY MAP



STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

- ☒ THE 'L' SERIES SHEETS AND 'SFS' SERIES SHEETS
- ☐ THE DRAWING, PAGE OF SPECIFICATIONS/CALCULATIONS

HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1. DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME AND
2. COORDINATION WITH MY PLANS AND SPECIFICATION AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341 AND 4-344 OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-317 [B])

I FIND THAT:

- ☒ THE 'L' SERIES SHEETS AND 'SFS' SERIES SHEETS
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- ☒ HAS / HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS

09-10-2024
SIGNATURE DATE

ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

CHRIS WARNER
PRINT NAME

S4613 12-31-2025
LICENSE NUMBER EXPIRATION DATE

STRUCTURAL ENGINEER: DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

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1212 FOURTH STREET, SUITE Z
PHONE: 707-526-0992
EMAIL: CHRISW@ZFA.COM

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE STATEMENT

THESE DRAWINGS FOR THE ITEMS LISTED BELOW HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS LICENSED IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINED BY ME, AND COORDINATED FOR DESIGN INTENT AND HAVE BEEN FOUND TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT FOR WHICH I AM THE INDIVIDUAL DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE:

1. 'L' SERIES SHEETS	WILLIAM FEE, CARDUCCI ASSOCIATES
2. 'SFS' SERIES SHEETS	BILL THORPE, KPFF ENGINEERS

SCOPE OF WORK

ADDITION OF CONCRETE FLATWORK, SAFETY NETTING, AND STORM WATER MITIGATION.
SYNTHETIC TURF REPLACEMENT. DRINKING FOUNTAIN AND 5 TIER BLEACHERS.

APPLICABLE CODES

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR*
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
(2021 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2022 CALIFORNIA AMENDMENTS)
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
(2020 NATIONAL ELECTRICAL CODE AND 2022 CALIFORNIA AMENDMENTS)
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
(2021 IAPMO UNIFORM MECHANICAL CODE AND 2022 CALIFORNIA AMENDMENTS)
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
(2021 IAPMO UNIFORM PLUMBING CODE AND 2022 CALIFORNIA AMENDMENTS)
2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
(2021 INTERNATIONAL FIRE CODE AND 2022 CALIFORNIA AMENDMENTS)
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
(2021 INTERNATIONAL EXISTING BUILDING CODE AND 2022 CALIFORNIA AMENDMENTS)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
2016 ASME A17.1/CSA B44-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS (PER 2022 CBC PART 2 CH 35)
NOTE: CAL/OSHA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME A17.1 BY ADOPTION.

GOVERNING AGENCY

DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
REGION 1 OFFICE
1515 CLAY STREET, SUITE 1201
OAKLAND, CA 94612
PH: (510) 622-3140
FAX: (510) 622-3101

1. THIS PROJECT IS A DSA PROJECT AND AS A RESULT AN INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4 - 342, PART 1, TITLE 24, CCR.
2. ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

GENERAL NOTES

1. DAMAGE TO AREAS OUTSIDE OF LIMIT OF WORK CAUSED BY WORK UNDER THIS CONTRACT SHALL BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST.
2. UTILITIES: ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. NOTIFY CONSTRUCTION MANAGER OF ANY FOUND DISCREPANCIES.
3. CARDUCCI & ASSOCIATES IS NOT RESPONSIBLE FOR THE EXACT LOCATION OF UTILITY LINES SHOWN HEREON; NOR FOR ANY DAMAGES BY ANY CONSTRUCTION OR EXCAVATION ON OR NEAR SAID UTILITIES.
4. CALL UNDERGROUND SERVICE ALERT 811, A MINIMUM OF 48 HOURS BEFORE ANY CONSTRUCTION OR EXCAVATION IN THIS AREA.
5. PRIOR TO COMMENCING WORK, CONTRACTOR MUST FIELD LOCATE ALL EXISTING UTILITIES INCLUDING: TYPE OF UTILITY AND FACILITY THAT IT SERVICES, SIZE, LOCATION, AND DEPTH. NOTIFY DISTRICT 72 HOURS BEFORE CONSTRUCTION, EXCAVATION AND ANY UTILITIES SHUT DOWN.
6. A COPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON THE JOB SITE AT ALL TIMES
7. IN ACCORDANCE WITH TITLE 24, PART 1 CHAPTER 4: THE ADMINISTRATIVE REGULATIONS FOR THE DIVISION OF STATE ARCHITECT STRUCTURAL SAFETY (DSA/SS)
   - ALL CONSTRUCTION CHANGE DOCUMENTS AND ADDENDA SHALL BE SIGNED BY THE ARCHITECT AND THE DISTRICT AND APPROVED BY DSA. CONSTRUCTION CHANGE DOCUMENTS NOT VALID UNTIL APPROVED BY DSA (4-338).
   - ALL TESTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 4-335 AND APPROVED T & I SHEET.
   - TESTS OF MATERIALS AND TESTING LAB SHALL BE IN ACCORDANCE WITH SECTION 4-335 AND THE DISTRICT SHALL EMPLOY AND PAY THE LAB. COSTS OF RE-TESTS SHALL BE BACK-CHARGED TO THE CONTRACTOR.
   - DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO PLACEMENT OF CONCRETE (4-331)
   - INSPECTOR SHALL BE APPROVED BY DSA. INSPECTION SHALL BE IN ACCORDANCE WITH SECTION 4-333(B). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH WITH SECTION 4-342.
   - SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH SECTION 4-334.
   - VERIFIED REPORTS SHALL BE SUBMITTED BY CONTRACTORS. INSPECTORS (DSA-6) AND ARCHITECTS AND ENGINEERS (DSA-6AE) IN ACCORDANCE WITH SECTIONS 4-336 AND 4-353.
   - THE ARCHITECT SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(A) AND 4-341.
   - THE CONTRACTOR SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTION 4-343.
8. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY EXISTING CONDITIONS BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24 C.C.R., A CONSTRUCTION CHANGE DOCUMENTS DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK. (SECTION 4-317C, PART 1, TITLE 24).
9. DSA IS NOT SUBJECT TO ARBITRATION.
10. WORK SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 33 OF THE CBC & CFC, "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION".
11. THERE ARE NO DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT.
12. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

SFPUC NOTES:

1. THE CITY AND COUNTY OF SAN FRANCISCO ACTING BY AND THROUGH ITS PUBLIC UTILITIES COMMISSION, WATER SUPPLY AND TREATMENT DIVISION ("SFPUC") OWNS AND OPERATES TWO WATER AQUEDUCTS THAT CROSS THE PROJECT ALIGNMENT. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICES ALERT (USA) 48 HOURS BEFORE ANY CONSTRUCTION IN THE VICINITY OF THE SFPUC AQUEDUCTS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE SFPUC CONSTRUCTION INSPECTOR, MR. ALBERT HAO, AT (650) 871-3015, AT LEAST TEN (10) CALENDAR DAYS PRIOR TO THE START OF ON-SITE CONSTRUCTION IN THE VICINITY OF THE SFWD ROW. IN THE EVENT OF EMERGENCY INVOLVING SFPUC FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY SFPUC BY CALLING SFPUC MILLBRAE DISPATCH AT 650-872-5900.
2. NO MECHANICAL EXCAVATION IS ALLOWED WITHIN 24 INCHES OF SFPUC PIPELINES. DIGGING WITH 24 INCHES OF PIPELINE MUST BE DONE WITH HAND TOOL. NO VIBRATORY COMPACTION EQUIPMENT SHALL BE USED WITHOUT PRIOR WRITTEN APPROVAL OF THE SFPUC.
3. CONTRACTOR SHALL OBTAIN CONSENT FROM THE SFPUC TO POTHOLE SFPUC PIPELINE TO DETERMINE THE PIPE DEPTH PRIOR TO ANY EXCAVATION. THE POTHOLING SHALL BE CARRIED OUT BY SOIL VACUUM EXTRACTION METHOD.
4. MAXIMUM EXTERNAL LOADING OVER SFPUC PIPELINE IS AASHTO H-10 LOADING WITH A MINIMUM OF 3 FEET SOIL COVER (OR H-20 LOADING WITH A MINIMUM OF 4 FEET SOIL COVER). IF LOADING CONDITION EXCEEDS ABOVE, ENGINEERING CALCULATIONS AS SHOWN IN AWWA, M9 MUST BE SUBMITTED TO THE SFPUC TO SHOW THAT PROPOSED CONDITION WOULD IMPOSE A LOAD OF LESS THAN 500 PSF ONTO THE PIPELINE.

CONSTRUCTION ACCESS AND COORDINATION NOTES

1. SECURE SITE WITH CONSTRUCTION FENCE AS REQUIRED.
   CONTRACTOR SHALL REPAIR AND REPLACE ANY BROKEN OR DAMAGED CONSTRUCTION FENCE.
2. COORDINATE WORK WITH DISTRICT, CONSTRUCTION MANAGER, AND OTHER WORK ON SITE.
3. CONTRACTOR TO REPLACE ANY BROKEN OR CRACKED PAVING CAUSED BY THE ACTIVITIES RELATED TO THE FIELD REFURBISHMENT PROJECT. CONTRACTOR IS ALSO RESPONSIBLE FOR PROTECTING THE EXISTING CONDITIONS AND EXISTING UTILITIES THAT ARE REMAINING.

DSA NOTES

1. NO CHANGES OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECT ACCESS COMPLIANCE ITEMS, UNLESS SUCH CHANGES OR REVISIONS ARE SUBMITTED TO THE DSA FOR APPROVAL.
2. SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION
3. CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY THE FOLLOWING:
   - 3.1. ARCHITECT OR ENGINEER OF RECORD
   - 3.2. STRUCTURAL ENGINEER (WHEN APPLICABLE)
   - 3.3. DELEGATED PROFESSIONAL ENGINEER
   - 3.4. DSA
4. MATERIALS AND THEIR INSTALLATION SHALL COMPLY WITH APPLICABLE CODES, STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.

SHEET INDEX

SHEET SEQUENCE	SHEET NUMBER	SHEET TITLE
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2	G00.02	SHEET INDEX AND GENERAL NOTES
3	G00.04	SITE PLAN
4	G00.05	SCOPE OF WORK
5	L01.00	DEMOLITION AND EROSION CONTROL LEGEND
6	L01.01	DEMOLITION AND EROSION CONTROL LEGEND AND PLAN
7	L01.02	DEMOLITION AND EROSION CONTROL DETAILS
8	L02.00	GRADING LEGEND AND PLAN
9	L04.00	LAYOUT LEGEND AND PLAN
10	L05.00	MATERIALS LEGEND AND PLAN
11	L06.01	DETAILS
12	L06.02	DETAILS - FIELD OVERLAY AND SECTION
13	L06.03	DETAILS - DRINKING FOUNTAIN AND UTILITY
14	L06.04	DETAILS - EXISTING RESTROOM AND SIGNAGE
15	L06.05	DETAILS - EXISTING BLEACHERS
16	L06.06	DETAILS - EXISTING BLEACHERS
17	L06.07	DETAILS - EXISTING BLEACHERS
18	L06.08	DETAILS - EXISTING BLEACHERS
19	L06.09	DETAILS - PROPOSED BLEACHERS
20	L06.10	DETAILS - PROPOSED BLEACHERS
21	L06.11	DETAILS - PROPOSED BLEACHERS
22	L06.12	DETAILS - PROPOSED BLEACHERS
23	L06.13	DETAILS - PROPOSED BLEACHERS
24	SFS-1	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
25	SFS-2	DETAILS
25	TOTAL SHEETS	

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REVIEWED FOR
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DATE: 10/7/2024

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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

SHEET TITLE

SHEET INDEX AND GENERAL NOTES

SHEET NUMBER

G00.02

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Peter Stanley 9/9/2024 4:11 PM

ACCESSIBLE ROUTE NOTES

1. BARRIER FREE ACCESSIBLE ROUTE WITH FOLLOWING CHARACTERISTICS:

   A. LESS THAN 1:20 MAXIMUM SLOPE WITHOUT RAMP.
   B. LESS THAN 1:48 MAXIMUM CROSS SLOPE.
   C. 48" MIN CLEAR IN WIDTH.
   D. NON-SLIP SURFACE OF CONCRETE OR ASPHALT.
   E. ACCESSIBLE PATH SHALL HAVE NO ABRUPT VERTICAL CHANGES EXCEEDING 1/4" VERTICAL OR 1/4" VERTICAL WITH AN ADDITIONAL 1/4" AT1:2 MAXIMUM SLOPE, OR A TOTAL OF 1/2" AT 1:2 MAXIMUM SLOPE.

2. CONSTRUCT ALL PAVED AREAS TO DRAIN

3. CONFORMANCE SURVEYING OF ACCESSIBLE ROUTE: THE CONTRACTOR SHALL PERFORM A CONFORMANCE SURVEY OF THE ACCESSIBLE ROUTE SHOWING CROSS SLOPES, LONGITUDINAL SLOPES AND SPOT ELEVATIONS ON A 10-FOOT GRID AFTER FINISH GRADING AND FINISH SURFACING IS COMPLETE. CORRECT ANY IRREGULARITIES FOUND AND RESURVEY CORRECTED AREAS TO DOCUMENT CONFORMANCE. SUBMIT CONFORMANCE SURVEYING OF ACCESSIBLE ROUTE TO ARCHITECT AND INCLUDE AS PART OF RECORD DRAWINGS

4. PROVIDE MINIMUM 24" WIDE, 2% MAX BENCH AT TOP OF SLOPE ADJACENT TO PAVING, TYP.

5. ACCESSIBLE ROUTE SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND FREE OF OBJECTS PROTRUDING MORE THAN 4" FROM THE WALL, ABOVE 27" AND LESS THAN 80" ABOVE THE FLOOR. ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE ACCESSIBLE ROUTE.

DSA PR 15-01: REQUIRED INFORMATION FOR ACCESSIBLE ROUTE UPGRADES ON CONSTRUCTION DOCUMENTS

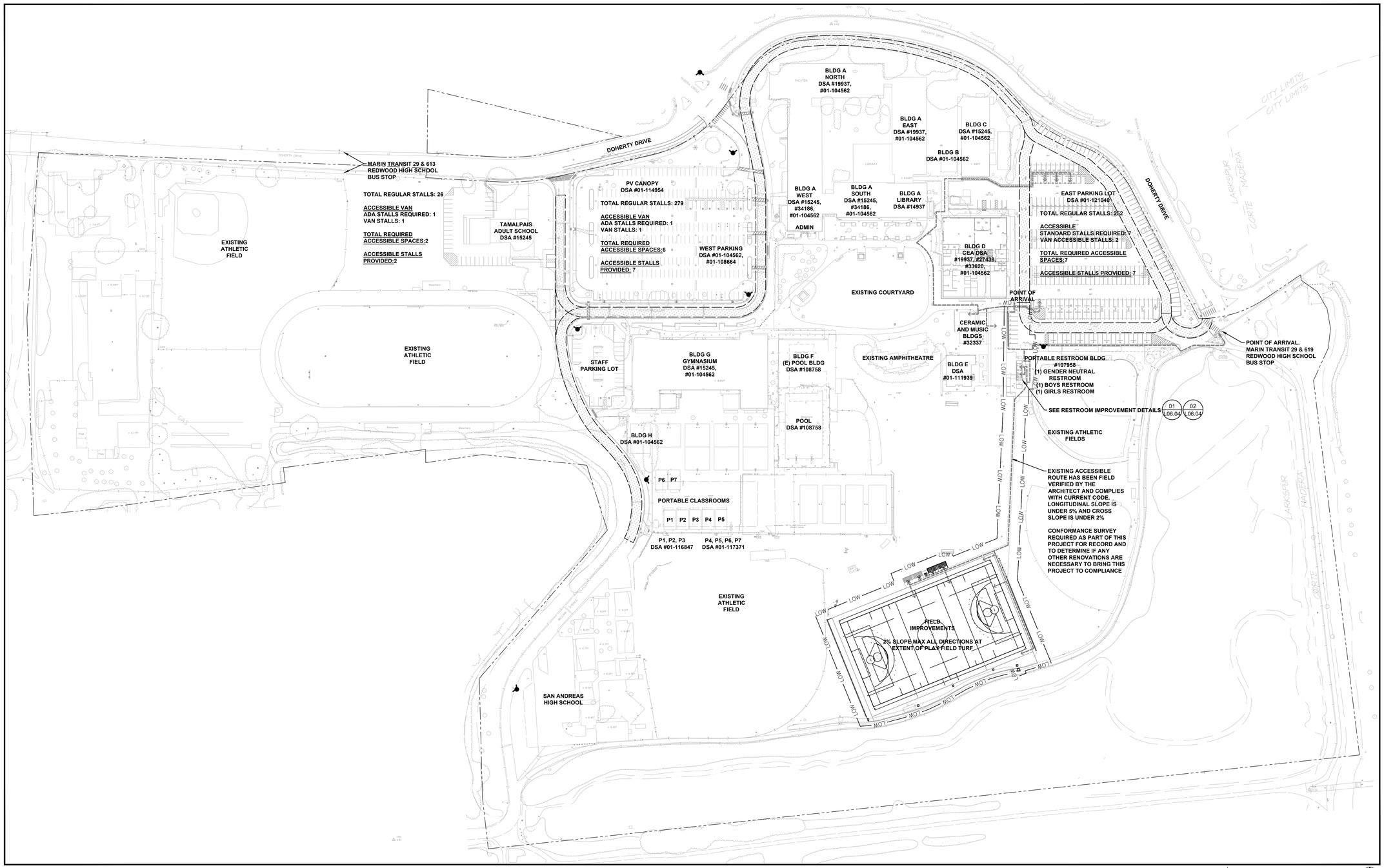
DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

THE ACCESSIBLE ROUTE IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR ACCESSIBLE ROUTE REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE ACCESSIBLE ROUTE WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE ACCESSIBLE ROUTE THAT WERE DETERMINED TO BE NON-COMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.
ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE ACCESSIBLE ROUTE THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS.
DURING CONSTRUCTION , IF ACCESSIBLE ROUTE ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THE PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

NOTE: BASED ON PREVIOUS DSA SUBMITTALS, FIRE ACCESS WITHIN AND BEYOND THE LIMIT OF WORK IS NOT AFFECTED BY THESE IMPROVEMENTS. SCOPE OF WORK WILL MAINTAIN AND/OR PROVIDE FIRE LANES PER CFC SEC 503; 13'-6" MIN HEIGHT AND 20'-0" MIN WIDTH SHALL BE MAINTAINED.

SITE LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
LOW	LIMIT OF WORK
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY
	(E) FIRE HYDRANT
	EXISTING ACCESSIBLE ROUTE
FIRE LANE	(E) EMERGENCY VEHICLE ACCESS LANE 20'-00" MINIMUM A#01-117371



PLAN 0 80 160 FEET NORTH

811 Know what's below. Call 811 before you dig.

Peter Stanley 10/2/2024 10:59 AM

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PETER J. STANLEY — LANDSCAPE ARCHITECT — 2537 — 12.31.2024 — 09.11.2024 — STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

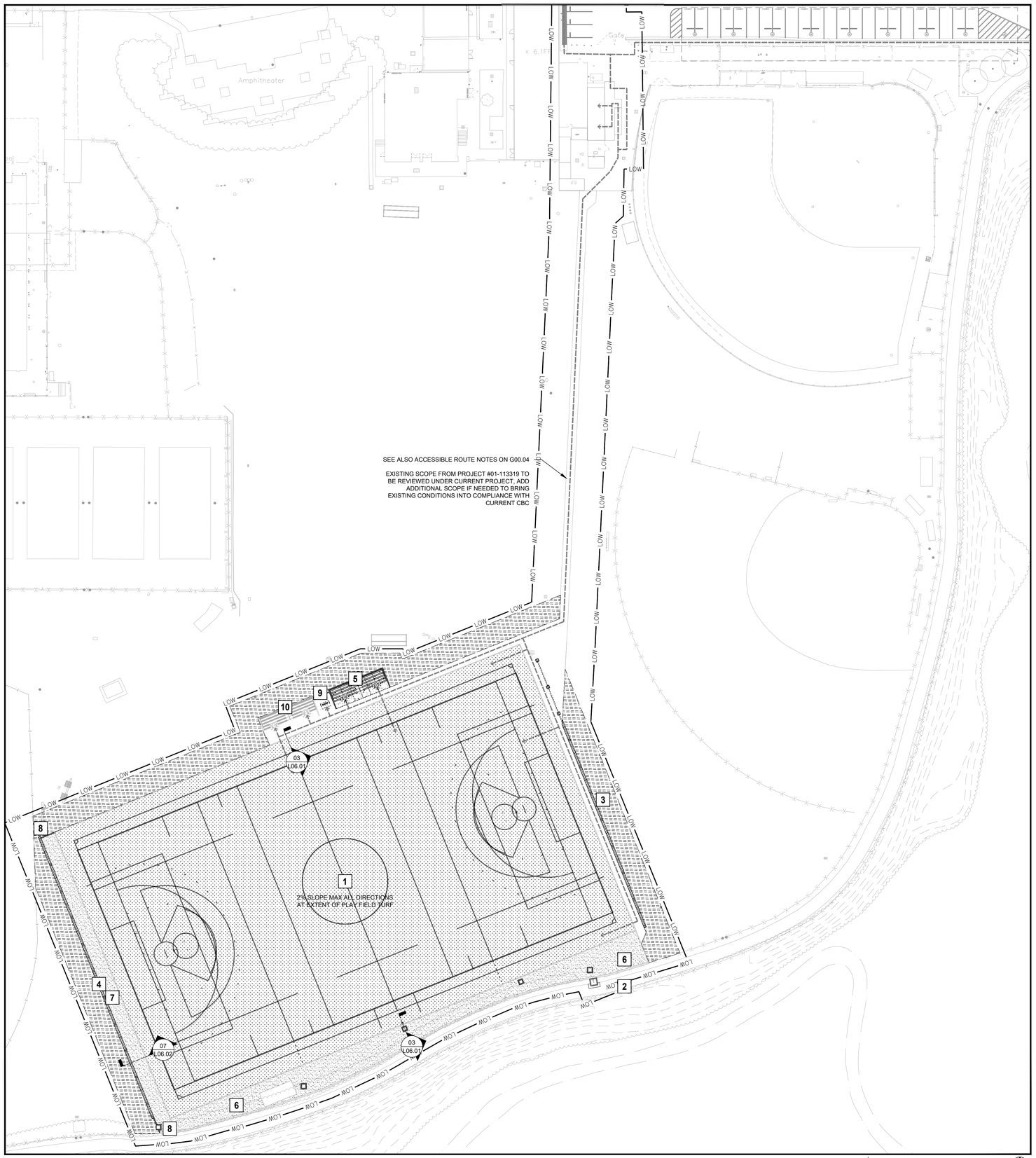
DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
SITE PLAN

SHEET NUMBER
G00.04



PLAN 0 30 60 FEET NORTH

SITE LEGEND

SYMBOL	DESCRIPTION
LOW	LIMIT OF WORK
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY
	EXISTING ACCESSIBLE ROUTE

SCOPE OF WORK

KEY	DESCRIPTION
1	VIA CMAS PROCUREMENT, REPLACE EXISTING SYNTHETIC TURF FIELD WITH NEW FIELDTURF SYSTEM, INCLUDING, FIELD PERMEABILITY TESTING, BROCK POWER BASE YSR 4 PAD, AND OLIVE CORE AND SAND INFILL. ADD WHITE STRIPING FOR FIELD HOCKEY. GMAX TESTING.
2	ADD NEW CHECK VALVE (DUCKBILL) AT EXISTING DRAIN INLET TO DETER STORMWATER BACKFLOW FROM ADJACENT MARSH INTO THE SUBSURFACE DRAINAGE SYSTEM UNDER THE FIELD. THIS MAY BE A SEPARATE SMALL PROJECT FOR DISTRICT TO PROCURE AS A MAINTENANCE PROJECT.
3	10' HIGH BALL SAFETY NET IN CONCRETE BORDER AT EDGE OF EXISTING PATH. (1 SFS-2) (2 SFS-2) (02 L06.01) ADJUST EXISTING IRRIGATION SYSTEM AS REQUIRED.
4	10' HIGH BALL SAFETY NET IN CONCRETE BORDER (1 SFS-2) (2 SFS-2) (02 L06.01)
5	CONCRETE SLAB ON GRADE FOR PROPOSED BLEACHER. SEE SHEETS L06.09, L06.10, L06.11, L06.12, AND L06.13
6	REPLACE EXISTING DECOMPOSED GRANITE PAVING WITH LANDSCAPE QUALITY SYNTHETIC TURF WITH SAND INFILL.
7	REPLACE EXISTING WEEDY LANDSCAPE WITH LANDSCAPE QUALITY SYNTHETIC TURF WITH SAND INFILL.
8	6" WIDE CONCRETE BORDER (05 L06.01)
9	DRINKING FOUNTAIN (03 L06.03)
10	EXISTING BLEACHERS ARE TO BE INCLUDED AS SCOPE AND REVIEWED BY DSA AS PART OF THIS PROJECT. SEE SHEETS L06.05, L06.06, L06.07, AND L06.08

ORIGINAL ACCESSIBILITY SCOPE OF WORK FROM UNCERTIFIED PROJECT 01-113319

CONSTRUCTION OF ACCESSIBLE SYNTHETIC TURF ATHLETIC FIELD AND CONCRETE SIDEWALK CONNECTING FIELD TO NEAREST ACCESSIBLE PARKING. (INCLUDED IN THIS PROJECT FOR DSA REVIEW AND APPROVAL)

EXISTING CONDITIONS NOTES

CONTRACTOR WILL BE RESPONSIBLE FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES IN THE FIELD.

REDWOOD HIGH SCHOOL
395 DOHERTY DRIVE
LARKSPUR, CALIFORNIA

FIELD WORK WAS COMPLETED ON MARCH 2013 BY CSW/STUBER-STROEH ENGINEERING GROUP, INC. FROM NOVATO, CALIFORNIA.

DISTANCES AND ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF.

HORIZONTAL DATUM IS CALIFORNIA COORDINATE SYSTEM 83, ZONE 3.

THE VERTICAL DATUM FOR THIS PROJECT IS THE NGS G108 BRONZE DISK IN LARKSPUR, AT 552 MAGNOLIA AVENUE, IN THE CONCRETE CURB OF THE LOADING PLATFORM OF THE ABANDONED NORTHERN PACIFIC RAILROAD STATION, 17.7 FEET NORTH OF THE EAST CORNER OF THE BUILDING, 11.5 FEET SOUTHEAST OF THE EXTENDED CENTER OF THE ENTRANCE, AND 1 FOOT ABOVE THE GROUND SURFACE. ELEVATION IS 17.57' NAVD 88.

FIELD IMPROVEMENTS CONSTRUCTION DRAWINGS FOR REDWOOD HIGH SCHOOL DSA PROJECT 01-113319 DATED 7/3/2013 ARE AVAILABLE FROM THE CONSTRUCTION MANAGER

IF THE CONTRACTOR ENCOUNTERS ERRORS OR DISCREPANCIES IN THE DRAWINGS, OR SITE CONDITIONS WHICH PREVENT OR DELAY THE COMPLETION OF WORK AS INDICATED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND LANDSCAPE ARCHITECT BY THE TIME OF BID OF ALL SUCH ERRORS, DISCREPANCIES AND OMISSION. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE LANDSCAPE ARCHITECT AND THE OWNER HARMLESS IF AFTER CONTRACTING FOR THE WORK HE HAS MORE PAY DAMAGE BECAUSE OF SITE CONDITIONS, ERRORS, DISCREPANCIES OR OMISSION IN THE DRAWINGS.

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Peter Stanley 10/2/2024 9:35 AM

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REGISTERED LANDSCAPE ARCHITECT — No. 2537 — 12.31.2024 — 09.11.2024 — STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

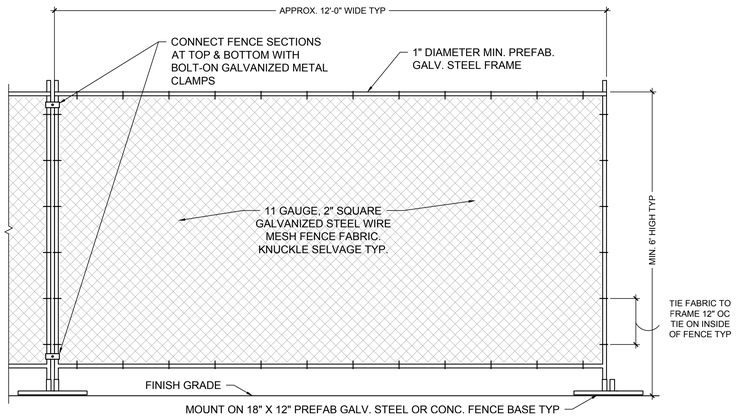
DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

SHEET TITLE
SCOPE OF WORK

SHEET NUMBER
G00.05



NOTES:

1. LOCATE FENCE WHERE SHOWN ON PLAN. LOCATION MAY BE ADJUSTED SUBJECT TO APPROVAL OF PROJECT INSPECTOR. REMOVE FENCE UPON PROJECT ACCEPTANCE.
2. CONTRACTOR MAY USE CONTINUOUS CHAIN LINK FENCE FABRIC WITH SUPPORT POSTS DRIVEN INTO THE GROUND AS ACCEPTED BY LANDSCAPE ARCHITECT.
3. LOCATE GATES WHERE APPROVED BY PROJECT INSPECTOR.

01 CONSTRUCTION & TREE PROTECTION FENCE

SCALE: 3/4" = 1'

SITE LEGEND

SYMBOL	DESCRIPTION
	(E) FIRE HYDRANT
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY

EROSION CONTROL NOTES

1. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. IN GENERAL, THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SEDIMENT STORM RUN OFF FROM LEAVING THE SITE. FIBER ROLLS, STRAW WATTLES, AND SILT FENCES SHALL BE USED BY THE CONTRACTOR ON AN AS NEEDED BASIS TO INHIBIT SILT FROM LEAVING THE SITE AND ENTERING THE STORM DRAIN SYSTEM.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES TO PUBLIC AND/OR PRIVATELY OWNED AND MAINTAINED ROADS CAUSED BY THE CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON THE HAUL ROUTE. ADJACENT PUBLIC ROADS SHALL BE CLEANED DURING ALL GRADING AND EXCAVATION ACTIVITIES.
3. EROSION CONTROL FACILITIES SHALL BE MAINTAINED DAILY. THE NAME OF THE PERSON RESPONSIBLE FOR THE DAILY MAINTENANCE OF THESE FACILITIES SHALL ON RECORD WITH THE PROJECT MANAGER ALONG WITH A PHONE NUMBER WHERE THEY CAN BE REACHED 24 HOURS A DAY. THESE FACILITIES SHALL CONTROL AND CONTAIN EROSION-CAUSED SILT DEPOSITS AND PROVIDE FOR THE SAFE DISCHARGE OF SILT-FREE STORM WATER INTO EXISTING AND PROPOSED STORM DRAIN FACILITIES. DESIGN OF THESE FACILITIES MUST BE APPROVED AND UPDATED EACH YEAR.
4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUB- CONTRACTORS, AND SUPPLIERS ARE AWARE OF ALL STORM WATER QUALITY MEASURES & IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED CONSTRUCTION WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS AND/OR A PROJECT STOP ORDER.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OPERABLE YEAR AROUND OR UNTIL VEGETATION IS ESTABLISHED ON SLOPED SURFACES.
6. EXPOSED EARTHEN AREAS TO BE STABILIZED SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER EACH AREA HAS BEEN GRADED. CONTRACTOR SHALL BE RESPONSIBLE FOR INITIAL WATERING OF AREAS TO ESTABLISH GROWTH AND STABILIZE THE SLOPES OF THE THE GRADED AREAS WITH VEGETATION, AND TO RE-SEED ANY AREAS IN WHICH VEGETATION DOES NOT INITIAL TAKE HOLD.
7. DURING THE RAINY SEASON, ALL PAVED AREAS ARE TO BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE IS TO BE MAINTAINED SO AS TO MINIMIZE SEDIMENT RUNOFF TO ANY STORM DRAIN SYSTEM.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT ALL EROSION CONTROL FACILITIES DAILY AND REPAIR ANY DAMAGED FACILITIES IMMEDIATELY.
9. BORROW AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES (TARPS, FIBER ROLLS, STRAW WATTLES, SILT FENCES ETC.) TO ENSURE SILT DOES NOT LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM. REFER TO EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 3RD EDITION, PREPARED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION.
10. ALL TRUCK TIRES SHALL BE CLEANED PRIOR TO EXITING THE SITE.
11. ALL DIRT PILES/STOCKPILES AND HAUL TRUCKS SHALL BE COVERED.
12. THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL PRACTICES DETAILED IN THE EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 3RD EDITION.
13. DURING PERIODS WHEN STORMS ARE FORECAST:
    A. EXCAVATED SOILS SHOULD NOT BE PLACED IN STREETS OR ON PAVED AREAS.
    B. ANY EXCAVATED SOILS SHOULD BE REMOVED FROM THE STREET BY THE END OF THE DAY.
    C. WHERE STOCKPILING IS NECESSARY, USE A TARPAULIN OR SURROUND THE STOCKPILED MATERIAL WITH FIBER ROLLS, STRAW WATTLES, GRAVEL SEDIMENT BARRIER, SILT FENCE, OR OTHER RUNOFF CONTROLS.
    D. USE INLET CONTROLS AS NEEDED (DRAINAGE INLET PROTECTION) FOR STORM DRAIN ADJACENT TO THE PROJECT SITE OR STOCKPILED SOIL.
    E. THOROUGHLY SWEEP ALL PAVED AREAS EXPOSED TO SOIL EXCAVATION AND PLACEMENT.
14. DURING PERIODS WHEN STORMS ARE NOT FORECAST:
    A. PREVENT STOCKPILED MATERIAL FROM ENTERING THE STORM DRAIN SYSTEM.
    B. THOROUGHLY REMOVE LOOSE SOIL VIA SWEEPING FOLLOWING REMOVAL OF DIRT.
15. DUST CONTROL SHOULD BE PRACTICED ON ALL CONSTRUCTION SITES WITH EXPOSED SOILS AS NEEDED. IT IS IMPORTANT IN WINDY OR WIND-PRONE AREAS. DUST CONTROL IS CONSIDERED A TEMPORARY MEASURE AND AS AS INTERMEDIATE TREATMENT BETWEEN SITE DISTURBANCE AND CONSTRUCTION, PAVING, OR REVEGETATION. REFER TO EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 3RD EDITION, PREPARED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION.

DRAINAGE INLET SEDIMENT BARRIERS

1. DRAINAGE INLET SEDIMENT BARRIERS SHALL BE INSTALLED AS SOON AS THE STORM DRAINAGE SYSTEM IS INSTALLED.
2. PRIOR TO PAVING, FIBER ROLLS AND STRAW WATTLES SHALL BE INSTALLED AROUND EACH DROP INLET. AFTER PAVING IS COMPLETE AROUND EACH DROP INLET, BLOCK AND GRAVEL BAG SEDIMENT BARRIERS SHALL BE INSTALLED AROUND THE DROP INLETS UNTIL ALL EXPOSED EARTHEN AREAS HAVE BEEN STABILIZED AND THE PROJECT SITE FACILITIES ARE OPERATIONAL, AT WHICH TIME THESE FACILITIES SHALL BE REMOVED.
3. CONTRACTOR SHALL AFFIX STORM DRAIN MARKER TO ALL STORM DRAIN INLET STRUCTURES.

GENERAL REQUIREMENTS

1. DAMAGE TO EXISTING IMPROVEMENTS TO REMAIN AND AREAS OUTSIDE OF LIMIT OF WORK CAUSED BY WORK WITHIN LIMIT OF WORK SHALL BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST.
2. STORAGE SHALL BE ON-SITE AND AS APPROVED BY THE OWNER'S REPRESENTATIVE.
3. PROTECT AND VERIFY LOCATION AND DEPTH OF (E) UTILITIES TO REMAIN (6 L01.02)

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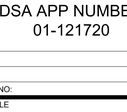
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DATE: 10/7/2024

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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

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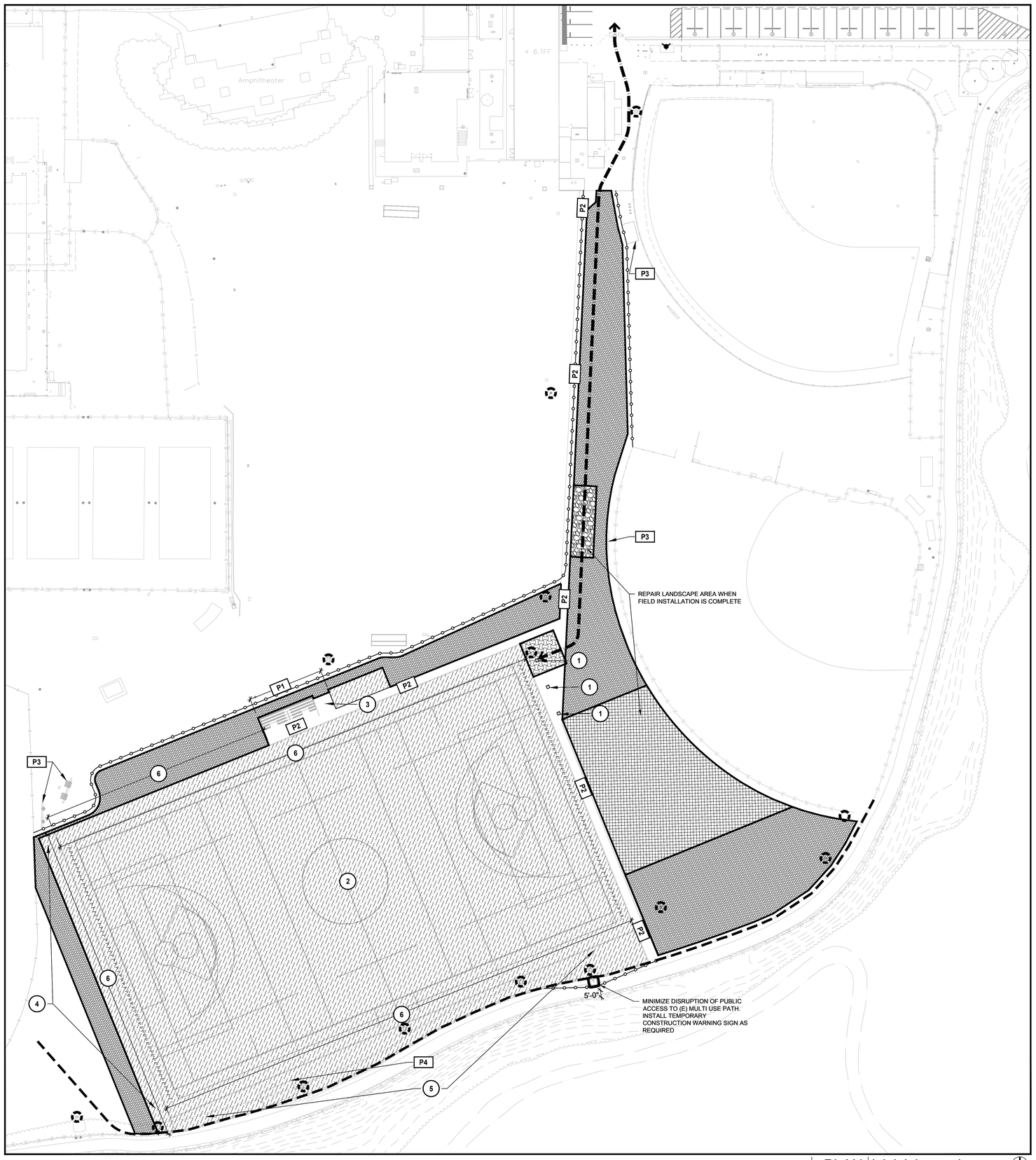
FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

SHEET TITLE
DEMOLITION AND EROSION CONTROL LEGEND

SHEET NUMBER
L01.00

Peter Stanley 10/1/2024 5:08 PM



NOTE: SEE SHEET L01.00 AND L01.02 FOR ADDITIONAL NOTES

PLAN 0 30 60 FEET NORTH

SITE LEGEND

SYMBOL	DESCRIPTION
	(E) FIRE HYDRANT
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY

DEMOLITION LEGEND

SYMBOL	DESCRIPTION
	CONSTRUCTION FENCE TO REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION AND MAINTENANCE PERIOD. PLACE GATES APPROVED BY PROJECT MANAGER. ADJUST LOCATION AS REQUIRED. (01 / L01.00)
	PRIMARY CONSTRUCTION VEHICLE ACCESS
	REPAIR (E) IRRIGATION SYSTEM TO MATCH EXISTING CONDITIONS, MOW (E) GRASS, TOP DRESS WITH ANGULAR WASHED SAND AND FINE GRADE SMOOTH, TOP SEED OR HYDROSEED AND MAINTAIN FOR 60 DAYS. AREA SHOWN IS APPROXIMATE.
	STABILIZED CONSTRUCTION ENTRANCE. REFER TO DETAIL (6 / L01.02)
	POSSIBLE STAGING AREA, COORDINATE WITH PROJECT MANAGER. SQUARE FOOTAGE OF FIELD x 0.12
	25' x 25' INFILL MIXING AREA
	DEMOLITION AREA
	FIBER ROLL, STRAW WATTLE OR COMPOST SOCK (3 / L01.02)
	EXISTING INLET (1 / L01.02) (5 / L01.02)
	PROTECT PROPOSED INLET (1 / L01.02) (5 / L01.02)
	DEMO EXISTING NET AND NET POSTS

PROTECTION NOTES

SYMBOL	DESCRIPTION
P1	PROTECT (E) CONCRETE BAND
P2	PROTECT (E) CONCRETE PAVING
P3	PROTECT (E) SCOREBOARD
P4	PROTECT (E) SHED

DEMOLITION NOTES

SYMBOL	DESCRIPTION
1	SAWCUT & REMOVE EXISTING CONCRETE PAVING AS REQUIRED FOR NET POST
2	REMOVE EXISTING SYNTHETIC TURF SYSTEM AND DISPOSE. PROVIDE PERMEABILITY TESTING: SUBMIT A REPORT SHOWING PERMEABILITY OF EXISTING FIELD BASE STONE PER ASTM F 2898, STANDARD TEST METHOD FOR PERMEABILITY OF SYNTHETIC TURF SPORTS FIELD BASE STONE AND SURFACE SYSTEM BY NON-CONFINED AREA FLOOD TEST METHOD. TESTING SHALL BE PROVIDED FOR EVERY 10,000 SF OF SYNTHETIC TURF SURFACE
3	REMOVE EXISTING DRINKING FOUNTAIN. PROTECT EXISTING EMBEDDED BOLTS, WATER LINE AND DRAIN CONNECTIONS. MARK WATER AND WASTE CONNECTION FOR DRINKING FOUNTAIN REPLACEMENT (04 / L06.05)
4	REMOVE & CAP EXISTING IRRIGATION SYSTEM, IF PRESENT. REMOVE AND DISPOSE OF ORGANIC MATERIAL AS REQUIRED TO PLACE SYNTHETIC TURF (ST2). GRADE SUBGRADE PER GRADING PLAN AND PREPARE AND COMPACT SUBGRADE. PROVIDE AND INSTALL FINE GRADE IMPORT STONE BASE AS SPECIFIED.
5	REMOVE (E) ORGANIC MATERIAL, SALVAGE (E) DECOMPOSED GRANITE PAVING IF PRACTICAL, OTHERWISE PROVIDE, INSTALL AND FINE GRADE IMPORT STONE BASE AS SPECIFIED
6	REMOVE AND GRUB ORGANIC MATERIAL, INCLUDING ROOTS THAT ARE IN AREAS OF SYNTHETIC TURF. RESTORE GRADE OF GRAVEL SUB-BASE AFTER REMOVE OF ORGANIC MATERIAL AS REQUIRED

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Peter Stanley, 10/1/2024 5:09 PM

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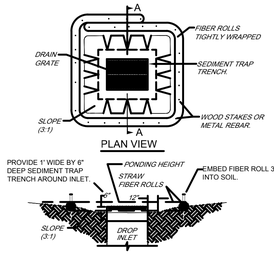
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FILE NUMBER 21-H2
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DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

SHEET TITLE
DEMOLITION AND EROSION CONTROL LEGEND AND PLAN

SHEET NUMBER
L01.01



NOTES:
1. PLACE FIBER ROLLS AROUND THE INLET CONSISTENT WITH BASIN SEDIMENT BARRIER DETAIL ON THIS SHEET. FIBER ROLLS ARE TUBES MADE FROM STRAW BOUND W/ PLASTIC NETTING. THEY ARE APPROX. 8" DIA. AND 20 - 30 FT. LONG.

2. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE FIBER ROLL IN A TRENCH, 3" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND FIBER ROLL.

3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. EXCAVATION OF A BASIN ADJACENT TO THE DROP INLET OR A TEMPORARY DIKE ON THE DOWNSLOPE OF THE STRUCTURE MAY BE NECESSARY.

4. IN PAVED AREAS, SURROUND DRAIN INLETS WITH TIGHTLY STACKED SANDBAGS INSTEAD OF FIBER ROLLS, OVERLAPPING ONTO ADJACENT CURB AROUND CURB INLETS. LEAVE A ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.

1 STRAW WATTLE OR FIBER ROLL DROP INLET SEDIMENT BARRIER
NO SCALE

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials
- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials
- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management
- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter
- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

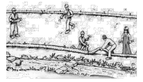
Equipment Management & Spill Control



Maintenance and Parking
- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, steam cleaning equipment, etc.

Spill Prevention and Control
- ❑ Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthwork & Contaminated Soils



Erosion Control
- ❑ Schedule grading and excavation work for dry weather only.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.

Sediment Control
- ❑ Protect storm drain inlets, gutters, ditches, and drainage courses with appropriate BMPs, such as gravel bags, fiber rolls, berms, etc.
- ❑ Prevent sediment from migrating offsite by installing and maintaining sediment controls, such as fiber rolls, silt fences, or sediment basins.
- ❑ Keep excavated soil on the site where it will not collect into the street.
- ❑ Transfer excavated materials to dump trucks on the site, not in the street.

Contaminated Soils
- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - ■ Unusual soil conditions, discoloration, or odor.
  - ■ Abandoned underground tanks.
  - ■ Abandoned wells
  - ■ Buried barrels, debris, or trash.

Paving/Asphalt Work



- ❑ Avoid paving and seal coating in wet weather, or when rain is forecast before fresh pavement will have time to cure.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal
- ❑ Completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, absorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



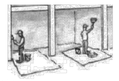
- ❑ Store concrete, grout and mortar under cover, on pallets and away from drainage areas. These materials must never reach a storm drain.
- ❑ Wash out concrete equipment/trucks offsite or in a contained area, so there is no discharge into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ Collect the wash water from washing exposed aggregate concrete and remove it for appropriate disposal offsite.

Dewatering



- ❑ Effectively manage all run-on, all runoff within the site, and all runoff that discharges from the site. Divert run-on water from offsite away from all disturbed areas or otherwise ensure compliance.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the Engineer to determine whether testing is required and how to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Painting & Paint Removal



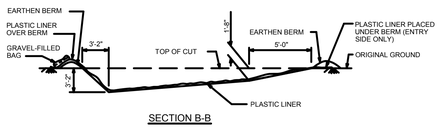
Painting cleanup
- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or surface waters.
- ❑ For water-based paints, paint out brushes to the extent possible. Rinse to the sanitary sewer once you have gained permission from the local wastewater treatment authority. Never pour paint down a drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of residue and unusable thinner/solvents as hazardous waste.

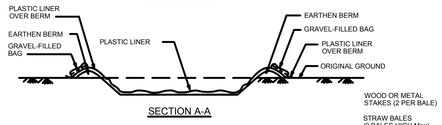
Paint removal
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead or tributyltin must be disposed of as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.

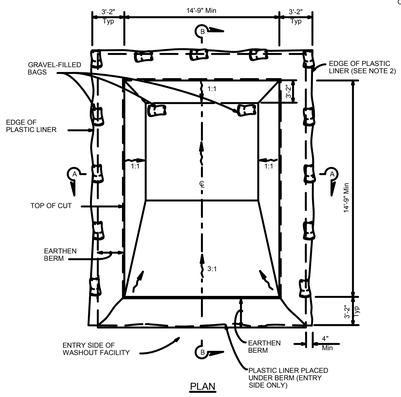
Landscape Materials

- ❑ Contain stockpiled landscaping materials by storing them under tarps when they are not actively being used.
- ❑ Stack erodible landscape material on pallets. Cover or store these materials when they are not actively being used or applied.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

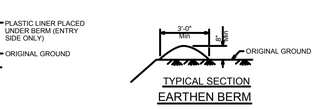
Storm drain polluters may be liable for fines of up to $10,000 per day!



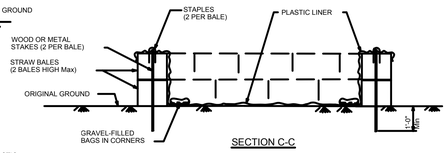


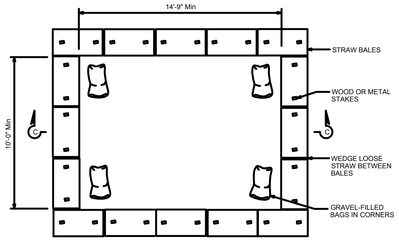


TEMPORARY CONCRETE WASHOUT FACILITY
(Below Grade)



TYPICAL SECTION
EARTHEN BERM





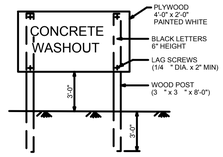
TEMPORARY CONCRETE WASHOUT FACILITY
(On Grade)

2 TEMPORARY CONCRETE WASHOUT FACILITY
NO SCALE

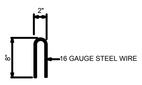
2010 STANDARD PLAN T59
7-13-09

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:
1. The concrete washout sign shall be installed within 32'-10" of the temporary concrete washout facility.
2. Plastic liner shall be anchored with gravel-filled bags for below grade concrete washout facility.



CONCRETE WASHOUT SIGN DETAIL



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY CONCRETE WASHOUT FACILITY)

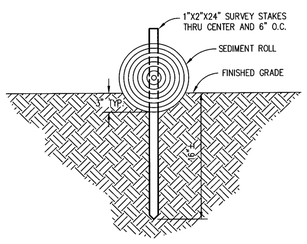
NO SCALE

EROSION CONTROL NOTES

1. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND SHALL UPDATE THE SWPPP AS NECESSARY. A COPY OF THE SWPPP SHALL REMAIN ON-SITE THROUGHOUT CONSTRUCTION.
2. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. IN GENERAL, THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SEDIMENT STORM RUN OFF FROM LEAVING THE SITE. FIBER ROLLS AND SILT FENCES SHALL BE USED BY THE CONTRACTOR ON AN AS NEEDED BASIS TO INHIBIT SILT FROM LEAVING THE SITE AND ENTERING THE STORM DRAIN SYSTEM.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES TO PUBLIC AND/OR PRIVATELY OWNED AND MAINTAINED ROADS CAUSED BY THE CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON THE HAUL ROUTE. ADJACENT PUBLIC ROADS SHALL BE CLEANED DURING ALL GRADING AND EXCAVATION ACTIVITIES.
4. EROSION CONTROL FACILITIES SHALL BE MAINTAINED DAILY. THE NAME OF THE PERSON RESPONSIBLE FOR THE DAILY MAINTENANCE OF THESE FACILITIES SHALL BE ON RECORD WITH THE CITY. ALONG WITH A PHONE NUMBER WHERE HE OR SHE CAN BE REACHED 24 HOURS A DAY. THESE FACILITIES SHALL CONTROL AND CONTAIN EROSION-CAUSED SILT DEPOSITS AND PROVIDE FOR THE SAFE DISCHARGE OF SILT-FREE STORM WATER INTO EXISTING AND PROPOSED STORM DRAIN FACILITIES. DESIGN OF THESE FACILITIES MUST BE APPROVED AND UPDATED EACH YEAR AND SHALL BE SIGNED BY THE CITY ENGINEER.
5. THE APPLICANT IS RESPONSIBLE FOR ENSURING THAT ALL CONTRACTORS, SUBCONTRACTORS, AND SUPPLIERS ARE AWARE OF, AND IMPLEMENT ALL STORM WATER QUALITY MEASURES. FAILURE TO COMPLY WITH THE APPROVED CONSTRUCTION BMPS WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS AND/OR A PROJECT STOP ORDER.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OPERABLE YEAR AROUND OR UNTIL VEGETATION IS ESTABLISHED ON SLOPED SURFACES.
7. EXPOSED EARTHEN AREAS TO BE STABILIZED SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER EACH AREA HAS BEEN GRADED. CONTRACTOR SHALL BE RESPONSIBLE FOR INITIAL WATERING OF AREAS TO ESTABLISH GROWTH AND STABILIZE THE SLOPES OF THE GRADED AREAS WITH VEGETATION, AND TO RE-SEED ANY AREAS IN WHICH VEGETATION DOES NOT INITIAL TAKE HOLD.
8. DURING THE RAINY SEASON, ALL PAVED AREAS ARE TO BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE IS TO BE MAINTAINED SO AS TO MINIMIZE SEDIMENT RUNOFF TO ANY STORM DRAIN SYSTEM.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT ALL EROSION CONTROL FACILITIES DAILY AND REPAIR ANY DAMAGED FACILITIES IMMEDIATELY.
10. BORROW AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES (TARPS, FIBER ROLLS, SILT FENCES ETC.) TO ENSURE SILT DOES NOT LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM. REFER TO THE EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 4TH EDITION, PREPARED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION.
11. ALL TRUCK TIRES SHALL BE CLEANED PRIOR TO EXITING THE SITE.
12. ALL DIRT PILES / STOCKPILES AND HAUL TRUCKS SHALL BE COVERED.
13. THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL PRACTICES DETAILED IN THE EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 4TH EDITION.
14. DURING PERIODS WHEN STORMS ARE FORECAST -
    14.1. EXCAVATED SOILS SHOULD NOT BE PLACED IN STREETS OR ON PAVED AREAS.
    14.2. ANY EXCAVATED SOILS SHOULD BE REMOVED FROM THE STREET BY THE END OF THE DAY.
    14.3. WHERE STOCKPILING IS NECESSARY, USE A TARPAULIN OR SURROUND THE STOCKPILED MATERIAL WITH FIBER ROLES, GRAVEL SEDIMENT BARRIER, SILT FENCE, OR OTHER RUNOFF CONTROLS.
    14.4. USE INLET CONTROLS AS NEEDED (E.G. BLOCK & GRAVEL SEDIMENT BARRIER) FOR STORM DRAIN ADJACENT TO THE PROJECT SITE OR STOCKPILED SOIL.
    14.5. THOROUGHLY SWEEP ALL PAVED AREAS EXPOSED TO SOIL EXCAVATION AND PLACEMENT.
15. DURING PERIODS WHEN STORMS ARE NOT FORECAST -
    15.1. PREVENT STOCKPILED MATERIAL FROM ENTERING THE STORM DRAIN SYSTEM.
    15.2. THOROUGHLY REMOVE LOOSE SOIL VIA SWEEPING FOLLOWING REMOVAL OF DIRT.
16. DUST CONTROL SHOULD BE PRACTICED ON ALL CONSTRUCTION SITES WITH EXPOSED SOILS AS NEEDED. IT IS IMPORTANT IN WINDY OR WIND-PRONE AREAS. DUST CONTROL IS CONSIDERED A TEMPORARY MEASURE AND AS INTERMEDIATE TREATMENT BETWEEN SITE DISTURBANCE AND CONSTRUCTION, PAVING, OR REVEGETATION. REFER TO THE EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 4TH EDITION.
17. STORM DRAIN MARKER &/L01.04 SHALL BE APPLIED TO ALL CATCH BASINS.

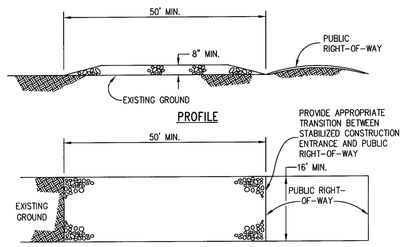
DRAINAGE INLET SEDIMENT BARRIERS

1. DRAINAGE INLET SEDIMENT BARRIERS SHALL BE INSTALLED AS SOON AS THE STORM DRAINAGE SYSTEM IS INSTALLED.
2. PRIOR TO PAVING FIBER ROLLS SHALL BE INSTALLED AROUND EACH DROP INLET PER DETAIL 1. AFTER PAVING IS COMPLETE AROUND EACH DROP INLET, BLOCK AND GRAVEL BAG SEDIMENT BARRIERS SHALL BE INSTALLED AROUND THE DROP INLETS PER CD-703 UNTIL ALL EXPOSED EARTHEN AREAS HAVE BEEN STABILIZED AND THE PROJECT SITE FACILITIES ARE OPERATIONAL, AT WHICH TIME THESE FACILITIES SHALL BE REMOVED.



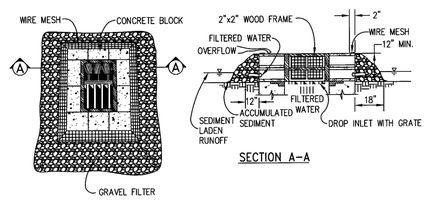
NOTES:
1. WATTLES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3 INCHES.
3. WATTLES SHALL BE SECURELY ANCHORED IN PLACE BY TWO STAKES OR RE-BARS DRIVEN THROUGH THE WATTLES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE WATTLES TOGETHER.
4. THE DIKE SHALL BE INSPECTED AFTER EACH STORM, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. WATTLES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR PURPOSE SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

3 STRAW WATTLE
NO SCALE

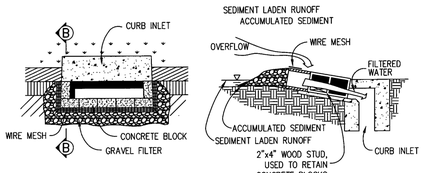


NOTES:
1. THE MATERIAL FOR CONSTRUCTION OF THE PAD SHALL BE 3 TO 4 INCH STONE.
2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 8 INCHES.
3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
6. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.

4 STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



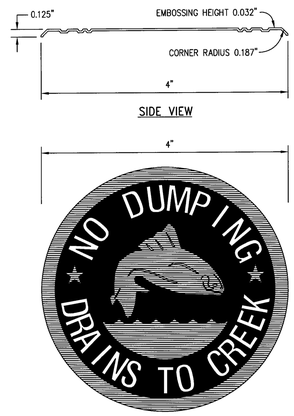
BLOCK AND GRAVEL DROP INLET PROTECTION (TYPE C)



CURB INLET PROTECTION BLOCK AND GRAVEL (TYPE D)

GENERAL NOTES:
1. FOR GRAVEL FILTERS USE 2"-3" DIAMETER COARSE AGGREGATE.
2. USE WIRE MESH WITH 1/2"x1/2" OPENINGS.

5 DRAINAGE INLET PROTECTION
NO SCALE



NOTE:
1. STORM DRAIN MARKER TO BE CONSTRUCTED OF 304 ANNEALED STAINLESS STEEL WITH BLUE, UV BAKED ENAMEL BACKGROUND ("ALMETECK" [1-800-248-2080] OR EQUAL).

6 STORM DRAIN MARKER
NO SCALE

01 EROSION CONTROL DETAILS
SCALE: 1' = 1'

Peter Stanley 10/1/2024 5:10 PM

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LANDSCAPE ARCHITECT
PETER STANLEY
No. 2537
12.31.2024
09.11.2024
RENEWAL
STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

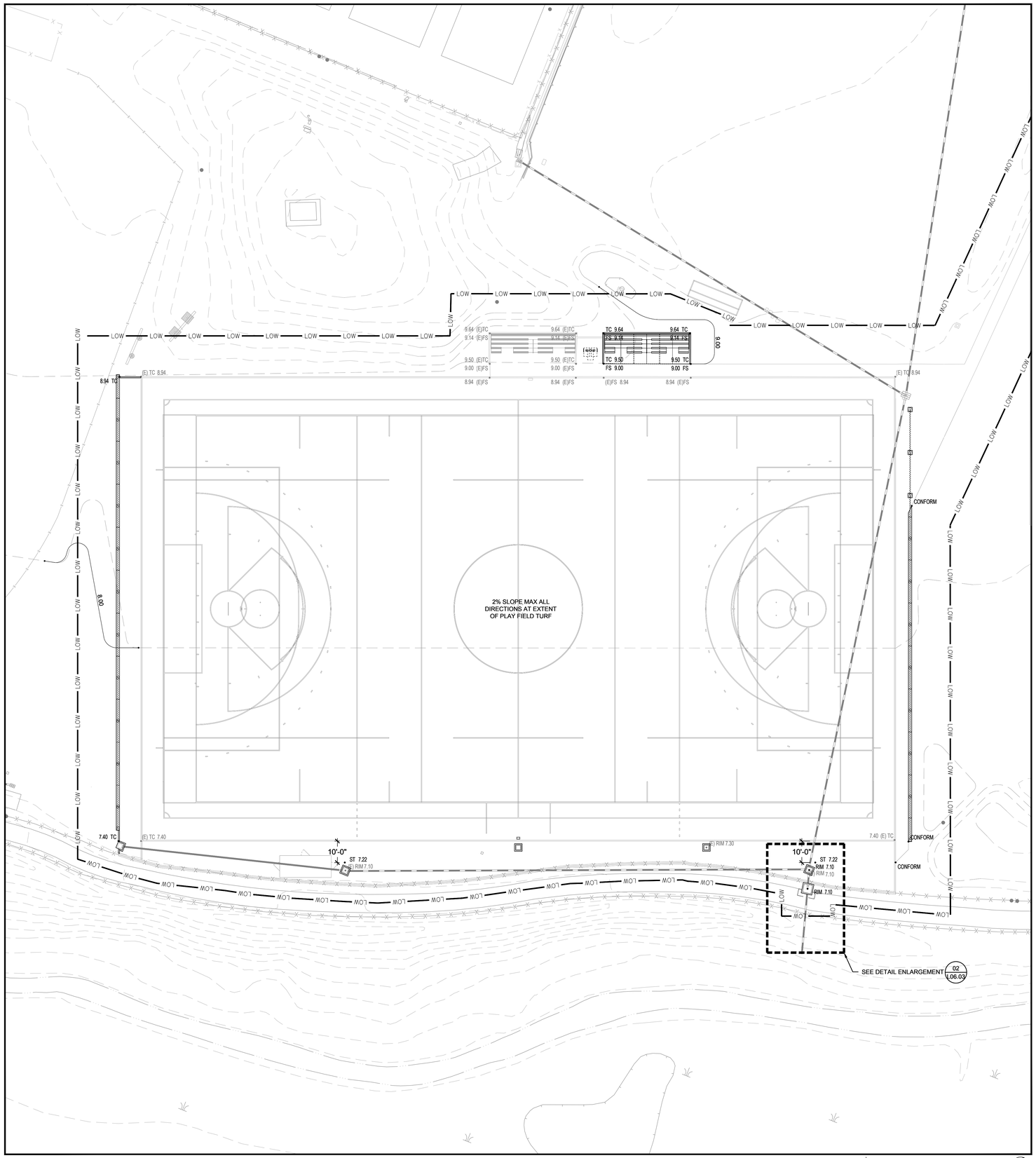
DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
DEMOLITION AND EROSION CONTROL DETAILS

SHEET NUMBER
L01.02



SITE LEGEND

SYMBOL	DESCRIPTION
LOW	LIMIT OF WORK
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY
	ENLARGEMENT

LANDSCAPE GRADING LEGEND

SYMBOL	DESCRIPTION
(E)XX 160.43	EXISTING SPOT ELEVATION
	(E) CONTOUR
421 / 420	FINISH CONTOUR
XX 160.43	SPOT ELEVATION
CONFORM	CONFORM TO EXISTING GRADE
FS	FINISH SURFACE ELEVATION OF HARDSCAPE
TC	TOP OF CURB ELEVATION
RIM	RIM ELEVATION
INV	INVERT ELEVATION
ST	SYNTHETIC TURF ELEVATION

ACCESSIBLE ROUTE NOTES

1. BARRIER FREE ACCESS ROUTE WITH FOLLOWING CHARACTERISTICS:
   - A. LESS THAN 1:20 MAXIMUM SLOPE WITHOUT RAMP
   - B. LESS THAN 1:50 MAXIMUM CROSS SLOPE
   - C. NO ABRUPT CHANGES IN LEVEL
   - D. 48" MIN CLEAR IN WIDTH
   - E. NON-SLIP SURFACE
   - F. ACCESSIBLE ROUTE SHALL HAVE NO ABRUPT VERTICAL CHANGES EXCEEDING 1/2" AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4".
   - G. CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE ACCESSIBLE ROUTE HAVE BEEN REMOVED OR WILL BE REMOVED IN THIS PROJECT, & THAT ACCESSIBLE ROUTE COMPLIES WITH CBC 1133B.
2. CONSTRUCT ALL PAVED AREAS TO DRAIN
3. CONFORMANCE SURVEYING OF ACCESSIBLE ROUTE: THE CONTRACTOR SHALL PERFORM A CONFORMANCE SURVEY OF THE ACCESSIBLE ROUTE SHOWING CROSS SLOPES, LONGITUDINAL SLOPES AND SPOT ELEVATIONS ON A 10-FOOT GRID AFTER FINISH GRADING AND FINISH SURFACING IS COMPLETE. CORRECT ANY IRREGULARITIES FOUND AND RESURVEY CORRECTED AREAS TO DOCUMENT CONFORMANCE. SUBMIT CONFORMANCE SURVEYING OF ACCESSIBLE ROUTE TO ARCHITECT AND INCLUDE AS PART OF RECORD DRAWINGS.

EXISTING CONDITIONS NOTES

CONTRACTOR WILL BE RESPONSIBLE FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES IN THE FIELD.

REDWOOD HIGH SCHOOL
395 DOHERTY DRIVE
LARKSPUR, CALIFORNIA

FIELD WORK WAS COMPLETED ON MARCH 2013 BY CSW/STUBER-STROEH ENGINEERING GROUP, INC. FROM NOVATO, CALIFORNIA.

DISTANCES AND ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF.

HORIZONTAL DATUM IS CALIFORNIA COORDINATE SYSTEM 83, ZONE 3.

THE VERTICAL DATUM FOR THIS PROJECT IS THE NGS G108 BRONZE DISK IN LARKSPUR, AT 552 MAGNOLIA AVENUE, IN THE CONCRETE CURB OF THE LOADING PLATFORM OF THE ABANDONED NORTHERN PACIFIC RAILROAD STATION, 17.7 FEET NORTH OF THE EAST CORNER OF THE BUILDING, 11.5 FEET SOUTHEAST OF THE EXTENDED CENTER OF THE ENTRANCE, AND 1 FOOT ABOVE THE GROUND SURFACE. ELEVATION IS 17.57' NAVD 88.

FIELD IMPROVEMENTS CONSTRUCTION DRAWINGS FOR REDWOOD HIGH SCHOOL DSA PROJECT 01-113319 DATED 7/3/2013 ARE AVAILABLE FROM THE CONSTRUCTION MANAGER

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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

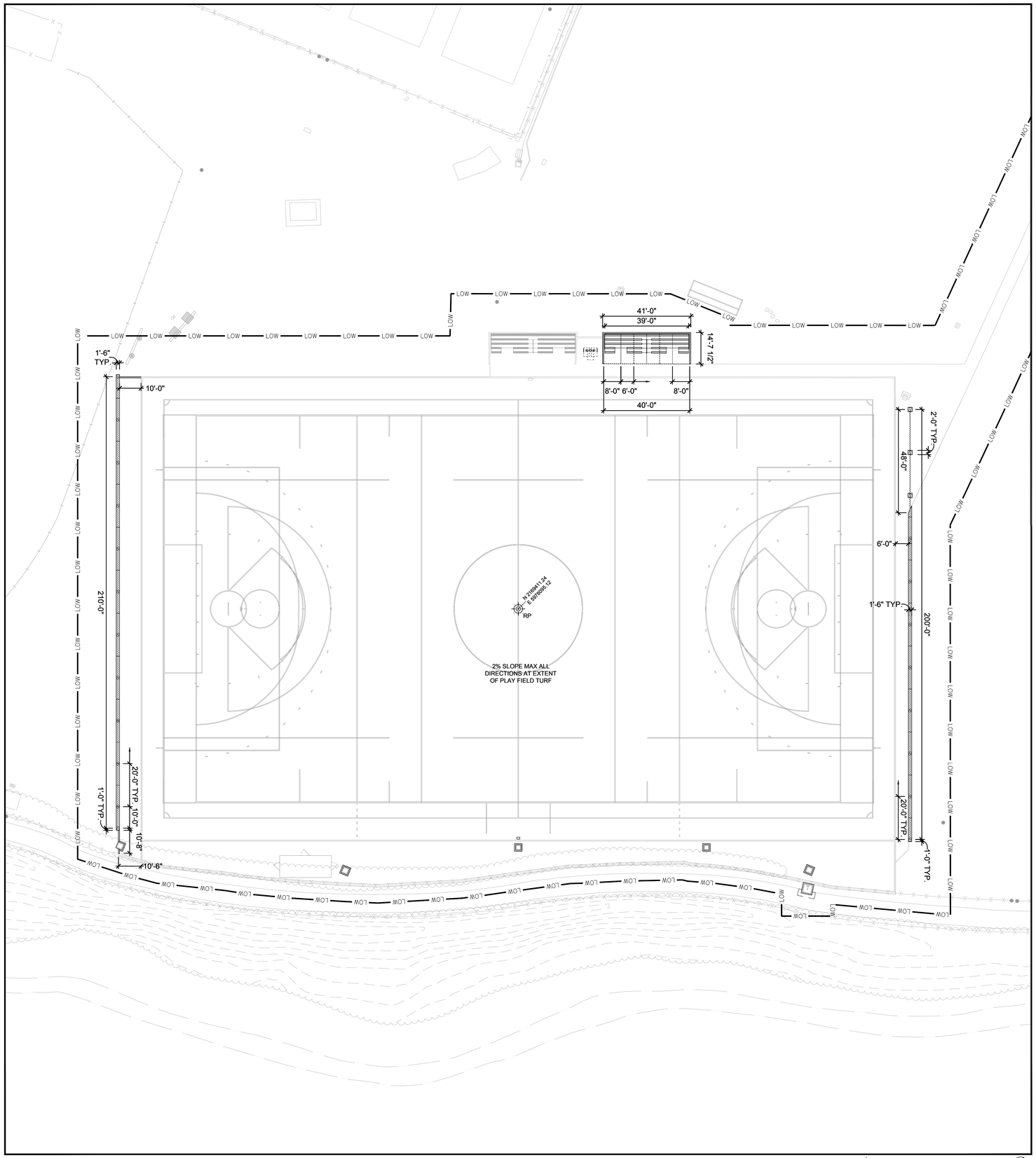
SHEET TITLE

GRADING LEGEND AND PLAN

SHEET NUMBER

L02.00

Peter Stanley 10/1/2024 5:11 PM



SITE LEGEND

SYMBOL	DESCRIPTION
LOW	LIMIT OF WORK
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY

LAYOUT LEGEND

SYMBOL	DESCRIPTION
N 2167267.52 E 5979335.70	COORDINATES
RP	REFERENCE POINT

LAYOUT NOTES

1. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF ANY DISCREPANCIES PRIOR TO CONTINUANCE OF WORK.
2. DO NOT SCALE OFF OF PLANS.
3. FIELD VERIFY LOCATIONS OF THE UNDERGROUND UTILITIES, CALL 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL EXISTING FACILITIES SHOWN TO REMAIN, INCLUDING ROADS AND OTHER STREET IMPROVEMENTS.
5. ALL ANGLES 90° UON
6. SEE DETAIL SHEETS AND SPECIFICATIONS FOR MORE INFORMATION.
7. SURVEY FOR (E) CONDITIONS SEE FIELD IMPROVEMENTS CONSTRUCTION DRAWINGS FOR REDWOOD HIGH SCHOOL, DSA PROJECT NUMBER 01-113319 DATED 7/3/2013 ARE AVAILABLE FROM THE CONSTRUCTION MANAGER
8. PLAN DIMENSIONS ARE ROUNDED TO NEAREST 1/4 INCH.
9. LANDSCAPE ARCHITECT WILL MAKE CAD FILES AVAILABLE FOR USE BY FIELD ENGINEER.

ACCESSIBLE ROUTE NOTES

1. BARRIER FREE ACCESS ROUTE WITH FOLLOWING CHARACTERISTICS:
   - A. LESS THAN 1:20 MAXIMUM SLOPE WITHOUT RAMP.
   - B. LESS THAN 1:50 MAXIMUM CROSS SLOPE.
   - C. 48" MIN CLEAR IN WIDTH.
   - D. NON-SLIP SURFACE.
   - E. ACCESSIBLE PATH SHALL HAVE NO ABRUPT VERTICAL CHANGES EXCEEDING 1/4" VERTICAL OR 1/4" VERTICAL WITH AN ADDITIONAL 1/4" AT 2:1 MAXIMUM SLOPE, OR A TOTAL OF 1/2" AT 2:1 MAXIMUM SLOPE.
   - F. CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED IN THIS PROJECT, & THAT PATH OF TRAVEL COMPLIES WITH CBC 11B.
2. CONSTRUCT ALL PAVED AREAS TO DRAIN
3. CONFORMANCE SURVEYING OF ACCESSIBLE ROUTE: THE CONTRACTOR SHALL PERFORM A CONFORMANCE SURVEY OF THE ACCESSIBLE ROUTE SHOWING CROSS SLOPES, LONGITUDINAL SLOPES AND SPOT ELEVATIONS ON A 10-FOOT GRID AFTER FINISH GRADING AND FINISH SURFACING IS COMPLETE. CORRECT ANY IRREGULARITIES FOUND AND RESURVEY CORRECTED AREAS TO DOCUMENT CONFORMANCE. SUBMIT CONFORMANCE SURVEYING OF ACCESSIBLE ROUTE TO ARCHITECT AND INCLUDE AS PART OF RECORD DRAWINGS.

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PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

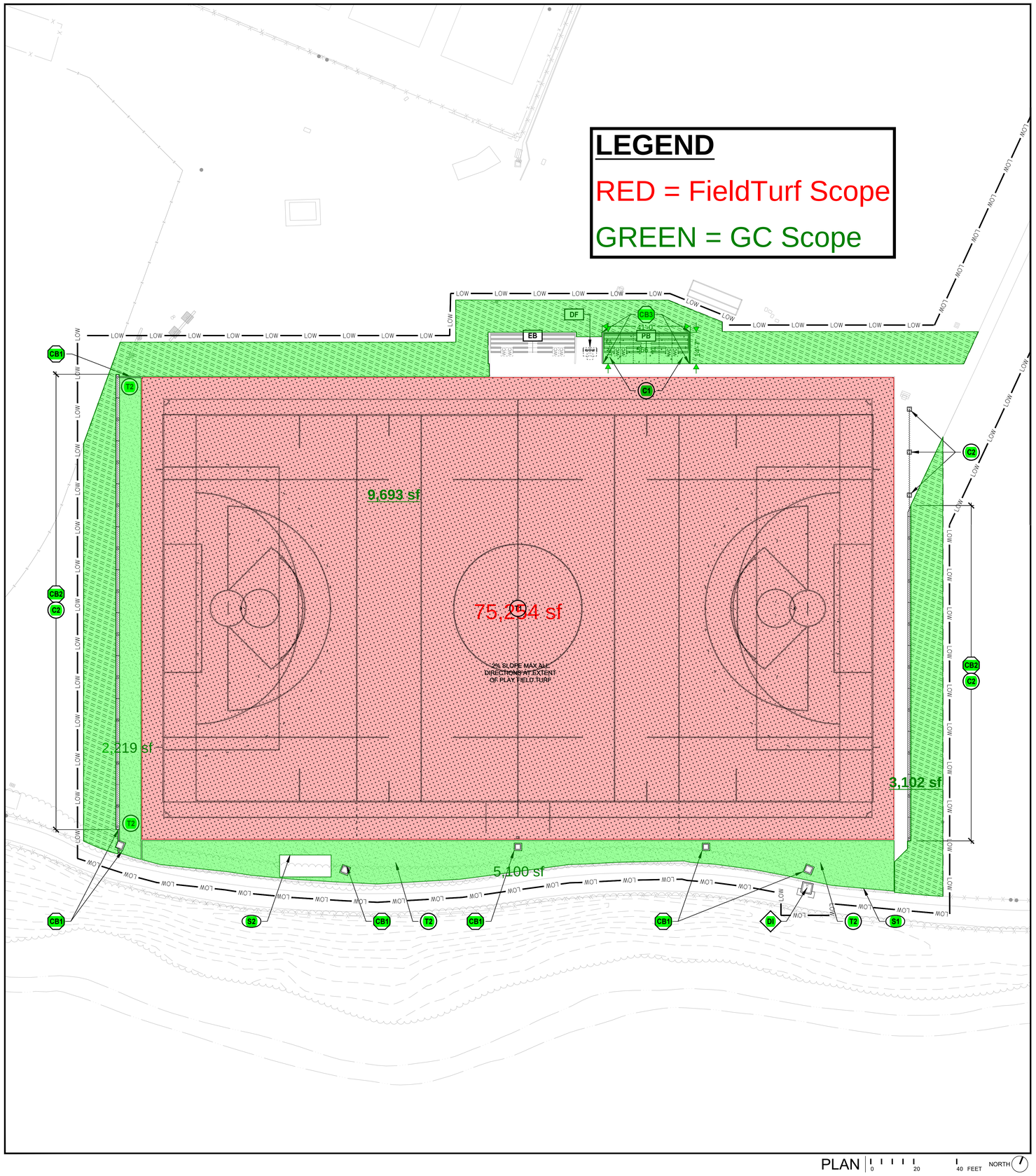
SHEET TITLE

LAYOUT LEGEND AND PLAN

SHEET NUMBER

L04.00

Peter Stanley 10/1/2024 5:12 PM



PLAN 0 20 40 FEET NORTH

SITE LEGEND

SYMBOL	DESCRIPTION
LOW	LIMIT OF WORK
	(E) CONDITIONS, SEE TOPOGRAPHIC SURVEY

MATERIALS LEGEND

SYMBOL	KEY	DESCRIPTION
		SIGN AND GATE SCHEDULE
	S1	REGULATORY SIGN - NO DOGS QUANTITY: 1 — 08 L06.04
	S2	MAINTENANCE ONLY SIGN QUANTITY: 1 — 07 L06.04
		CONCRETE PAVING SERIES
	C1	CONCRETE PAVING TYPE C1 COLOR: NATURAL W/ LAMP BLACK FINISH: MEDIUM BROOM FINISH — 01 L06.01
	C2	CONCRETE TYPE C2: STRUCTURAL CONCRETE NET POSTS — 2 SFS-2
		CONCRETE CONTROL JOINT SERIES
		EXPANSION JOINT (EJ)
		SYNTHETIC TURF
	T1	CARPET: VERTEX INFILL: OLIVE PIT & SAND COLOR: GREEN — 03 L06.01, 01 L06.02, 02 L06.02, 03 L06.02, 04 L06.02, 05 L06.02, 06 L06.02
	T2	CARPET: COMMANDER INFILL: SAND COLOR: GREEN — 03 L06.01
		CONCRETE BORDER AND HEADER
	CB1	6" WIDE CONCRETE BORDER — 05 L06.01
	CB2	1'-6" WIDE CONCRETE BORDER WITH 10' H SAFETY NETTING BSS210 SPORTSFIELD SPECIALTIES — 02 L06.01, 1 SFS-2, 2 SFS-2, 3 SFS-2
	CB3	6" WIDE RAISED CONCRETE CURB — 06 L06.01
		UTILITY
	DI	DRAIN INLET WITH CHECK VALVE — 6 L01.02, 01 L06.03
		SITE FURNISHING
SIM	DF	DRINKING FOUNTAIN, MODEL 3612 HAWS ADA VANDAL-RESISTANT OUTDOOR STAINLESS STEEL BOTTLE FILLER AND DRINKING FOUNTAIN WITH RAILS — 08 L06.02, 03 L06.03, 04 L06.03, 05 L06.03
	EB	EXISTING BLEACHER SYSTEM. 5-TIER WITH WHEELCHAIR AREA AND COMPANION SEATING BY SOUTHERN BLEACHERS — L06.05, L06.06, L06.07, L06.08
	PB	PROPOSED BLEACHER SYSTEM. 5-TIER WITH WHEELCHAIR AREA AND COMPANION SEATING BY SOUTHERN BLEACHERS. SURFACE MOUNT PER MANUFACTURERS RECOMMENDATION. MATCH EXISTING BLEACHERS — L06.09, L06.10, L06.11, L06.12, L06.13
		PLANTING
		HYDRO SEED AREAS THAT NEED REPAIR WHEN FIELD INSTALLATION IS COMPLETE. SEE DEMOLITION PLAN FOR ADDITIONAL AREAS OF REPAIR

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APP: 01-121720 INC:
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DATE: 10/7/2024

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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

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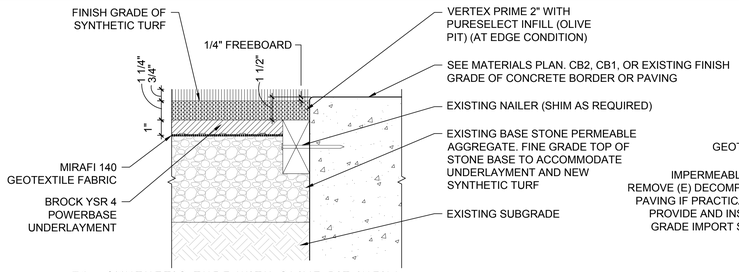
FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
MATERIALS LEGEND AND PLAN

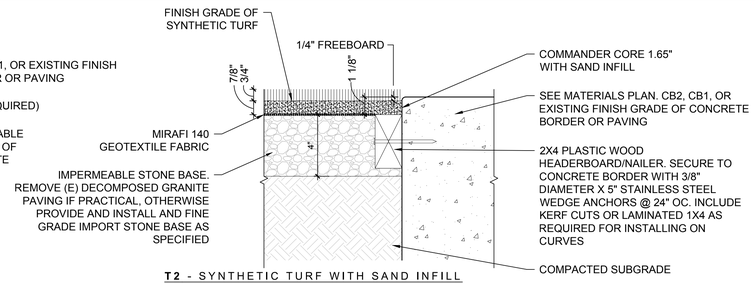
SHEET NUMBER
L05.00

Peter Stanley 10/2/2024 9:38 AM



T1 - SYNTHETIC TURF WITH OLIVE PIT INFILL

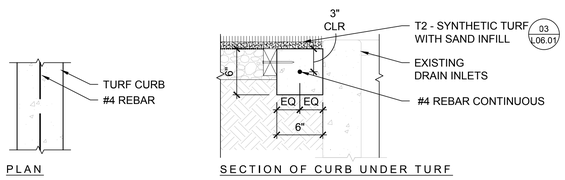
WHEELCHAIR STRAIGHT PROPULSION & TURN TEST RESULTS:		
FIELD	14.33#	11.36#
TURNING	10.14#	7.39#
TEST CONSISTENT WITH REQUIREMENTS OF ASTM F-1951-99		

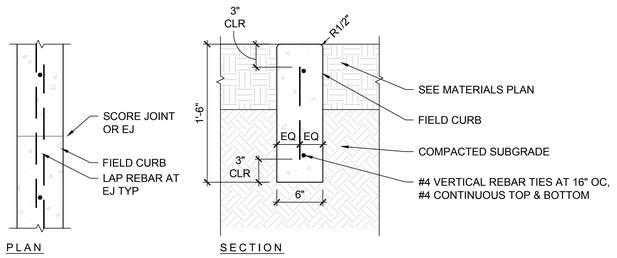


T2 - SYNTHETIC TURF WITH SAND INFILL

WHEELCHAIR STRAIGHT PROPULSION & TURN TEST RESULTS:		
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TURNING	10.14#	7.39#
TEST CONSISTENT WITH REQUIREMENTS OF ASTM F-1951-99		

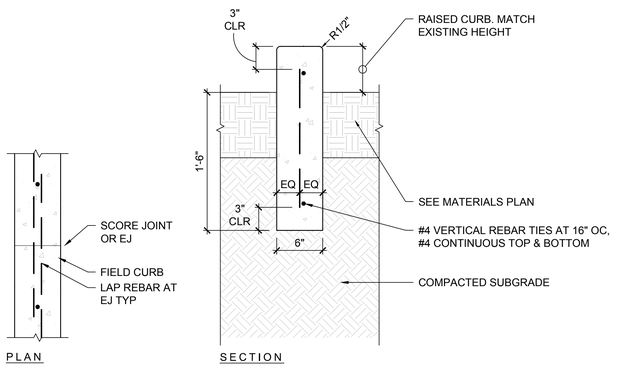
03 SYNTHETIC TURF - T1 & T2
SCALE: 3" = 1'





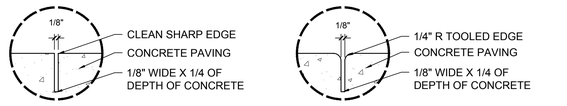
NOTES:
1. SCORE JOINTS A MAX OF 10' OC, EQUALLY SPACED.
2. LOCATE EXPANSION JOINTS A MAXIMUM OF 20' OC AND EQUALLY SPACED.

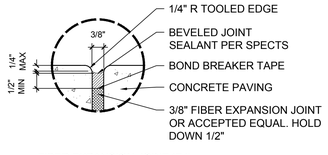
05 CONCRETE CURB - CB1
SCALE: 1 1/2" = 1'



NOTES:
1. SCORE JOINTS A MAX OF 10' OC, EQUALLY SPACED.
2. LOCATE EXPANSION JOINTS A MAXIMUM OF 20' OC AND EQUALLY SPACED.

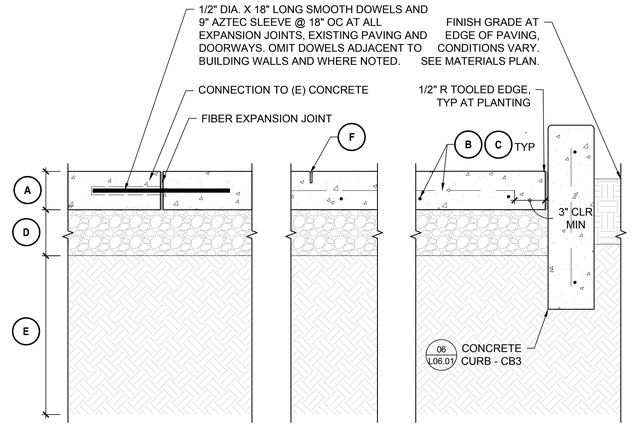
06 CONCRETE CURB - CB3
SCALE: 1 1/2" = 1'





NOTES:
1. MOCK UP JOINTS WITH CONC PAVING MOCKUP FOR REVIEW AND ACCEPTANCE

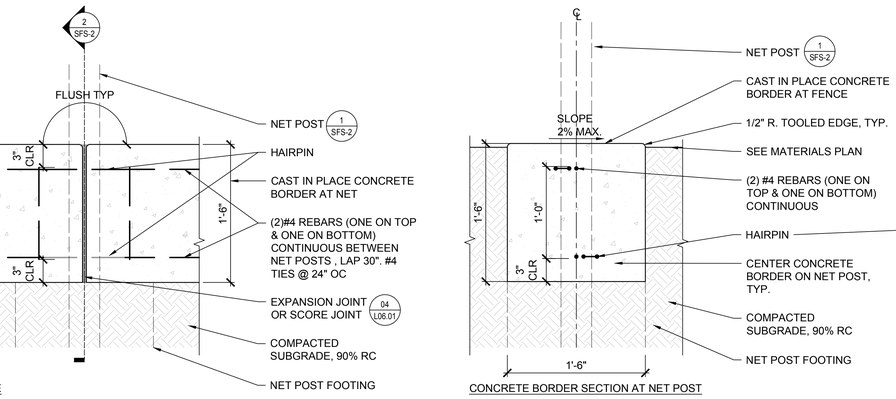
04 PAVING - CONCRETE JOINTS
SCALE: 6" = 1'



NOTE:
1. COLOR AND FINISH MEDIUM BROOM NON-SLIP, SEE MATERIALS PLANS FOR COLOR, UNLESS OTHERWISE NOTED.
2. CONTROL JOINTS SHALL BE PLACED AS SHOWN ON PLANS.
3. EJ'S SHALL BE PLACED AS SHOWN ON PLANS.
4. 2% MAX CROSS SLOPE IN ALL AREAS WITHIN PATH OF TRAVEL. IF FIELD CONDITIONS CREATE MORE THAN 2% CROSS SLOPE DO NOT PLACE CONCRETE WITH OUT APPROVAL BY INSPECTOR.
5. PROVIDE ON SITE MOCK-UP OF PAVING AND JOINTS FOR REVIEW AND APPROVAL.

		CONCRETE PAVING
A	CAST-IN-PLACE CONCRETE THICKNESS	0'-6"
B	REBAR	#4
C	REBAR SPACING	12" EACH WAY, CENTERED IN SLAB
D	COMPACTED CLASS II AGG. BASE	0'-6"
E	COMPACTED SUBGRADE	12" DEPTH MIN / 92% RC
F	CONTROL JOINT DEPTH	0'-1.25000"

01 PAVE - CONCRETE
SCALE: 1 1/2" = 1'



NOTES:
1. PROVIDE 5' LONG ON-SITE SAMPLE OF CONCRETE BORDER FOR REVIEW & ACCEPTANCE
2. PLACE CONCRETE BORDER FLUSH WITH ADJACENT PAVING
3. PLACE JOINTS CENTERED ON NET POSTS
4. EJ @ EVERY OTHER NET POST SEE DETAIL 1/SFS-2 FOR POST SPACING
5. MATCH FINISH OF CONCRETE PAVING

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

02 CONCRETE BORDER WITH NET FOOTING - CB2
SCALE: 1 1/2" = 1'

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Peter Stanley 10/1/2024 2:37 PM

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CONTEXT MAP

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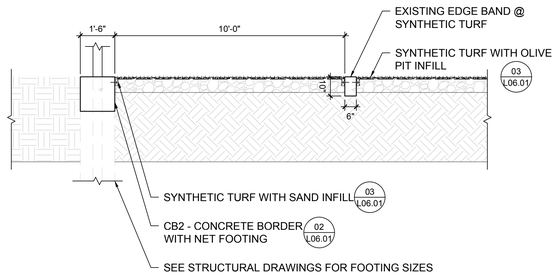
FILE NUMBER 21-H2
DSA APP NUMBER
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DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01
SHEET TITLE

DETAILS

SHEET NUMBER

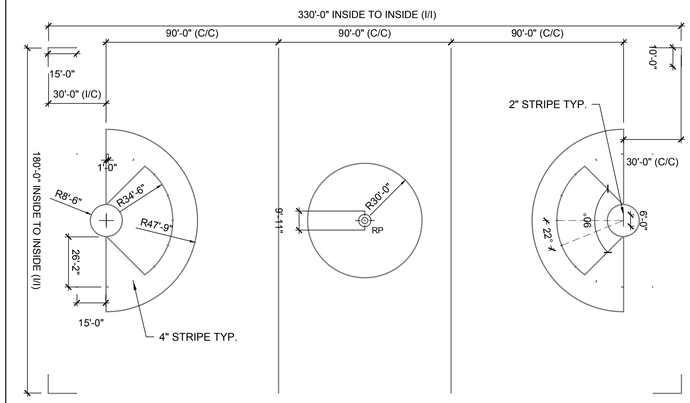
L06.01



SECTION

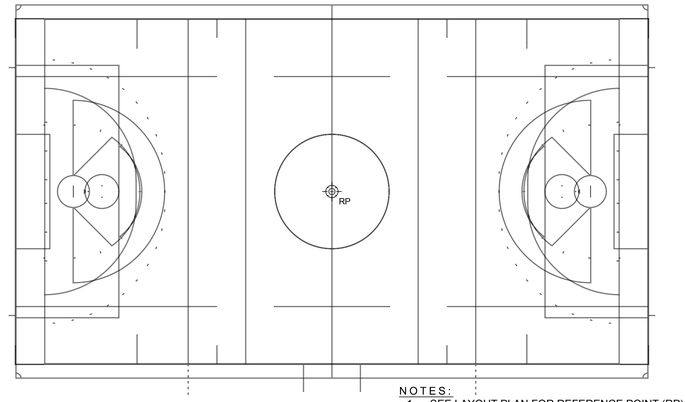
NOTES:
1. MEDIUM BROOM FINISH ALL EXPOSED SURFACES
2. PROVIDE EXPANSION JOINTS AT 20' OC, SCORE JOINTS MAX OF 10' OC
3. DOWEL AT EJ'S & ADJACENT CONC PAVING

07 SYNTHETIC TURF FIELD SECTION
SCALE: 3/8" = 1'



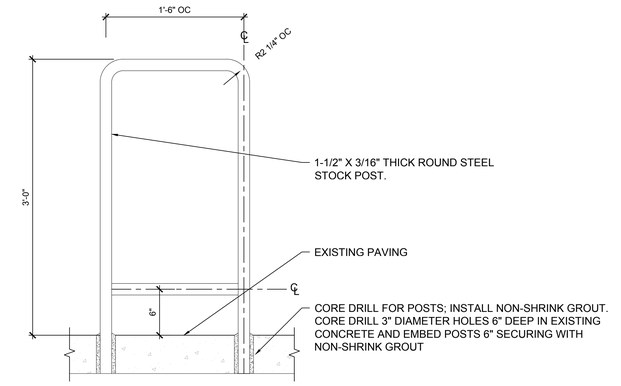
NOTES:
1. SEE LAYOUT PLAN FOR REFERENCE POINT (RP)

04 GIRLS LACROSSE STRIPING DIAGRAM
SCALE: 1/32" = 1'



NOTES:
1. SEE LAYOUT PLAN FOR REFERENCE POINT (RP)

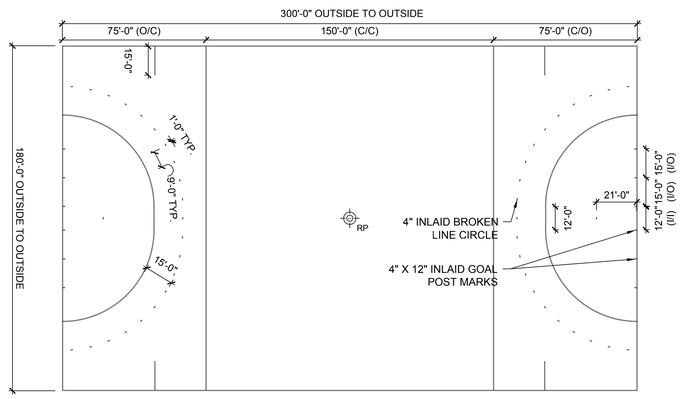
01 FIELD COMPOSITE OVERVIEW
SCALE: 1/32" = 1'



SECTION

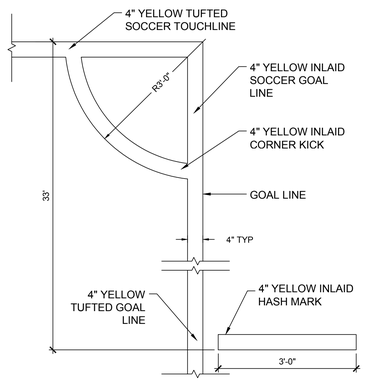
NOTES:
1. RAILING FINISH: HOT DIPPED GALVANIZED.

08 RAILING FOR DF
SCALE: 1 1/2" = 1'



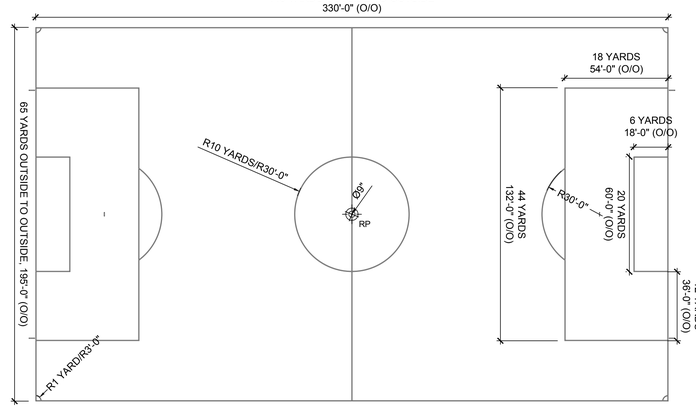
NOTES:
1. SEE LAYOUT PLAN FOR REFERENCE POINT (RP)

05 FIELD HOCKEY STRIPING DIAGRAM
SCALE: 1/32" = 1'



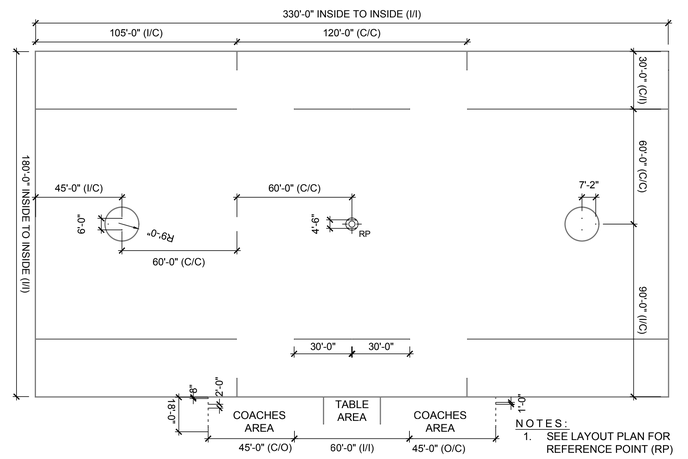
NOTES:
1. ORIENTATION VARIES AT EACH CORNER. VERIFY ORIENTATION IN FIELD.

06 SOCCER CORNER KICK
SCALE: 3/4" = 1'



NOTES:
1. SEE LAYOUT PLAN FOR REFERENCE POINT (RP)

02 SOCCER STRIPING DIAGRAM
SCALE: 1/32" = 1'



NOTES:
1. SEE LAYOUT PLAN FOR REFERENCE POINT (RP)

03 BOYS LACROSSE STRIPING DIAGRAM
SCALE: 1/32" = 1'

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CONTEXT MAP

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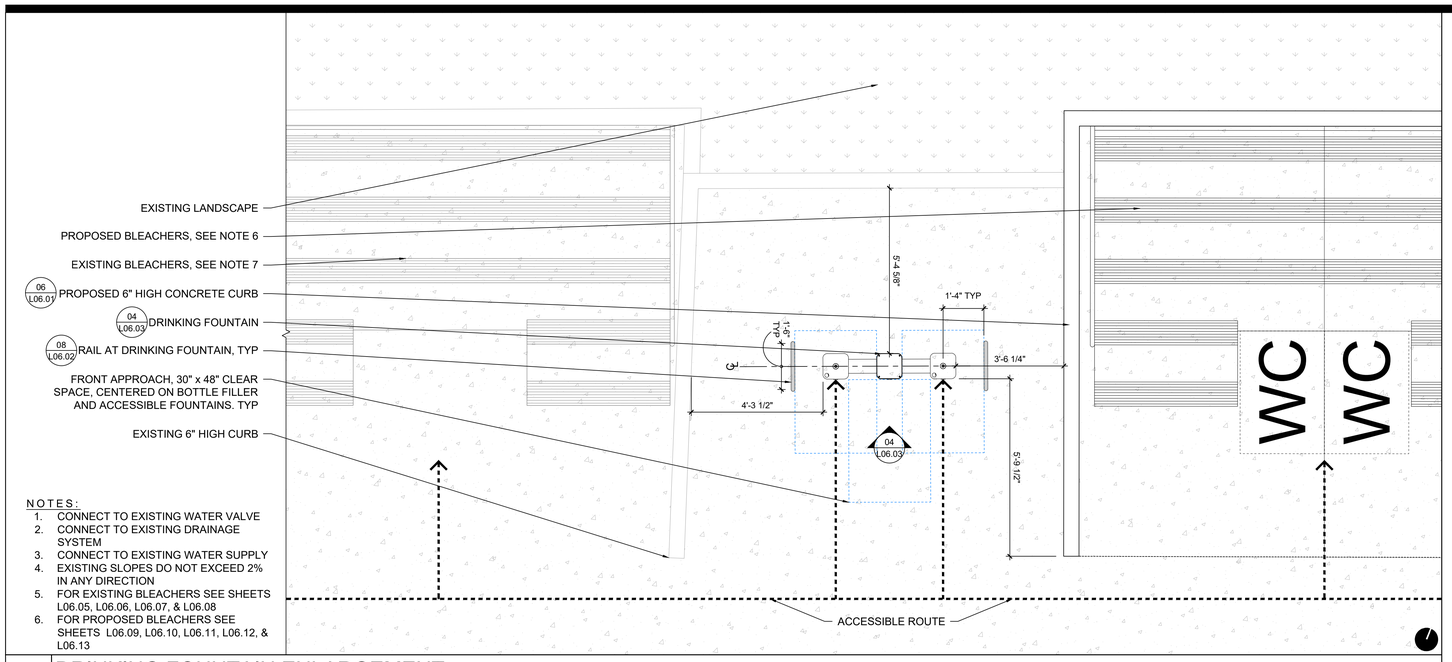
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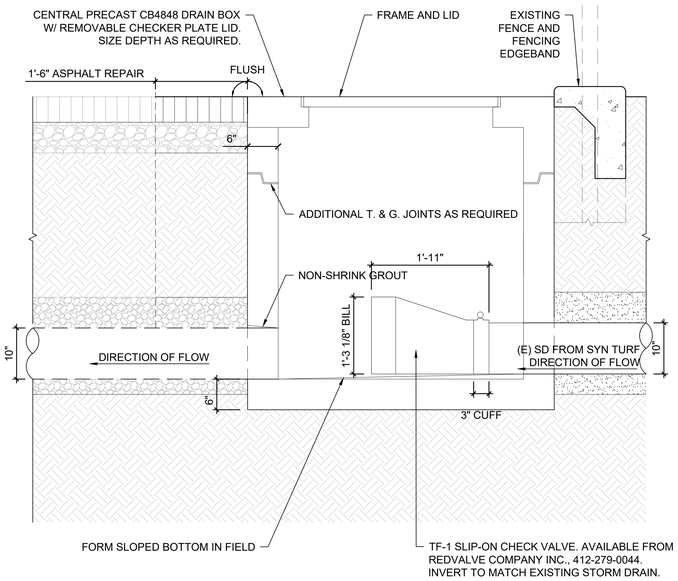
SHEET TITLE
DETAILS - FIELD OVERLAY AND SECTION

SHEET NUMBER
L06.02



NOTES:
1. CONNECT TO EXISTING WATER VALVE
2. CONNECT TO EXISTING DRAINAGE SYSTEM
3. CONNECT TO EXISTING WATER SUPPLY
4. EXISTING SLOPES DO NOT EXCEED 2% IN ANY DIRECTION
5. FOR EXISTING BLEACHERS SEE SHEETS L06.05, L06.06, L06.07, & L06.08
6. FOR PROPOSED BLEACHERS SEE SHEETS L06.09, L06.10, L06.11, L06.12, & L06.13

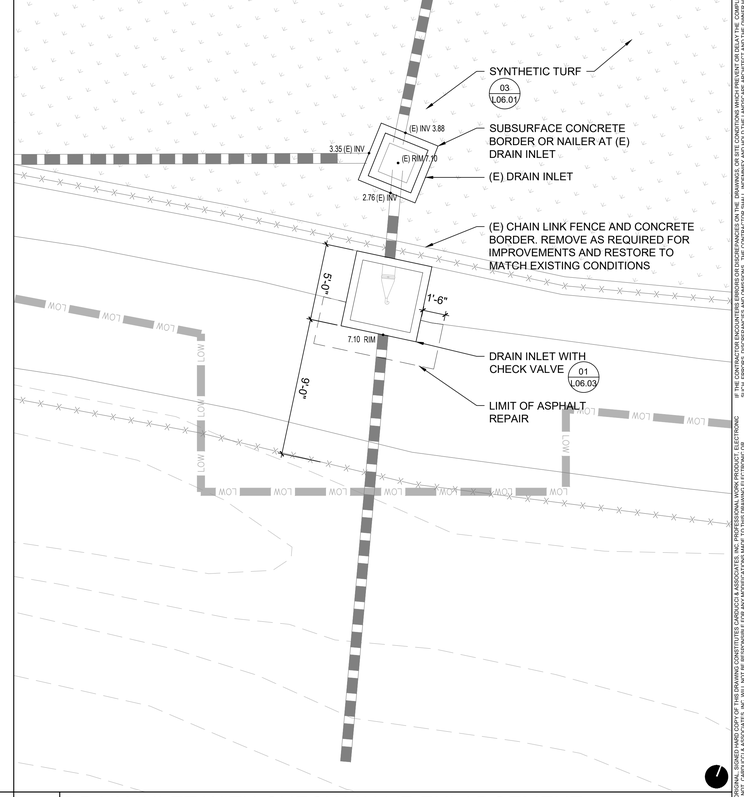
03 DRINKING FOUNTAIN ENLARGEMENT
SCALE: 1/2" = 1'



NOTES:
1. FRAMES AND GRATES SHALL BE H20 LOADING AND BICYCLE PROOF, WITH GRATE LOCKING DEVICE. CLOSED-MESH GRATES OR CAST IRON FRAME AND GRATES ARE AVAILABLE ON REQUEST.
2. DRAINAGE GRATE IN THE PATH OF TRAVEL - OPENINGS IN FLOOR OR GROUND SURFACES IN THE PEDESTRIAN WAY SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER. WHEN OPENINGS ARE OBLONG, THE LONG DIMENSION SHALL BE PLACED PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL. (FOR COURTYARDS OR OPEN PAVED AREAS WITH NO CLEAR DIRECTION OF TRAVEL, OPENINGS SHALL BE 1/2" MAXIMUM IN ALL DIRECTIONS.)

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

01 DRAIN INLET WITH CHECK VALVE
SCALE: 1" = 1'



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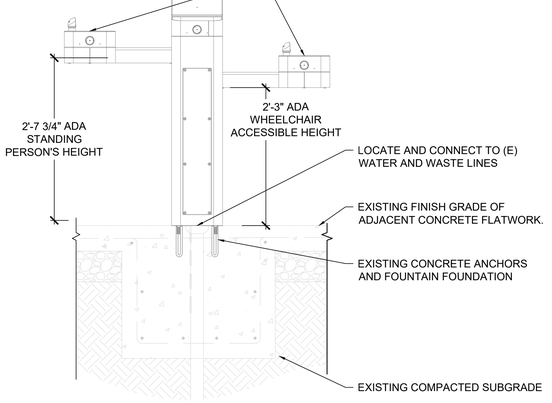


NOTES:
1. MEETS ADA REGULATIONS.
2. STAINLESS STEEL SURFACE CARRIER IS REQUIRED.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. DO NOT SCALE DRAWING.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

ACCESSIBILITY NOTES:
1. DRINKING FOUNTAIN SHALL COMPLY WITH CBC SECTIONS 11B-307 AND 11B-602.
2. HIGH AND LOW DRINKING FOUNTAINS SHALL BE PROVIDED.
3. THE FLOW OF WATER SHALL BE ACTIVATED BY A MANUALLY OPERATED SYSTEM THAT IS FRONT-MOUNTED OR SIDE-MOUNTED AND LOCATED WITHIN 6" OF THE FRONT EDGE OF THE FOUNTAIN OR AN AUTOMATIC ELECTRONICALLY-CONTROLLED DEVICE.
4. SPOUT OUTLETS SHALL BE 36" MAX ABOVE THE FINISH FLOOR OR GROUND.
5. SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MIN AND SHALL BE LOCATED 5" MAX FROM THE FRONT OF THE UNIT. THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT FACE OF THE UNIT.
6. SPOUTS SHALL BE LOCATED LESS THAN 3" OF THE FRONT OF THE UNIT. THE ANGLE OF WATER STREAM SHALL BE 30 DEGREES MAX.
7. WHERE SPOUTS ARE LOCATED BETWEEN 3" AND 5" MAX FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAX.
8. SPOUT OUTLETS OF DRINKING FOUNTAINS FOR STANDING PERSONS SHALL BE 38" MIN AND 43" MAX ABOVE FINISH FLOOR OR GROUND.

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

05 DRINKING FOUNTAIN - HAWS
SCALE: 1' = 1'



SECTION

NOTES:
1. MEETS ADA/TITLE 24 REGULATIONS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE INSTALLATION INSTRUCTIONS, MATERIALS PLANS, DEMOLITION PLAN, ELARGEMENT DETAIL 03/L06.03 AND UTILITY PLAN FOR CONNECTIONS AND NOTES.
4. SUBMIT SHOP DRAWINGS.
5. CHLORINATE DRINKING FOUNTAIN & SUPPLY LINE IMPACTED BY INSTALLATION, CONFIRM COMPLETE WITH PROJECT INSPECTOR PRIOR TO FIRST JOB PUNCH WALK

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

04 DRINKING FOUNTAIN - FREESTANDING
SCALE: 1" = 1'

02 DRAIN INLET WITH CHECK VALVE ENLARGEMENT
SCALE: 1/4" = 1'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

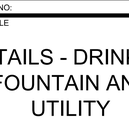
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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

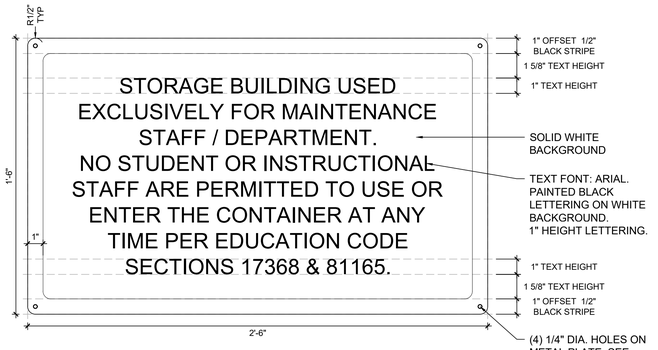
FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE:	09.11.2024
SCALE:	N/A
PROJECT NO:	TAM23-01

SHEET TITLE
DETAILS - DRINKING FOUNTAIN AND UTILITY

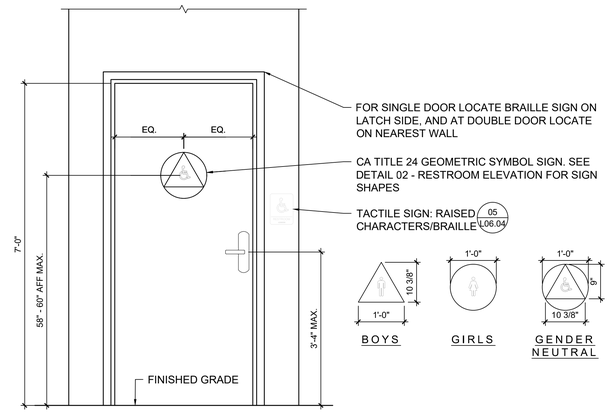
SHEET NUMBER
L06.03

Peter Stanley 10/2/2024 8:59 AM



NOTES:
1. METAL SIGNS ARE DIGITAL PRINT ON 3M ADVANCED ENGINEER GRADE VINYL, COATED WITH 3M 1160i GRAFFITI FILM, APPLIED TO 0.080 ALUMINUM SUBSTRATE. LETTERING PER PLAN SPECIFICATIONS, 0.25 INCH MOUNTING HOLES.
2. SEE PLAN FOR QUANTITY & LOCATION INFO.
3. SECURE WITH NON-RUSTING, VANDAL-RESISTANT FASTENERS COMPLETE.
4. SUBMIT SHOP DRAWINGS FOR REVIEW. TEXT SHOWN FOR BID PURPOSES ONLY. FINAL TEXT TO BE PROVIDED BY DISTRICT.

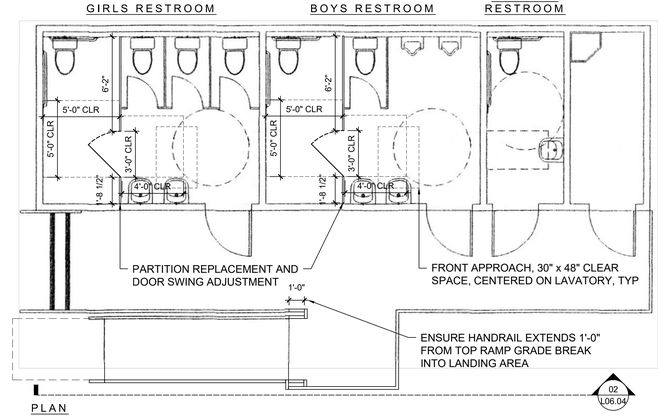
07 MAINTANANCE ONLY SIGN - S2
SCALE: 3" = 1'



ELEVATION

NOTES:
1. REFER TO CBC 11B-703
2. SIGN MOUNTED TO SURFACE WITH 1/16" THICK DOUBLE FACE TAPE
3. CALIFORNIA RESTROOM SYMBOLS (CIRCLE/TRIANGLE) INSTALLED ON DOOR LEAFS
4. INCLUDE ISA IF RESTROOM IS WHEELCHAIR ACCESSIBLE
5. ALL SIGNS BLUE

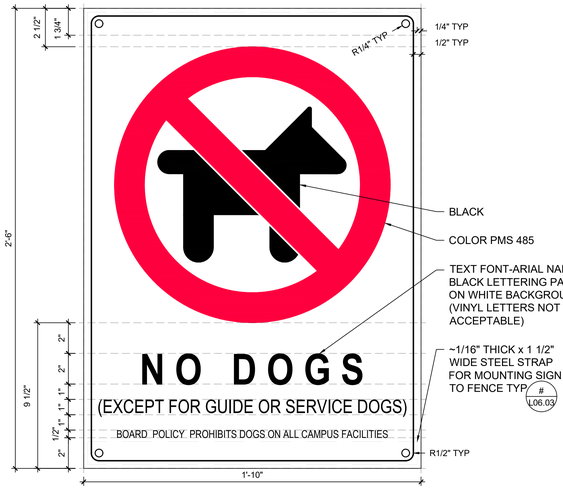
04 RESTROOM DOOR SIGNAGE
SCALE: 3/4" = 1'



PLAN

NOTES:
1. REMOVE AND REINSTALL ACCESSIBLE STALL DOORS TO SWING INWARD
2. LENGHTEN PARTITION WALLS AS NESSECARY FOR DOOR RELOCATION
3. EXTEND HAND RAIL AT TOP OF RAMP LANDING

01 RESTROOM FLOORPLAN
SCALE: 1/4" = 1'

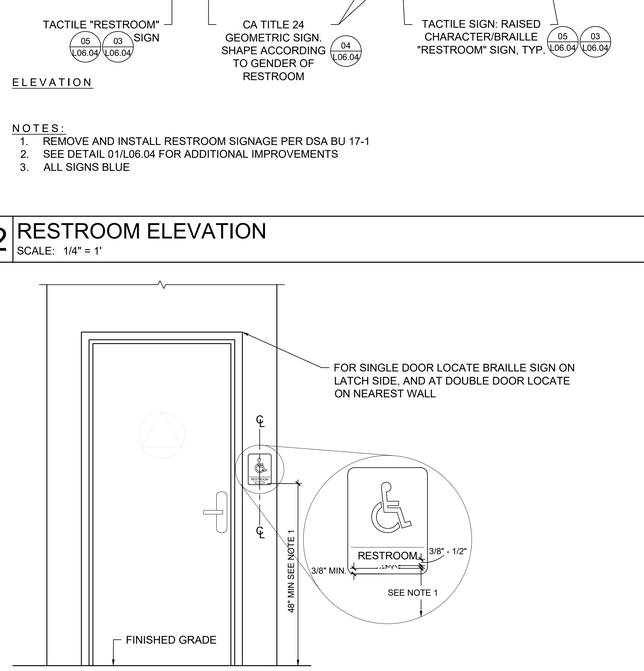


NOTES:
1. METAL SIGNS ARE DIGITAL PRINT ON 3M ADVANCED ENGINEER GRADE VINYL, COATED WITH 3M 1160i GRAFFITI FILM, APPLIED TO 0.080 ALUMINUM SUBSTRATE. LETTERING PER PLAN SPECIFICATIONS, 0.25 INCH MOUNTING HOLES.
2. SEE PLAN FOR QUANTITY & LOCATION INFO.
3. SECURE WITH NON-RUSTING, VANDAL-RESISTANT FASTENERS COMPLETE.
4. SUBMIT SHOP DRAWINGS FOR REVIEW. TEXT SHOWN FOR BID PURPOSES ONLY. FINAL TEXT TO BE PROVIDED BY DISTRICT.

08 NO DOGS SIGN - S1
SCALE: 3" = 1'

NOTES:
1. APPLY GRAFFITI RESISTANT COATING TO EXPOSED SIDES OF SIGN.
2. REFER TO CBC 11B-703. 60" MAX AFF TO BASELINE OF HIGHEST RAISED CHARACTERS AND 48" MIN AFF TO BASELINE OF LOWEST BRAILLE

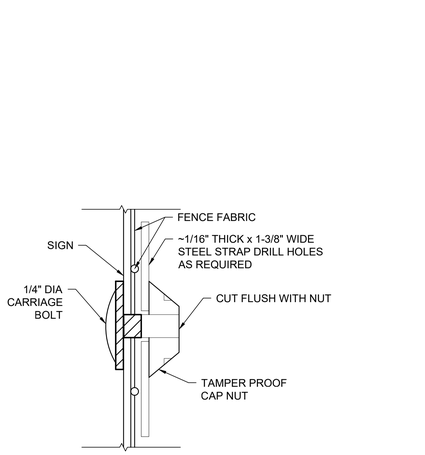
05 RESTROOM SIGNAGE
SCALE: 3" = 1'



ELEVATION

NOTES:
1. REMOVE AND INSTALL RESTROOM SIGNAGE PER DSA BU 17-1
2. SEE DETAIL 01/L06.04 FOR ADDITIONAL IMPROVEMENTS
3. ALL SIGNS BLUE

02 RESTROOM ELEVATION
SCALE: 1/4" = 1'



SECTION

06 SIGN MOUNTING ON FENCE
SCALE: 1' = 1'

ELEVATION

NOTES:
1. REFER TO CBC 11B-703. 60" MAX AFF TO BASELINE OF HIGHEST RAISED CHARACTERS AND 48" MIN AFF TO BASELINE OF LOWEST BRAILLE
2. SIGN MOUNTED TO SURFACE WITH 1/16" THICK DOUBLE FACE TAPE
3. RESTROOM IDENTIFICATION SIGN ON WALL SHALL INCLUDE RAISED LETTERS AND CALIFORNIA GRADE 2 BRAILLE
4. INCLUDE ISA IF RESTROOM IS WHEELCHAIR ACCESSIBLE
5. ALL SIGNS BLUE

03 BRAILLE RESTROOM SIGNAGE
SCALE: 3/4" = 1'

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COMPLETION OF WORK AS INDICATED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND LANDSCAPE ARCHITECT BY THE TIME OF BID OF ALL DISCREPANCIES OR OMISSIONS IN THE DRAWINGS OR SITE CONDITIONS WHICH PREVENT IN WHOLE OR IN PART THE SUCCESSFUL COMPLETION OF THE WORK AS INTENDED. IF THE CONTRACTOR ENCOUNTERS ERRORS OR DISCREPANCIES ON THE DRAWINGS, OR SITE CONDITIONS WHICH PREVENT IN WHOLE OR IN PART THE SUCCESSFUL COMPLETION OF THE WORK AS INTENDED, THE CONTRACTOR SHALL IMMEDIATELY AND HOLD THE LANDSCAPE ARCHITECT AND THE OWNER HARMLESS IF SUCH SUCH ERRORS, DISCREPANCIES AND OMISSIONS. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE LANDSCAPE ARCHITECT AND THE OWNER HARMLESS IF SUCH DISCREPANCIES OR OMISSIONS ARE DISCOVERED AFTER THE END OF BID.

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DATE: 10/7/2024

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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
DETAILS - EXISTING RESTROOM AND SIGNAGE

SHEET NUMBER
L06.04

Peter Stanley 10/2/2024 10:54 AM

DESIGN LOADING

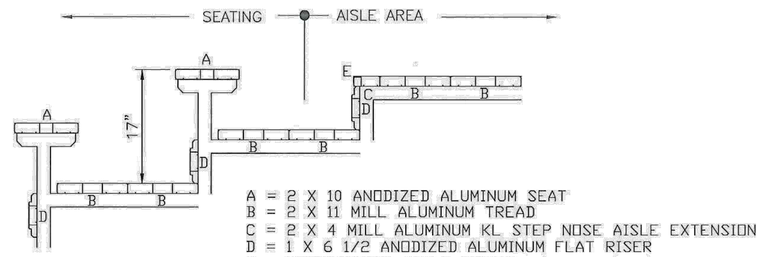
TREAD & SEAT AREA (GROSS AREA) 100psf.
SEAT (PERPENDICULAR SWAY) 10 lbs/lf.
SEAT (PARALLEL SWAY) 24lbs/lf.
HANDRAILS (PERPENDICULAR) 50 lbs/lf.
HANDRAILS (VERTICAL) 100 lbs/lf.
SEAT & TREAD 120 lbs/lf.

NOTES

1. ANODIZED ALUMINUM RAIL IS 1 1/4" NOMINAL PIPE SIZE.

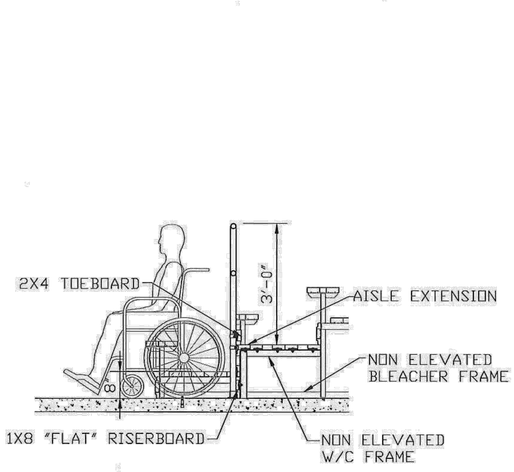
ITEM DESCRIPTION

1. L 1 1/2 X 1 1/2 X 3/16 GALV.
2. L 2 X 1 1/2 X 3/16 GALV.
3. L 2 X 2 X 3/16 GALV.
4. L 2 1/2 X 2 X 3/16 GALV.
5. L 3 X 3 X 1/4 GALV.
6. 1 5/8 O.D. ANODIZED ALUMINUM RAIL
7. 9 GAUGE GALV. CHAIN LINK FENCE
8. L 2 X 1 1/2 X 3/16 ALUMINUM
9. L 2 X 2 X 3/16 ALUMINUM
10. 1 5/8 O.D. Sch.40 ANODIZED ALUMINUM PIPE
11. 3/8 X 3 STAINLESS STEEL CONCRETE WEDGE ANCHOR
12. L 3 X 2 X 3/16 GALV.

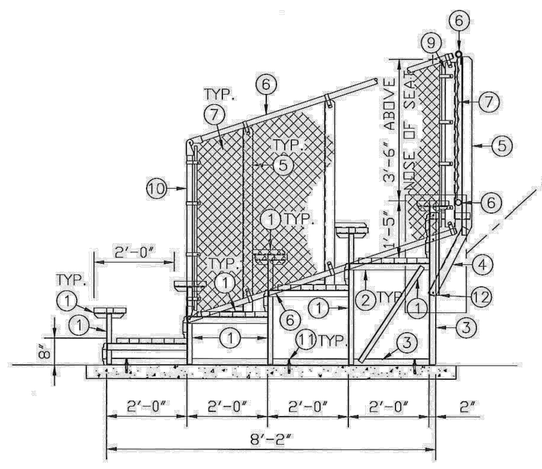


A = 2 X 10 ANODIZED ALUMINUM SEAT
B = 2 X 11 MILL ALUMINUM TREAD
C = 2 X 4 MILL ALUMINUM KL STEP NOSE AISLE EXTENSION
D = 1 X 6 1/2 ANODIZED ALUMINUM FLAT RISER
E = CONTRASTING AISLE NOSING

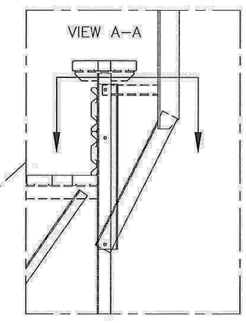
3 / 1 1 PLANK ARRANGEMENT
NOT TO SCALE 8" X 24"

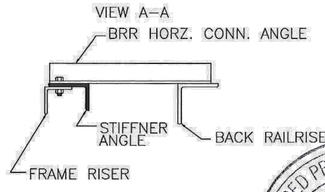


2 / 2 1 SECTION VIEW @ W/C AREA
SCALE:3/4"=1'-0"



1 / 2 1 SECTION VIEW @ W/C AREA
SCALE:3/4"=1'-0"





NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

REGISTERED PROFESSIONAL ENGINEER
GALORD R. RANSOM
No. S2336
EXPIRES
3-31-18
STRUCTURAL
STATE OF CALIFORNIA

No

DETAIL NUMBER 2 / 1 SHEET SHOWN ON

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PO Box Otec, Graham, Texas 76450
Phone: 940-549-1733 Fax: 940-549-1365
Transmitted Hard
Southern BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS

#	DESCRIPTION	DATE

SIDE VIEW
8" RISE X 24" TREAD / 5 ROWS

TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

JOB NO.	DATE	DRAWN	CHKD
	6/23/16	TDW	DMC

JOB NUMBER 16190
SHEET 1 OF 4

22" X 34" (11x17 = 1/2 indicated scale)

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APP: 01-121720 INC:
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DATE: 10/7/2024

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PROJECT
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395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

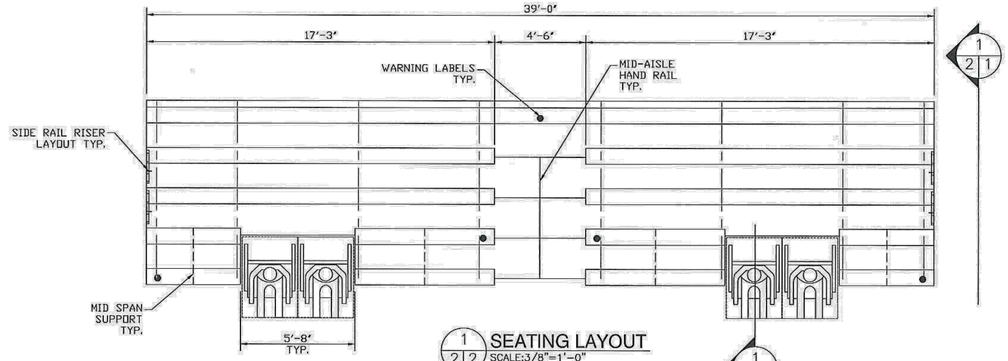
SHEET TITLE
DETAILS - EXISTING BLEACHERS

SHEET NUMBER
L06.05

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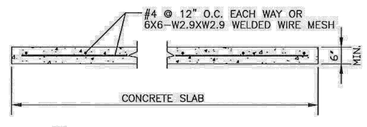
Peter Stanley 10/1/2024 2:39 PM



1/2/1 SEATING LAYOUT
SCALE:3/8"=1'-0"

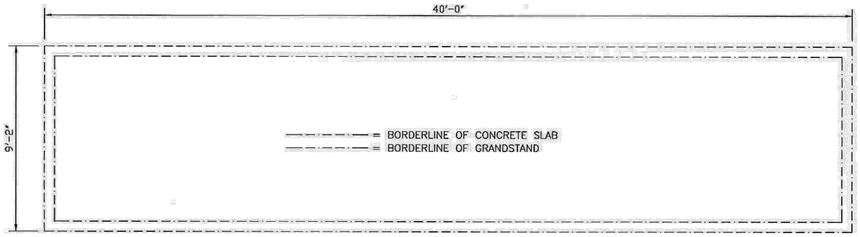
98 TOTAL NET 18" SEATS
4 TOTAL NET 33" WHEELCHAIR SPACES
102 TOTAL SEATING CAPACITY

ANGLE FRAME UNITS MUST BE ANCHORED TO RESIST WIND LOADS, AS PRESCRIBED BY BUILDING CODE.



3/2/2 CONCRETE SLAB DETAIL
NOT TO SCALE

NOTE: SLAB DIMENSIONS LISTED ARE FOR BLEACHER ONLY. ADDITIONAL DEPTH FOR WHEELCHAIR ACCESS MUST BE MADE.



NOTE: CONCRETE SLAB NOT BY BLEACHER MANUFACTURER

2/2/2 CONCRETE SLAB LAYOUT
SCALE:3/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
No. S2386
EXPIRES
3.31.18
STRUCTURAL
STATE OF CALIFORNIA

1/2/1 DETAIL NUMBER
2/1/2 SHEET SHOWN IN

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PH: (559)244-2444 • FAX: (559)447-8404

Southern BLEACHER COMPANY
GRANDSTANDS •BLEACHERS •STADIUMS
PO Box Otis, Graham, Texas 76450
801 Millwood Street
Phone: 940/549-2733 Fax: 940/549-1365
Established 1946

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
1		6/23/16	TDW	DMC

TITLE: SEATING LAYOUT / CONCRETE SLAB LAYOUT
39'-0" X 5 ROWS / 24" TREAD

JOB: TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

JOB NUMBER 16190
SHEET 2 OF 4

22" X 34" (11x17 = 1/2 indicated scale)

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

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Peter Stanley 10/1/2024 2:39 PM

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SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

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REGISTERED LANDSCAPE ARCHITECT
TIMOTHY A. CARDUCCI
No. 2537
12.31.2024
09.11.2024
STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

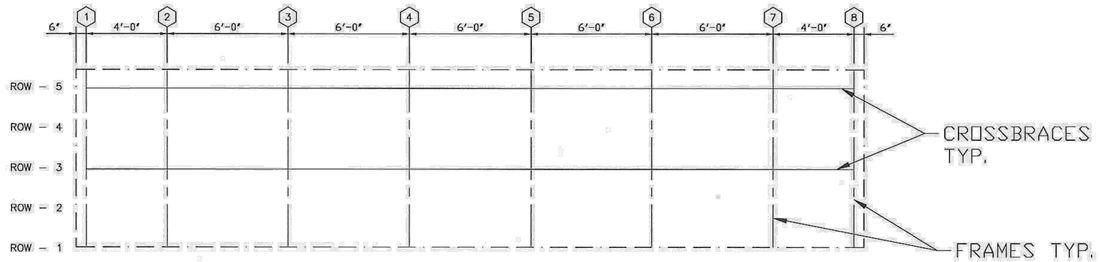
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FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

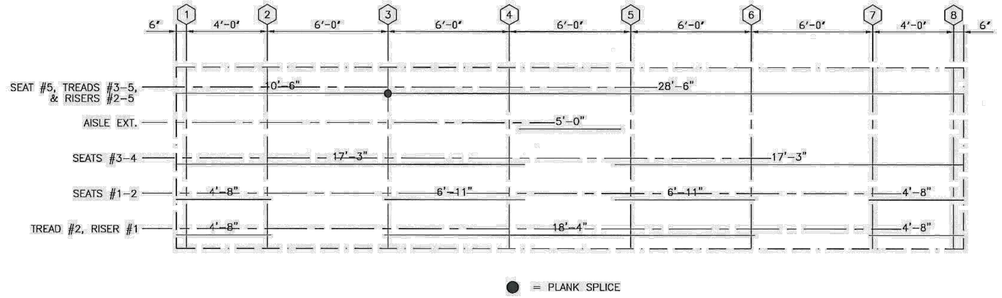
DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
DETAILS - EXISTING BLEACHERS

SHEET NUMBER
L06.06



1/3/3 CROSSBRACE LAYOUT
SCALE:3/8"=1'-0"



● = PLANK SPLICE

PLANK LEGEND

SEATS 1–5 = 1–2 X 10 ANODIZED ALUMINUM SEAT
TREADS 2–5 = 2–2 X 11 MILL ALUMINUM TREADS
RISERS 1–4 = 1–1 X 6 1/2 ANODIZED ALUMINUM RISER
RISER 5 = 2–1 X 6 1/2 ANODIZED ALUMINUM RISERS
AISLE EXTENSIONS = 1–2 X 4 MILL ALUMINUM STEP NOSE
ALUMINUM CONTRASTING AISLE NOSING

2/3/3 PLANK LAYOUT
SCALE:3/8"=1'-0"

5'-8" TOEBOARD & AISLE EXT.
5'-7 1/2" RISER
DOUBLE WHEELCHAIR PLANK

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
No. S2386
EXPIRES
3-31-18
STRUCTURAL
STATE OF CALIFORNIA

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

No

DETAIL NUMBER 2/3 SHEET SHOWN ON

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PO Box Clute, Graham, Texas 76450
(817) 559-8787 Voice
Phone: 940/549-0723 Fax: 940/549-1565
Southern BLEACHER COMPANY Established 1946
GRANDSTANDS • BLEACHERS • STADIUMS

TITLE	CROSSBRACE LAYOUT / PLANK LAYOUT 39'-0" X 5 ROWS / 24" TREAD
PROJECT	TAMALPAIS UNION H.S. DISTRICT REDWOOD HIGH SCHOOL LARKSPUR, CALIFORNIA
ISSUED	6/23/16
DRAWN	TDW
CHECKED	DMC
JOB NUMBER	16190
SHEET	3
OF	4

22" X 34" (11x17 = 1/2 indicated scale)

#	DESCRIPTION	DATE

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Peter Stanley 10/1/2024 2:39 PM

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DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

ARCHITECT/ ENGINEER

ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z
santa rosa ca 95404
zfa job no. 20400
zfa.com
707.526.0992
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STAMP

DESIGN TEAM

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ASSOCIATES
555 BEACH STREET FOURTH FLOOR
SAN FRANCISCO, CA 94133
www.carducciassociates.com
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LICENSED LANDSCAPE ARCHITECT
No. 2537
12.31.2024
09.11.2024
STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

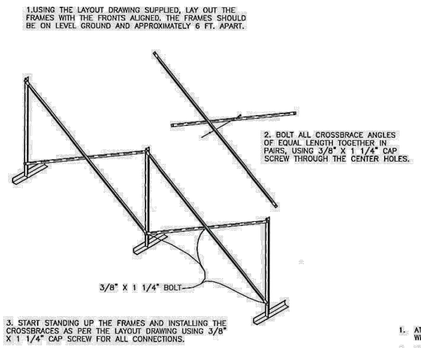
DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

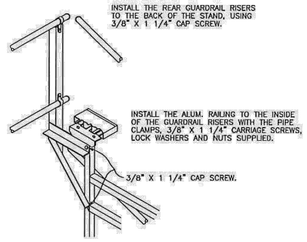
DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
DETAILS - EXISTING BLEACHERS

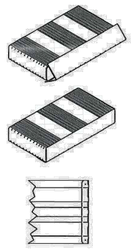
SHEET NUMBER
L06.07



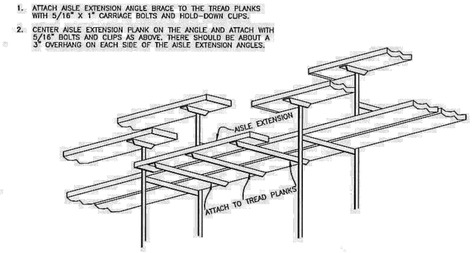
1/4/4 CROSSBRACE INSTALLATION
SCALE:NONE



2/4/4 REAR GUARDRAIL RISER INSTALLATION
SCALE:NONE



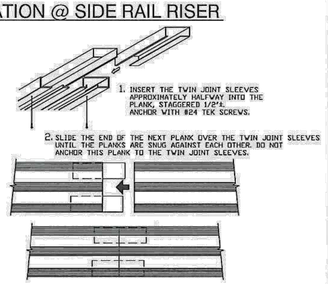
3/4/4 ANGLE END CAP INSTALLATION @ SIDE RAIL RISER
SCALE:NONE



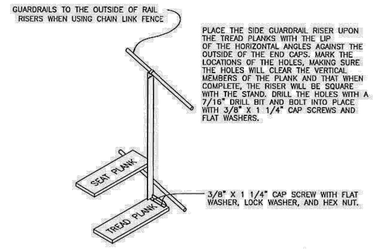
5/4/4 AISLE EXTENSION INSTALLATION
SCALE:NONE



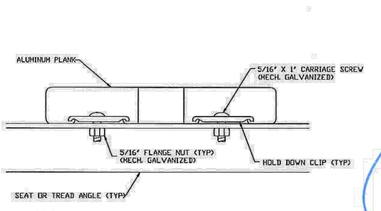
6/4/4 END CAP INSTALLATION
SCALE:NONE



7/4/4 JOINT SLEEVE INSTALLATION DETAIL
SCALE:NONE

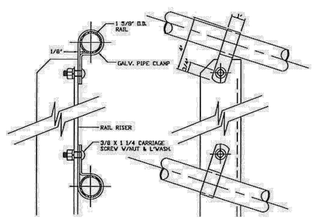


4/4/4 SIDE GUARDRAIL RISER INSTALLATION
SCALE:NONE

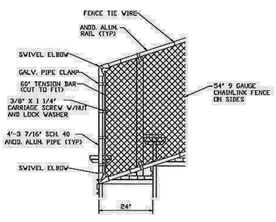


11/4/4 PLANK INSTALLATION
SCALE:NONE

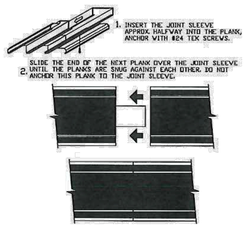




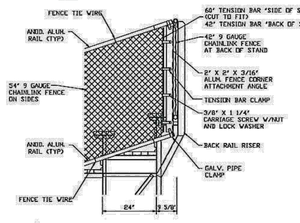
8/4/4 GUARDRAIL INSTALLATION
SCALE:NONE



9/4/4 FENCE INSTALLATION (FRONT)
SCALE:NONE



10/4/4 RISER JOINT SLEEVE INSTALLATION DETAIL
SCALE:NONE



12/4/4 FENCE INSTALLATION (REAR)
SCALE:NONE

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

No

DETAIL NUMBER 2/L6.08
SHEET SHOWN ON

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STRUCTURAL ENGINEERS
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PH: (559) 292-2444 • FAX: (559)244-9404
PO Box Otis, Graham, Texas 76450
Phone: 940-549-1733 Fax: 940-549-1365
Established 1946

Southern BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS

DETAIL SHEET
TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

NO	DATE	DESCRIPTION	DRAWN	DESIGNED
	6/23/16		TDW	DMC

JOB NUMBER 16190
SHEET 4 OF 4

22" X 34" (11x17 = 1/2 indicated scale)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

ARCHITECT/ ENGINEER
ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z zfa.com
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SAN FRANCISCO, CA 94133
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OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE
DETAILS - EXISTING BLEACHERS

SHEET NUMBER
L06.08

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Peter Stanley 10/1/2024 2:39 PM

TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

SHEET TITLE	PAGE #
COVER PAGE	B1 OF B5
SECTION VIEW	B2 OF B5
PLAN VIEWS	B3 OF B5
ANGLE FAB/GUARDRAIL DETAILS	B4 OF B5
ALUMINUM PLANK DETAILS	B5 OF B5

REGISTERED PROFESSIONAL ENGINEER BRIAN T. DEAN S 6087 STRUCTURAL STATE OF CALIFORNIA
S&S 05/29/24
PRINCIPAL

OWNER/REPRESENTATIVE/ARCHITECTURAL REVIEW

PLEASE REVIEW THE DRAWINGS FOR COMPLIANCE WITH YOUR ORDER. PLEASE INDICATE ANY CHANGES OR COMMENTS ON THE DRAWINGS.

☐ APPROVED — SIGNATURE

☐ APPROVED AS NOTED — TITLE

☐ REVISE AND RE-SUBMIT — DATE

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AISC CERTIFIED FABRICATOR

Southern® BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS

PO Box One, Graham, Texas 76450
801 Fifth Street.
Phone: 940/549-0733 Fax: 940/549-1365

Established 1946

GENERAL INFORMATION

	RISE	TREAD	ROWS	LENGTH	SEAT COUNT
HOME	8"	24"	5	39'-0"	102

DATE: 5/28/24
JOB # 24172
TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

SHEET B1 OF B5

REF:

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

Peter Stanley 10/1/2024 2:40 PM

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APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

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LICENSED LANDSCAPE ARCHITECT 2537 12.31.2024 09.11.2024 STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE

DETAILS - PROPOSED BLEACHERS

SHEET NUMBER

L06.09

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ITEM DESCRIPTION

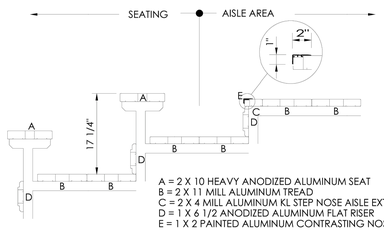
1. L 1 1/2 X 1 1/2 X 3/16 GALV. A36/A572 GRADE 50
2. L 2 X 1 1/2 X 3/16 GALV. A36/A572 GRADE 50
3. L 2 X 2 X 3/16 GALV. A36/A572 GRADE 50
4. L 2 1/2 X 2 X 3/16 GALV. A36/A572 GRADE 50
5. L 3 X 3 X 1/4 GALV. A36/A572 GRADE 50
6. ANODIZED ALUMINUM RAIL (SEE NOTE) (17 B5)
7. 9 GAUGE CHAIN LINK FENCE (2" SQUARE MESH)
8. L 2 X 1 1/2 X 3/16 ALUMINUM (6061-T6 ALLOY)
9. L 2 X 2 X 3/16 ALUMINUM (6061-T6 ALLOY)
10. 1 5/8 SCH. 40 ANODIZED ALUMINUM PIPE (6061-T6 ALLOY) (6 B5)
11. 3/8Ø STAINLESS STEEL CONCRETE WEDGE ANCHOR (18 B5)

DESIGN LOADING

TREAD & SEAT AREA (GROSS AREA) 100psf.
SEAT (PERPENDICULAR SWAY) 10 lbs/lf.
SEAT (PARALLEL SWAY) 24lbs/lf.
HANDRAILS (PERPENDICULAR) 50 lbs/lf.
HANDRAILS (VERTICAL) 100 lbs/lf.
SEAT & TREAD 120 lbs/lf.

NOTES

1. STRUCTURAL SHAPES MEET ONE OF THE FOLLOWING ASTM SPECIFICATIONS: A572 GRADE 50, A529-50, OR A500 GRADE B.
2. WELDS ARE ALL AROUND WITH TYPE ER70S-6 WIRE MIG.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED TO A.S.T.M. A-123-89 ae1.
4. STRUCTURAL BOLTS ARE HOT DIPPED GALV. AND ARE EQUAL TO OR GREATER THAN A-307.
5. ANODIZED ALUMINUM RAIL IS 1 1/4" NOMINAL PIPE SIZE. (17 B5)
6. ANODIZED ALUMINUM SCH. 40 PIPE IS 1 1/4" NOMINAL PIPE SIZE. (6 B5)

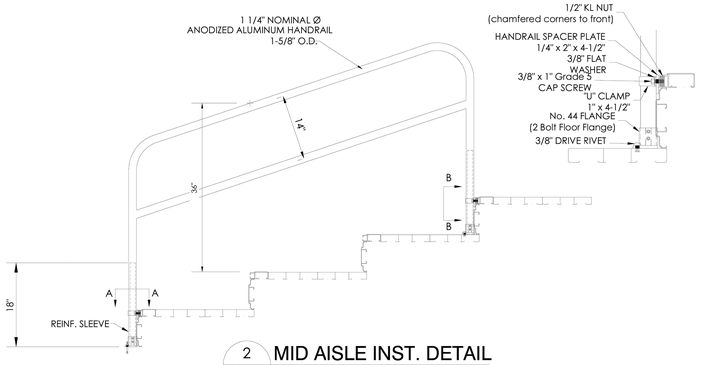


A = 2 X 10 HEAVY ANODIZED ALUMINUM SEAT
B = 2 X 11 MILL ALUMINUM TREAD
C = 2 X 4 MILL ALUMINUM KL STEP NOSE AISLE EXTENSION
D = 1 X 6 1/2 ANODIZED ALUMINUM FLAT RISER
E = 1 X 2 PAINTED ALUMINUM CONTRASTING NOSING (BLACK)

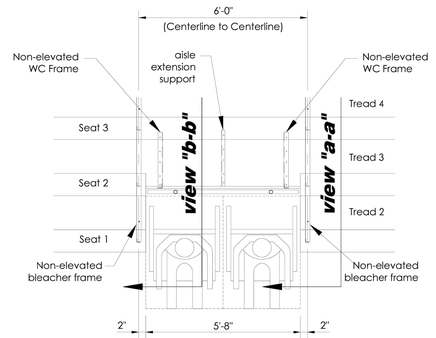
1 B2 PLANK ARRANGEMENT
NOT TO SCALE 8" X 24"

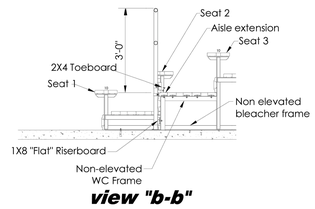
NOTE: 5 ROW NON-ELEVATED BLEACHERS ARE EXEMPT FROM DSA STRUCTURAL REVIEW PER DSA IR A-22 SECTION 1.2.1 AND APPENDIX-CONSTRUCTION PROJECTS AND ITEMS ELIGIBLE FOR EXEMPTION

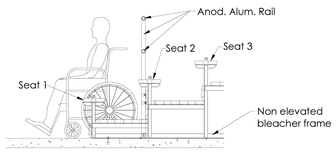




2 B2 MID AISLE INST. DETAIL
N.T.S.

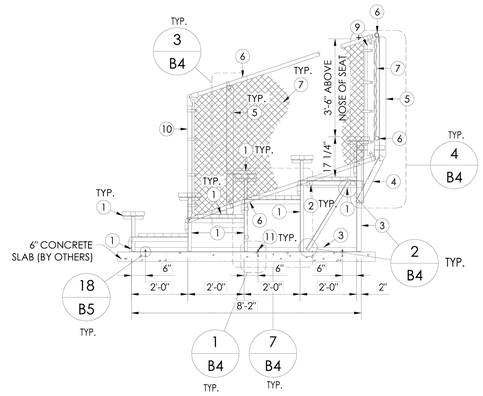






NOTE: DOUBLE WHEELCHAIR AREA SHOWN, SINGLE WHEELCHAIR AREA SIMILAR.

3 B2 DOUBLE NON-ELEVATED WHEELCHAIR AREA DETAIL
SCALE:NONE



4 B2 SIDE VIEW: 5 ROW NON-ELEVATED
SCALE:1/2"=1'-0"

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

DETAIL NUMBER / SHEET NUMBER

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STRUCTURAL ENGINEERS
CENTRAL Ph. (530) 272-7267
COAST Fax (805) 773-2487
555 S. Oak Knoll Ave., Pasadena, CA 91101

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Southern BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS
PO Box One, Graham, Texas 76450
801 Fifth Street,
Phone: 940-549-0733 Fax: 940-549-1365
Established 1946

REGISTERED PROFESSIONAL ENGINEER
BRIAN T. DEAN
S 6087
STRUCTURAL
STATE OF CALIFORNIA
S&S 05/29/24
PRINCIPAL

REV BY	DATE	DESCRIPTION

5/28/24 MG DMC

JOB NUMBER #24172

SHEET B2 OF B5

22" X 34" (1:1x17 = 1/2 indicated scale)

TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

SECTION VIEW
8" RISE X 24" TREAD / 39"-0" (5 ROWS)

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DATE: 10/7/2024

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DESIGN TEAM

CARDUCCI ASSOCIATES
555 BEACH STREET FOURTH FLOOR
SAN FRANCISCO, CA 94133
www.carducciassociates.com
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REGISTERED LANDSCAPE ARCHITECT
PAUL A. CARDUCCI
No. 2537
12.31.2024
09.11.2024
STATE OF CALIFORNIA

OWNER

TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT

REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

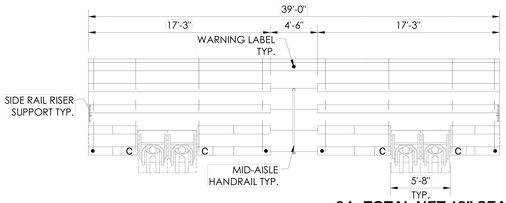
SHEET TITLE

DETAILS - PROPOSED BLEACHERS

SHEET NUMBER

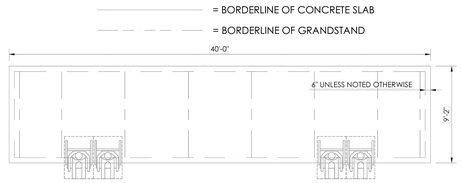
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Peter Stanley 10/1/2024 2:40 PM

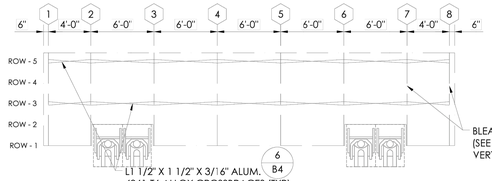


1 / B3 SEATING LAYOUT
SCALE:3/16"=1'-0"

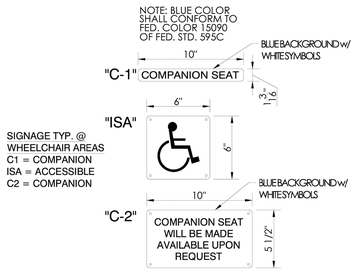
94 TOTAL NET 18" SEATS
4 TOTAL 18" COMPANION SEATS
4 TOTAL NET 33" WHEELCHAIR SPACES
102 TOTAL SEATING CAPACITY



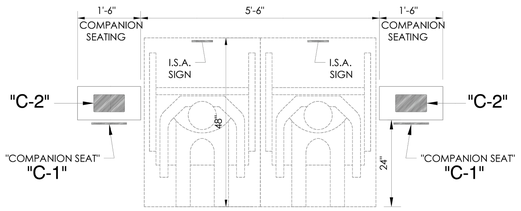
2 / B3 CONCRETE LAYOUT
SCALE:3/16"=1'-0"



3 / B3 CROSSBRACING LAYOUT
SCALE: 3/16"=1'-0"



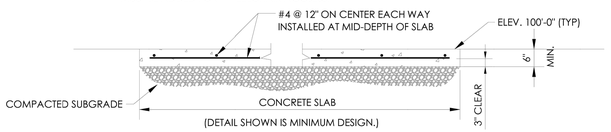
4 / B3 SIGNAGE & SEAT TYPE LEGEND
NOT TO SCALE



ICC/ANSI A117.1 CHAPTER 8
FRONT OR REAR ACCESS 48" MIN.
SIDE ACCESS 60" MIN.

5 / B3 WHEELCAIR AREA SIGNAGE DETAIL
NOT TO SCALE

NOTE: 1. CONCRETE SLAB DESIGN/DETAIL LISTED IS THE MINIMUM REQUIREMENTS FOR ANGLE FRAME BLEACHER INSTALLATION. ALL CONCRETE WORK IS BY OTHERS & NOT BY BLEACHER MANUFACTURER.
2. CONCRETE SLAB ON GRADE TO BE LEVEL. BLEACHERS ARE DESIGNED FOR INSTALLATION ON UNIFORM, LEVEL SURFACE.
3. CONCRETE SLAB DIMENSIONS LISTED ARE FOR BLEACHER SUBSTRUCTURE ONLY. ADDITIONAL DEPTH MUST BE ADDED FOR WHEELCHAIR ACCSESS.



6 / B3 CONCRETE SLAB DETAIL
SCALE:NONE

NOTE: 5 ROW NON-ELEVATED BLEACHERS ARE EXEMPT FROM DSA STRUCTURAL REVIEW PER DSA IR A-22 SECTION 1.2.1 AND APPENDIX-CONSTRUCTION PROJECTS AND ITEMS ELIGIBLE FOR EXEMPTION

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

DETAIL NUMBER / SHEET NUMBER

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GRANDSTANDS • BLEACHERS • STADIUMS
PO Box One, Graham, Texas 76450 Phone: 940/549-1733 Fax: 940/549-1365
801 Fifth Street. Established 1946

REGISTERED PROFESSIONAL ENGINEER
BRIAN T. DEAN
S 6087
STRUCTURAL
STATE OF CALIFORNIA
S&S 05/29/24
PRINCIPAL

PLAN VIEWS
8" RISE X 24" TREAD / 39'-0" (5 ROWS)

TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

DEV. BY	DATE	DESCRIPTION

DATE	DRAWN	CHECKED
5/28/24	MG	DMC

JOB NUMBER #24172

SHEET B3 OF B5

22" X 34" (1 1x17 = 1/2 indicated scale)

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Peter Stanley 10/1/2024 2:40 PM

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DIV. OF THE STATE ARCHITECT
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LANDSCAPE ARCHITECT
BRIAN T. DEAN
LA 2537
12.31.2024
09.11.2024
REGISTERED LANDSCAPE ARCHITECT
STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

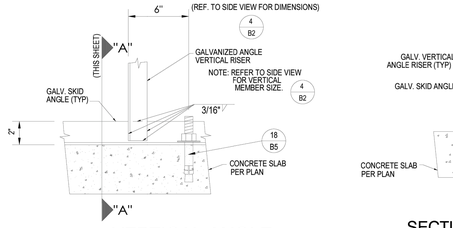
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SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE

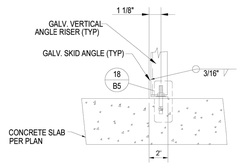
DETAILS - PROPOSED BLEACHERS

SHEET NUMBER

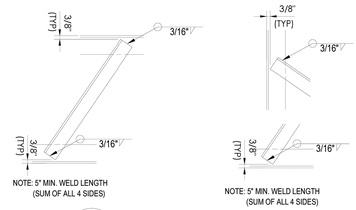
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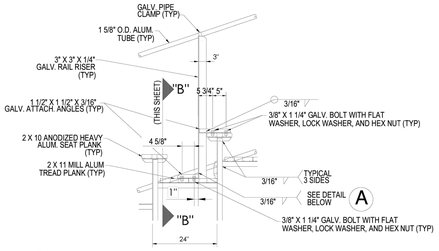
1 B4 VERTICAL ANGLE ATTACH. TO SKID ANGLE
NO SCALE



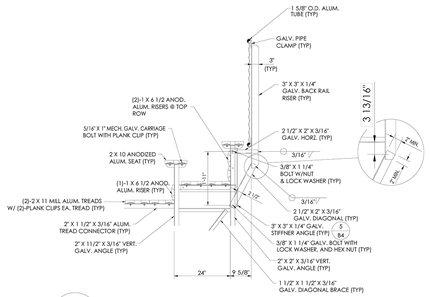
SECTION "A"-"A"
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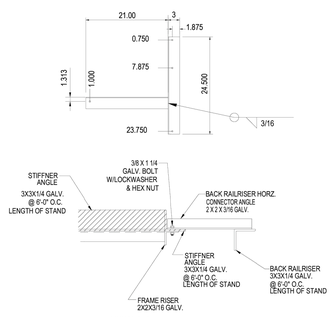
2 B4 ATTACHMENT DETAIL
NO SCALE



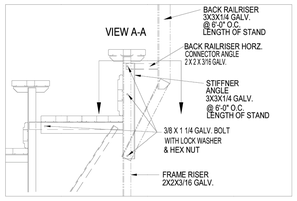
3 B4 SIDE RAILRISER ATTACHMENT
NO SCALE



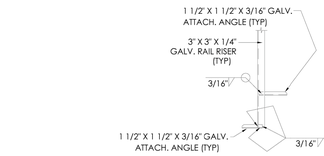
4 B4 BACK RAIL RISER ATTACH. DETAIL
NO SCALE



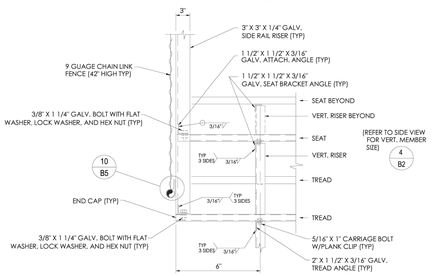
VIEW A-A



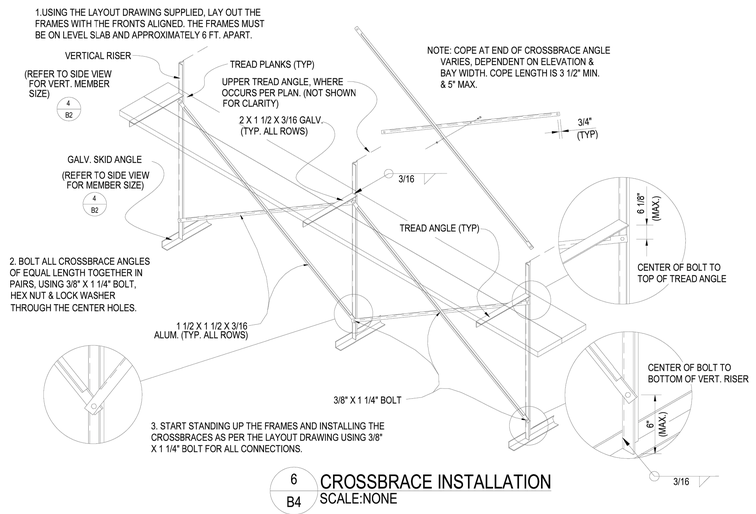
5 B4 STIFFNER ANGLE DETAIL
SCALE: NONE



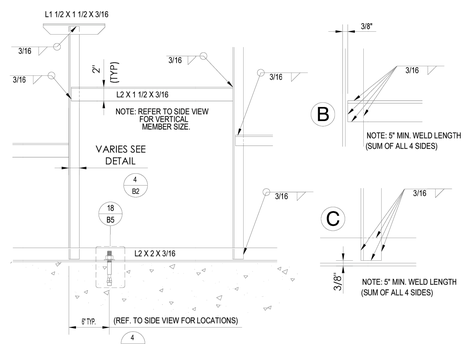
A WELD DETAIL
NO SCALE



SECTION "B"-"B"
NO SCALE



6 B4 CROSSBRACE INSTALLATION
SCALE:NONE



7 B4 ANGLE FAB DETAIL
SCALE: NONE

NOTE
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1 DETAIL NUMBER / 1 SHEET NUMBER

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TAYLOR & SYFAN
Southern BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS
Established 1946
PO Box One, Graham, Texas 76450
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REGISTERED PROFESSIONAL ENGINEER
BRIAN T. DEMPSEY
S 6087
STRUCTURAL
STATE OF CALIFORNIA
S&S
05/28/24
PRINCIPAL

REV	BY	DATE	DESCRIPTION
1	MG	5/28/24	ANGLE FAB/GUARDRAIL DETAILS
			8" RISE X 24" TREAD / 39"-0" (5 ROWS)

JOB NUMBER #24172
SHEET B4 OF B5
22" X 34" (1 1/2 indicated scale)

TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

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Peter Stanley 10/1/2024 2:40 PM

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DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
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REGISTERED PROFESSIONAL ENGINEER
BRIAN T. DEMPSEY
NO. 2537
CIVIL
12.31.2024
09.11.2024
STATE OF CALIFORNIA

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

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CONTEXT MAP

#	DESCRIPTION	DATE

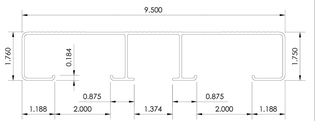
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FILE NUMBER 21-H2
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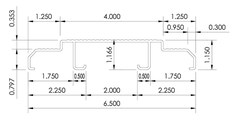
SHEET TITLE
DETAILS - PROPOSED BLEACHERS

SHEET NUMBER
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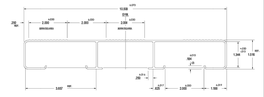
2X10 HEAVY ALUMINUM PLANK
.075 WALL , 1.769#/FT.
1. Ix = .843 IN. 4=4
2. MATERIAL - 6063 T-6
3. MIN. MAT. PROP. - 25000 PSI
4. E = 10,000,000 PSI
5. C = 1.10 IN.

1 B5 — 2 X 10 HEAVY ALUMINUM PLANK DETAIL
NOT TO SCALE



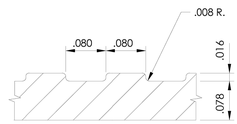
1X6 1/2 ALUMINUM FLAT RISER PLANK
.075 WALL , 1.081#/FT.
1. Ix = .131 IN. 4=4
2. MATERIAL - 6063 T-6
3. MIN. MAT. PROP. - 25000 PSI
4. E = 10,000,000 PSI
5. C = .740 IN.

2 B5 — 1 X 6.5 ALUMINUM RISER PLANK DETAIL
NOT TO SCALE



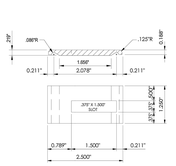
2X12 ALUMINUM PLANK
.078 WALL , 2.029#/FT.
1. Ix = .591 IN. 4=4
2. MATERIAL - 6063 T-6
3. MIN. MAT. PROP. - 25000 PSI
4. E = 10,000,000 PSI
5. C = 1.01 IN.

3 B5 — 2 X 11 ALUMINUM PLANK DETAIL
NOT TO SCALE

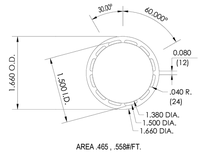


NOTE: TYPICAL FOR ALL PLANKS.

4 B5 — FLUTED SURFACE DETAIL
NOT TO SCALE

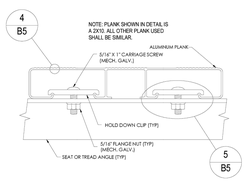


5 B5 — HOLD DOWN CLIP DETAIL
NOT TO SCALE

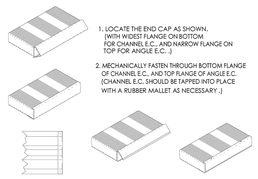


AREA .465 , .558#/FT.
MATERIAL - 6063 T-6

6 B5 — 1 5/8" O.D. ALUMINUM RAIL DETAIL
NOT TO SCALE



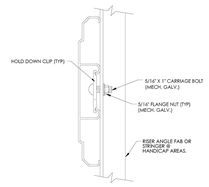
7 B5 — PLANK INSTALLATION DETAIL
NOT TO SCALE



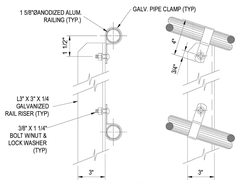
1. LOCATE THE END CAP AS SHOWN. (WITH WIDEST FLANGE ON BOTTOM FOR CHANNEL E.C., AND NARROW FLANGE ON TOP FOR ANGLE E.C.)

2. MECHANICALLY FASTEN THROUGH BOTTOM FLANGE OF CHANNEL E.C., AND TOP FLANGE OF ANGLE E.C. (CHANNEL E.C. SHOULD BE TAPPED INTO PLACE WITH A RUBBER MALLET AS NECESSARY .)

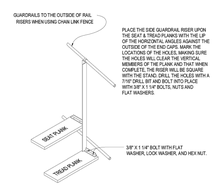
8 B5 — ENDCAP INSTALLATION DETAIL
NOT TO SCALE



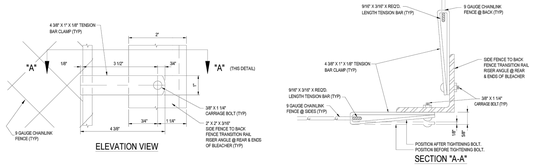
9 B5 — RISER PLANK INSTALLATION DETAIL
NOT TO SCALE



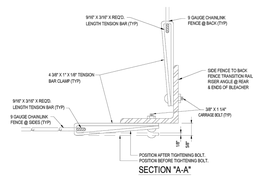
10 B5 — RAILING TO RAIL RISER ATTACHMENT DETAIL
NOT TO SCALE



11 B5 — SIDE GUARDRAIL RISER INSTALLATION
NOT TO SCALE

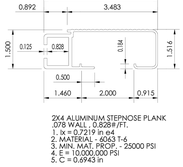


ELEVATION VIEW



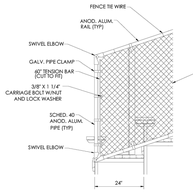
SECTION "A-A"

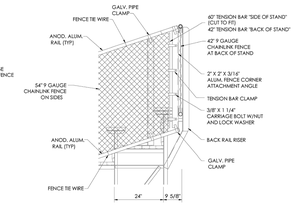
12 B5 — TENSION BAR CLAMP INSTALLATION DETAIL
SCALE: NONE



2X4 ALUMINUM STEPNOSE PLANK
.078 WALL , 0.828#/FT.
1. Ix = 0.7219 in 4=4
2. MATERIAL - 6063 T-6
3. MIN. MAT. PROP. - 25000 PSI
4. E = 10,000,000 PSI
5. C = 0.6943 in

13 B5 — 2X4 KL ALUMINUM STEPNOSE PLANK DETAIL
NOT TO SCALE

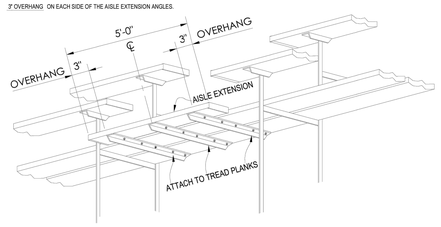




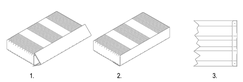
14 B5 — FENCE INSTALLATION
NOT TO SCALE

1. ATTACH 1 1/2" X 1 1/2" X 3/16" AISLE EXTENSION ANGLE BRACES TO THE TREAD PLANKS WITH 5/16" X 1" CARRIAGE BOLTS AND HOLD-DOWN CLIPS.

2. CENTER AISLE EXTENSION PLANK ON THE ANGLES AND ATTACH WITH 5/16" BOLTS AND CLIPS AS ABOVE. THERE SHOULD BE ABOUT A 3" OVERHANG ON EACH SIDE OF THE AISLE EXTENSION ANGLES.



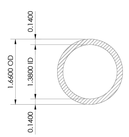
15 B5 — AISLE EXTENSION INSTALLATION
NOT TO SCALE



1. LOCATE THE END CAP AS SHOWN. (WITH NARROW ANGLE ON BOTTOM)

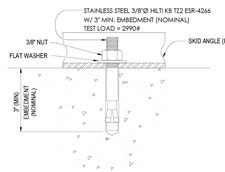
2. MECHANICALLY FASTEN THROUGH BOTTOM OF END CAP WITH 5/32 POP RIVETS.

16 B5 — ANGLE END CAP INSTALLATION @ SIDE RAIL RISER
NOT TO SCALE



1. MATERIAL - 6063 T-6

17 B5 — SCHED. 40 ALUMINUM PIPE DETAIL
NOT TO SCALE



18 B5 — WEDGE ANCHOR DETAIL
NO SCALE

NOTE
PER DSA IR A-22 SECTION 2.1.2.1: THIS PROJECT ELEMENT IS NOT A PART OF THE DSA STRUCTURAL APPROVAL SYSTEM BUT IS A PART OF THE DSA ACCESSIBILITY AND FIRE LIFE SAFETY APPROVAL SYSTEM.

DETAIL NUMBER / SHEET NUMBER

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TAYLOR & SYFAN
Southern BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS
Established 1946

PO Box One, Graham, Texas 76450
801 Fifth Street,
Phone: 940-549-1733 Fax: 940-549-1365

REGISTERED PROFESSIONAL ENGINEER
BRIAN T. DEMPSEY
S 6087
STRUCTURAL
STATE OF CALIFORNIA
S&S
05/29/24
PRINCIPAL

REV BY	DATE	DESCRIPTION

ALUMINUM PLANK DETAILS
8" RISE X 24" TREAD / 39"-0" (5 ROWS)

TAMALPAIS UNION H.S. DISTRICT
REDWOOD HIGH SCHOOL
LARKSPUR, CALIFORNIA

DATE	DRAWN	CHECKED
5/28/24	MG	DMC

JOB NUMBER #24172

SHEET B5 OF B5

22" X 34" (1 1x17 = 1/2 indicated scale)

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

ARCHITECT/ ENGINEER

ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z zfa.com
santa rosa ca 95404 707.526.0992
zfa job no. 20400 copyright © 2024

STAMP

DESIGN TEAM

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SAN FRANCISCO, CA 94133
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STAMP

REGISTERED PROFESSIONAL ENGINEER
BRIAN T. DEMPSEY
S 6087
STRUCTURAL
STATE OF CALIFORNIA
12.31.2024
09.11.2024

OWNER
TAMALPAIS UNION HIGH SCHOOL DISTRICT

PROJECT
REDWOOD HIGH SCHOOL GHILOTTI FIELD SITE IMPROVEMENTS
395 DOHERTY DRIVE
LARKSPUR, CA 94939

CONTEXT MAP

#	DESCRIPTION	DATE

DSA SUBMITTAL

FILE NUMBER 21-H2
DSA APP NUMBER
01-121720

DATE: 09.11.2024
SCALE: N/A
PROJECT NO: TAM23-01

SHEET TITLE

DETAILS - PROPOSED BLEACHERS

SHEET NUMBER

L06.13

Peter Stanley 10/1/2024 2:41 PM

ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS

&	AND
@	AT
A	AREA (IN^2)
AB	ANCHOR BOLT
ABV	ABOVE
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
APPVD	APPROVED
APROX	APPROXIMATELY
ARCH	ARCHITECTURAL; ARCHITECT
(B)	BOTTOM
BD	BOARD
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAIL
BOF	BOTTOM OF FOOTING
BOT OR B/	BOTTOM
BRCG	BRACING
BRG	BEARING
BSMT	BASEMENT
BS	BOUNDARY SCREW
BTW	BETWEEN
CALCS	CALCULATIONS
CANT	CANTILEVER
CBC	CALIFORNIA BUILDING CODE
CF	CUBIC FOOT
CG	CENTER OF GRAVITY
CIP	CAST IN PLACE
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLG	CEILING
CLR	CLEARANCE; CLEAR
CMU	CONCRETE MASONRY UNIT
CO	COMPANY
COL	COLUMN
COMP	COMPRESSION
CONC	CONCRETE
CONN	CONNECT; CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE; CONTINUOUS
CONTR	CONTRACTOR
CP	COMPLETE PENETRATION
CTR	CENTER
CTSK	COUNTERSINK; COUNTERSUNK
d	PENNY (NAIL OR d_b)
db	BAR DIAMETER
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DF/L	DOUGLAS FIR/LARCH
DIA OR Ø	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DIR	DIRECTION
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DWG	DRAWING
DWL	DOWEL
(E) OR EXIST	EXISTING
e.g.	FOR EXAMPLE
EA	EACH
EF	EACH FACE
EJ	END JACK; EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION; ELEVATOR
EMB	EMBED
EN	EDGE NAIL
ENGR	ENGINEER
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE
ETC	ET CETERA
EW	EACH WAY
EXT	EXTERIOR
F'c	CONCRETE COMPRESSION STRENGTH
F'm	MASONRY COMPRESSION STRENGTH
F/	FACE OF
Fb	ALLOWABLE BENDING STRESS
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FIN	FINISH
FLR	FLOOR
FN	FIELD NAIL
FP	FIREPROOF; FULL PENETRATION
FRMG	FRAMING
FS	FULL SIZE; FAR SIDE
FT	FOOT; FEET
FTG	FOOTING
Fy	YIELD STRENGTH
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GLB	GLUED LAMINATED BEAM
GR	GRADE
(H)	HORIZONTAL
H OR HORIZ	HORIZONTAL
HCAI	DEPARTMENT OF HEALTHCARE ACCESS AND INFORMATION
HD	HOLDOWN
HDR	HEADER
HGR	HANGER
HI	HIGH
HP	HEAVY PILING
HR	HARD ROCK
HS	HIGH STRENGTH
HT	HEIGHT
I	MOMENT OF INERTIA
i.e.	THAT IS
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
INCL	INCLUDE, INCLUDING
INFO	INFORMATION
INSP	INSPECTION, INSPECTOR
INT	INTERIOR
INTERM	INTERMEDIATE
INV	INVERT
JST	JOIST
JT	JOINT
k OR KIP	1,000 POUNDS
KO	KNOCK-OUT
KP	KING POST
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH

# OR LBS	POUND
(L)	LONGITUDINAL
LAB	LABORATORY
Ld	DEVELOPMENT LENGTH
LDGR	LEDGER
Ldh	STANDARD HOOK DEVELOPMENT LENGTH
LF	LINEAL FOOT
LG	LONG
LIN	LINEAL; LINEAR
LL	LIVE LOAD
LLBB	LONG LEGS BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOCS	LOCATIONS
LONGIT	LONGITUDINAL
LP	LOW POINT
Lst	TENSION LAP SPLICE LENGTH
LTWT	LIGHTWEIGHT
LVL	LEVEL
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
# OR NO.	NUMBER
(N)	NEW
N	NORTH
NAT	NATURAL
NF	NEAR FACE
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
//	PARALLEL
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
PCI	POUNDS PER CUBIC INCH
PDF	POWDER DRIVEN FASTENERS
PE	POLYETHYLENE, PROFESSIONAL ENGINEER
PERP OR ⊥	PERPENDICULAR
PI	PLYWOOD INDEX
PL	PLATE; PROPERTY LINE
PLF	POUNDS PER LINEAL FOOT
PJP	PARTIAL JOINT PENETRATION
PLY	PLYWOOD
PP	PARTIAL PENETRATION
PREFAB	PREFABRICATED
PRKG	PARKING
PROJ	PROJECT
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTFE	POLYTETRAFLUORETHYLENE (TEFLON)
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R OR RAD	RADIUS
RD	ROOF DRAIN
REF	REFERENCE
REG	REGULAR
REINF	REINFORCE; REINFORCING
REQ	REQUIRED
RET	RETAINING
REV	REVISION
RF	ROOF
RM	ROOM
RO	ROUGH OPENING
S	ELASTIC SECTION MODULUS
SAD	SEE ARCHITECTURAL DRAWINGS
SCHD;SCHED	SCHEDULE
SECT	SECTION
SEL	SELECT
SEP	SEPARATION
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SJ	SEISMIC JOINT, SIDE JACK
SLBB	SHORT LEGS BACK-TO-BACK
SMS	SHEET METAL SCREWS
SPCG	SPACING
SPCL	SPECIAL
SPCS	SPACES
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	SELECT STRUCTURAL
SSH	SHORT SLOTTED HOLES
STAGG	STAGGER
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SW	SHEAR WALL
SYM	SYMMETRICAL
Σ	SUM
(T) OR T	TOP
(T)	TRANSVERSE
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
T/	TOP OF
TB	TIE BEAM
TEMP	TEMPERATURE, TEMPORARY
THK	THICK
THRU	THROUGH
TL	TOTAL LOAD
TN	TOE NAIL
TOF	TOP OF FOOTING
TOGB	TOP OF GRADE BEAM
TOL	TOP OF LEDGER
TOS	TOP OF STEEL
TOSH	TOP OF SHEAR WALL
TOSL	TOP OF SLAB
TOW	TOP OF WALL
TRANSV	TRANSVERSE
TSG	TAPERED STEEL GIRDER
TYP	TYPICAL
UL	UNDERWRITERS' LABORATORY, INC.
UNO	UNLESS NOTED OTHERWISE
UT	ULTRASONIC TEST
(V)	VERTICAL
VERT OR V	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/C	WATER-CEMENT RATIO
W/O	WITHOUT
WF	WIDE FLANGE
WHT	WEIGHT
WP	WORK POINT
WWF	WELDED WIRE FABRIC

STRUCTURAL STEEL SHAPES

C	STD CHANNEL
HP	HP SHAPES
HSS	HOLLOW STRUCTURAL STEEL
L	ANGLES
M	M SHAPES
MC	MISC CHANNEL
PIPE#-STD	STANDARD PIPE
PIPE#-XSTRONG	EXTRA STRONG PIPE
PIPE#-XXSTRONG	DOUBLE EXTRA STRONG PIPE
S	S SHAPES
TS	TUBE SECTION
W	W SHAPES
WT, ST, MT	STRUCT TEES CUT FROM W, S, M SHAPES

INSTITUTIONS

ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWPB	AMERICAN WOOD PRESERVERS BUREAU
AWS	AMERICAN WELDING SOCIETY
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
DSA	DIVISION OF THE STATE ARCHITECT
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
ICC	INTERNATIONAL CODE COUNCIL
ICC-ER	ICC-ES LEGACY REPORT
ICC-ES	ICC EVALUATION SERVICE
ICC-ESR	ICC-ES REPORT
PCI	PRE-CAST CONCRETE INSTITUTE
PTI	POST-TENSION CONCRETE INSTITUTE
SJI	STEEL JOIST INSTITUTE
TPI	TRUSS PLATE INSTITUTE

SYMBOLS

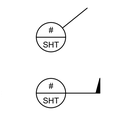
DETAIL NUMBER

SHEET NUMBER



DETAIL REFERENCE

SECTION REFERENCE



WALL ELEVATION



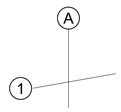
DATUM ELEVATION



REVISION & CLOUD



GRID SYSTEM



CONCRETE

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19A OF THE CODE AND WITH THE PROVISIONS OF ACI 318, LATEST EDITION.
2. REINFORCED CONCRETE IS DESIGNED BY THE "ULTIMATE STRENGTH DESIGN METHOD".
3. CONCRETE MIXES SHALL BE DESIGNED BY THE APPROVED TESTING LABORATORY AND APPROVED BY THE STRUCTURAL ENGINEER. THE COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE PROPORTIONED BASED ON CHAPTER 19A OF THE CODE.
4. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTH AND TYPES:

LOCATION IN STRUCTURE	STRENGTH (PSI)	DENSITY (PCF)	MAX W/C RATIO
ALL CONCRETE FOOTINGS, PILES, PILE CAPS	4000	150	0.50

5. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150, TYPE II.
6. AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C 33 AND PROJECT SPECIFICATIONS. EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.
7. CONCRETE MIXING OPERATION, ETC. SHALL CONFORM TO ASTM C 94.
8. PLACEMENT OF CONCRETE SHALL CONFORM TO CODE SECTION 1905A AND PROJECT SPECIFICATIONS. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE IS TO BE PLACED.
9. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.

CABLE SYSTEM

1. WIRE ROPE CLIPS SHALL BE GALVANIZED AND MEET FEDERAL SPECIFICATION FF-C-450, TYPE 1, CLASS I.
2. WIRE ROPE THIMBLES SHALL BE GALVANIZED HEAVY PATTERN AND MEET FEDERAL SPECIFICATION FF-T-276b TYPE III.
3. TURNBUCKLES SHALL BE FORGED GALVANIZED-STEEL AND MEET ASTM F1145-92 AND FEDERAL SPECIFICATION FF-T-791b, TYPE 1, FORM 1.
4. ALL CABLES SHALL BE PRESTRETCHED ZING COATED STRUCTURAL STEEL WIRE ROPE COMPLYING WITH ASTM A 603 WITH A MINIMUM MODULS OF ELASTICITY OF 20,000ksi.

REINFORCING STEEL (FOR CONCRETE)

1. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19A OF THE CODE, ASTM A615, GRADE 60 UNO. WHEN WELDING OF REINFORCING BARS OCCURS, BARS SHALL BE ASTM A706, GRADE 60 UNO.
2. BARS SHALL BE CLEAN OF RUST, GREASE, OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
3. REINFORCING BAR SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS. LAP ALL HORIZONTAL BARS AT CORNERS AND INTERSECTIONS. STAGGER ALL SPLICES UNLESS NOTED OTHERWISE ON PLANS.
4. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.
5. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE "A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.
6. MILL TEST REPORTS FOR GRADE 60 BARS SHALL BE SUBMITTED TO THE PROJECT INSPECTOR PRIOR TO PLACEMENT OF CONCRETE.
7. CONTINUOUS INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION DURING INSTALLATION OF REINFORCING STEEL.
8. ALL GRADE 60 REINFORCING STEEL SHALL BE CLEARLY MARKED TO DIFFERENTIATE THEM FROM GRADE 40 REINFORCING STEEL IF CONCURRENTLY ON SITE.
9. CONCRETE PROTECTION FOR REINFORCEMENT

CAST-IN-PLACE CONCRETE (NON-PRESTRESSED). THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MINIMUM COVER, IN.
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 6 THROUGH NO. 18 BAR	2
NO. 5 BAR, W31 OR D31 WIRE & SMALLER	1 1/2

ALUMINUM

1. STRUCTURAL ALUMINUM SHALL BE FABRICATED, ASSEMBLED, AND ERECTED IN ACCORDANCE WITH ALUMINUM DESIGN MANUAL 2020.
2. ALL WELDING OF ALUMINUM SHALL CONFORM WITH AWS D1.2.
3. ALUMINUM ALLOY GRADE SHALL BE AS FOLLOW;

NETTING POLES	6061-T6

4. DISSIMILAR METALS SHALL BE ISOLATED OR COATED TO INHIBIT GALVANIC CORROSION. WHERE IN CONTACT WITH ALUMINUM, STEEL GROUND PLATES AND STEEL BOLTS, NUTS, AND WASHERS SHALL BE HOT-DIP GALVANIZED (ASTM A123/ ASTM A153).
5. ALUMINUM SHALL BE COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELCTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

FOUNDATION

1. ALLOWABLE SOIL PRESSURE AND LATERAL EARTH PRESSURE BASED ON GEOTECHNICAL INVESTIGATION NO. 867.193 BY MILLER PACIFIC ENGINEERING GROUP, DATED DEC. 7, 2023.
2. FOOTING ARE DESIGNED BASED ON THE FOLLOWING INFORMATION:

ALLOWABLE BEARING **
ISOLATED FTGS = 2500 PSF (D+L)

PASSIVE EARTH PRESSURE**:
PASSIVE EARTH PRESSURE = 0 PCF (UPPER 2 FT)
50 PCF (BAY MUD)
200 PCF (ARTIFICIAL FILL)
750 PCF (WEATHERED BEDROCK)

** INDICATES THAT DESIGN VALUES MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC DEMAND LOADS.

3. CONTRACTOR TO PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE, IF REQUIRED.
4. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED AND SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.
5. EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. CONTRACTOR TO NOTIFY THE INSPECTOR WHEN INSPECTION OF EXCAVATION IS READY. INSPECTOR TO SUBMIT LETTER OF COMPLIANCE.
6. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE OR GROUT HAS ATTAINED FULL DESIGN STRENGTH. CONTRACTORS SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OF SUCH BRACING.
7. FOUNDATIONS SHALL BE PLACED ACCORDING TO DEPTHS SHOWN ON DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE INSPECTOR, FOUNDATION ELEVATIONS WILL BE ALTERED BY CHANGE ORDER.
8. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS IN ACCORDANCE WITH THE SOILS REPORT AND APPROVED BY THE SOILS ENGINEER. FLOODING WILL NOT BE PERMITTED. ALL FILLS USED TO SUPPORT FOUNDATIONS SHALL BE INSPECTED PER CODE SECTION 1705A.6 AND TABLE 1705A.6
9. ALL ABANDONED FOOTINGS, UTILITIES, ETC., SHALL BE REMOVED UNLESS NOTED OTHERWISE. NEW FOOTINGS MUST EXTEND INTO UNDISTURBED SOILS.
10. REFER TO GEOTECHNICAL INVESTIGATION REPORT FOR DEEP FOUNDATION NOTES FOR CAST-IN-DRILLED-HOLE AND AUGER-CAST PIER FOUNDATIONS.

STRUCTURAL NOTES

DESIGN CRITERIA

1. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES:

2022 CALIFORNIA BUILDING CODE (CBC) AND LATEST REVISIONS REFERRED TO HERE AS "THE CODE", AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF THE STATE ARCHITECT, AND THOSE CODES & STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.

2. WIND ANALYSIS PER CHAPTER 16A OF THE CODE

RISK CATEGORY	=	II
BASIC WIND SPEED	=	92 mph
WIND EXPOSURE	=	C

4. SEISMIC ANALYSIS PER CHAPTER 16A OF THE CODE UTILIZING THE FOLLOWING PROCEDURE:
- THE EQUIVALENT LATERAL FORCE ANALYSIS

RISK CATEGORY	= II
IMPORTANCE FACTOR	= 1.00
	S_S = 1.500
	S_1 = 0.600
SITE CLASS	= E
	S_{DS} = 1.200
	S_{D1} = 1.200
SEISMIC DESIGN CATEGORY	= D

GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
2. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
4. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
5. ASTM SPECIFICATIONS ON THE DRAWINGS SHALL BE OF THE LATEST REVISION.
6. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
7. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS, IF ANY, ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UNDERGROUND UTILITIES AND COORDINATING WITH THE REQUIREMENTS OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THE SITE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IF ANY CONDITIONS ARE DISCOVERED THAT REQUIRES FURTHER COORDINATION.

THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE THAT OCCURS DUE TO NOT FULLY LOCATING EXISTING UTILITIES.

8. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS BASED ON AVAILABLE KNOWLEDGE OF EXISTING STRUCTURE. CONTRACTOR SHALL VERIFY IN FIELD ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF THIS PROJECT. WHERE ACTUAL CONDITIONS ARE NOT IN ACCORDANCE WITH THE DRAWINGS PROVIDED, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY. CONTRACTOR SHALL ALIGN FOR SUFFICIENT BUDGET AND SCHEDULE CONTINGENCY TO ADDRESS EXISTING HIDDEN CONDITIONS.
9. ALL DEMOLITION SHALL BE PERFORMED IN SUCH A WAY AS NOT TO DAMAGE THE EXISTING STRUCTURAL ELEMENTS THAT ARE TO REMAIN IN THE FINISHED STRUCTURE. ANY PORTIONS OF STRUCTURE TO REMAIN THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPLACED AT NO ADDITIONAL COST. EXISTING STRUCTURAL ELEMENTS SHALL BE PROTECTED TO THE FULLEST EXTENT POSSIBLE, IN ORDER TO MITIGATE DAMAGE. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF ALL EXISTING STRUCTURAL ELEMENTS THAT ARE NECESSARY FOR THE COMPLETION OF ALL NEW WORK.

SHEET INDEX

SFS-1	GENERAL NOTES ABBREVIATIONS AND SYMBOLS
SFS-2	DETAILS

TOTAL OF 2 SHEETS

Project Specific Approval

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121720 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/7/2024

GHILOTTI FIELD
REDWOOD HIGH SCHOOL

395 DOHERTY DR, LARKSPUR, CA 94939

Owner

SPORTSFIELD SPECIALTIES
WWW.SPORTSFIELDSPECIALTIES.COM

41155 State Highway 10,
PO Box 231 Delhi, NY 13753

Issue/Revision

Issue No.	Rev. No.	Description	Date
		DSA SUBMITTAL	03/22/2024

kpff
18400 Von Karman Ave., Suite 600
Irvine, CA 92612
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www.kpff.com

Seal/Signature



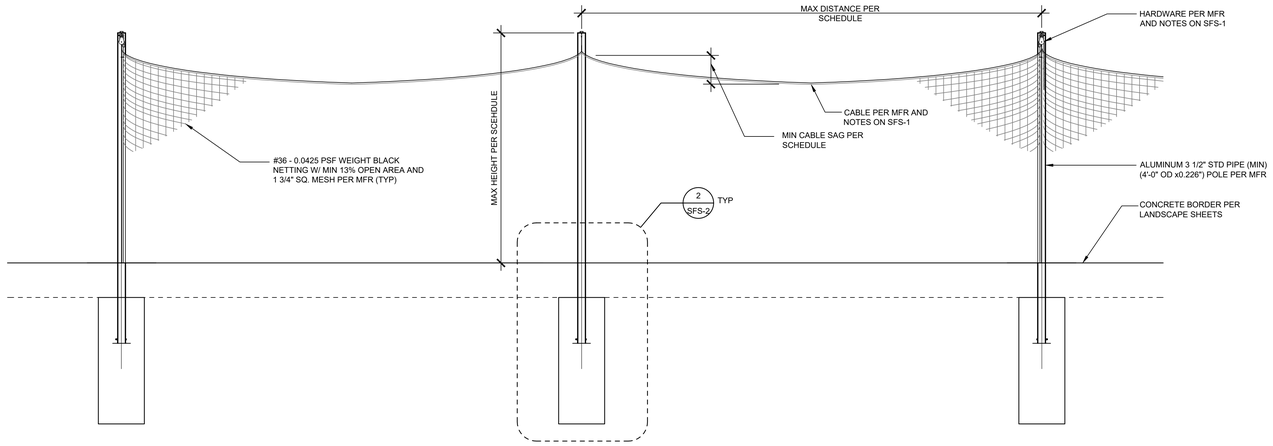
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GENERAL NOTES, ABBREVIATIONS AND SYMBOLS

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Drawn By: FJC	Scale:
Checked By: WT	Sheet Number: SFS-1
Date: 2024-03-22	

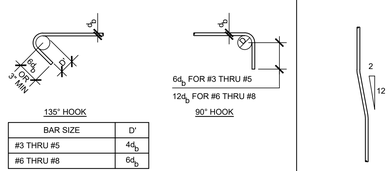
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POLE HEIGHT	MAX DISTANCE BTW POLES	CABLE SAG
10'-0"	20'-0"	1'-0"



NETTING POLE DETAIL

3/8" = 1'-0" | 1

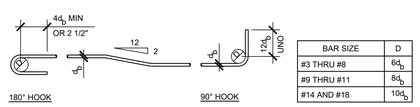


BAR SIZE	D'
#3 THRU #5	$4d_b$
#6 THRU #8	$6d_b$

D' = BEND DIAMETER

TIES & STIRRUPS HOOKS ONLY

TYPICAL COLUMN BAR OFFSET

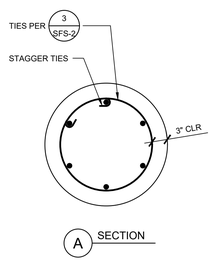


BAR SIZE	D
#3 THRU #8	$6d_b$
#9 THRU #11	$8d_b$
#14 AND #18	$10d_b$

D = BEND DIAMETER

REINFORCING BAR BENDING SCHEDULE

NTS | 3

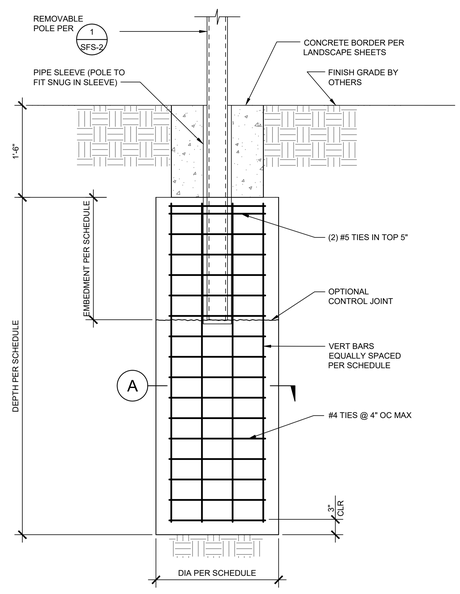


NOTE:

1. POLE FOOTINGS TO BE LOCATED ONLY WITHIN COMPACTED FILL. NOTIFY SEOR AND GEOTECHNICAL ENGINEER IMMEDIATELY IF POLE IS LOCATED WITHIN NATIVE BAY MUD.

2. USE CASINGS AS REQUIRED TO PREVENT SOIL CAVING. IF GROUND WATER IS ENCOUNTERED NOTIFY SEOR AND GEOTECHNICAL ENGINEER IMMEDIATELY.

3. PROVIDE EXPLORATORY BORING AT POLE FOOTING LOCATIONS AS REQUIRED PER GEOTECHNICAL REPORT.



COMPONENT	PILE DIAMETER	MIN POLE EMBEDMENT	PILE DEPTH	VERT BAR QUANTITY
10'-0" HIGH NETTING POLES	2'-0"	2'-0"	5'-6"	(6) #6

FOOTING DETAIL

1" = 1'-0" | 2

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Seal/Signature

PROFESSIONAL ENGINEER
STRUCTURAL
STATE OF CALIFORNIA
Exp. 3-31-26

Sheet Title:

DETAILS

Designed By: CA	Project Number: 2400124
Drawn By: FJC	Scale:
Checked By: WT	Sheet Number: SFS-2
Date: 2024-03-22	

Date: Aug 26, 2024, 3:14pm - Drawing: D:\Dimension Z\KPFF\Redwood HS Sportsfield\Project #2400124.00\SFS-2.dwg - Layout: SFS-2 - Printed By: RTR - Profile: KPFF-ARIAL - Job Name: SACRED HEART Sportsfield - PM: JS - PD: ELG
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