BID DOCUMENTS COVER SHEET

CONTRACT DOCUMENTS

FOR

C-4016 New Science Building – Increment 1 Site Work

AT

Contra Costa College
2600 Mission Bell Dr., San Pablo, CA 94806

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Consists of:

DSA Appl. #01-117149 Inc. 1

VOLUME 1

Architect:

SmithGroupJJR
301 Battery Street, 7th Floor
San Francisco, CA 94111
415.227.0100

October 17, 2018 (DSA Approval)
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STATE OF CALIFORNIA
DSABACK CHECK
Contra Costa Community College District
Contra Costa College
C-4016 New Science Building – Increment 1

SECTION 00007
SEALS PAGE

ARCHITECT: SMITHGROUP
Roxanne Malek
301 Battery Street, 7th Floor
San Francisco, Ca 94111
(415) 227-0100

CIVIL ENGINEER: BKF ENGINEERS
Dayne Johnson
1646 N. California Blvd, #400,
Walnut Creek, CA 94596
(925) 940-2200

ELECTRICAL ENGINEER: INTEGRAL GROUP
Vish Mahajan
427 13th Street
Oakland, CA 9461
(510) 663-2070

TELECOM & AV: TEECOM
Larry A Anderson
1333 Broadway Suite 601
Oakland, CA 94612-1906
510-250-6605

END OF SECTION 00007
## 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.

### NOTE:
This form is also available for projects submitted for review under the 2007, 2010, and 2013 CBC.

### INSTRUCTIONS:
Click a plus sign (+) before any category or subcategory to reveal additional tests and special inspections. A shaded box indicates a test or special inspection that may be required, depending on the scope of the construction and other issues. A shaded box can be clicked indicating your selection of that test. **Note:** A minus (-) on a category or subcategory heading indicates that it can be collapsed. However, any selections you may have made will be cleared. Click on the "COMPILE" button to show only the tests and inspections finally selected. **For more information on use of this form, see DSA-103.INSTR.**

### Note: References are to the 2016 edition of the California Building Code (CBC) unless otherwise noted.

### Table: List of Required Structural Tests & Special Inspections - 2016 CBC

#### SOILS

<table>
<thead>
<tr>
<th>REQUIRED</th>
<th>TEST OR SPECIAL INSPECTION</th>
<th>TYPE</th>
<th>PERFORMED BY</th>
<th>CODE REFERENCE AND NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>1. GENERAL:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Verify that:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• site has been prepared properly prior to placement of controlled fill and/or excavations for foundations,</td>
<td>Periodic</td>
<td>GE*</td>
<td>By geotechnical engineer or his or her qualified representative. (See Appendix for exemptions.)</td>
</tr>
<tr>
<td></td>
<td>• foundation excavations are extended to proper depth and have reached proper material, and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• materials below footings are adequate to achieve the design bearing capacity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>2. COMPACTED FILLS:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Table 1705A.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Verify use of proper materials, densities and inspect lift thicknesses, placement, and compaction during placement of fill.</td>
<td>Continuous</td>
<td>GE*</td>
<td>By geotechnical engineer or his or her qualified representative.</td>
</tr>
<tr>
<td>X</td>
<td>c. Test compaction of fill.</td>
<td>Test</td>
<td>LOR*</td>
<td>Under the supervision of the geotechnical engineer.</td>
</tr>
</tbody>
</table>

#### CONCRETE

| +        | Table 1705A.3, ACI 318-14 Sections 26.12 & 26.13 |

#### MASONRY

| +        | TMS 402-13/ACI 530-13/ASCE 6-13 Table 3.1.3 & TMS 602-13/ACI 530.1-13/ASCE 6-13 Table 5 |

#### STEEL, ALUMINUM

| +        | Table 1705A.2.1, AISC 303-10, AISC 360-10, AISC 341-10, AISC 358-10, AISI S100-07/S2-10 |

#### WOOD

#### OTHER

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**Note:** In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2016 CBC Sec. 1.9.2.2.
### List of required verified report(s):

<table>
<thead>
<tr>
<th>Key to Columns</th>
<th>1. Type -</th>
<th>2. Performed By -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>- Indicates that a continuous special inspection is required</td>
<td>- Indicates that the special inspection is to be performed by a registered geotechnical engineer or his or her authorized representative</td>
</tr>
<tr>
<td>Periodic</td>
<td>- Indicates that a periodic special inspection is required</td>
<td>LOR - Indicates that the test or inspection is to be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See section 4-335, 2013 CCR Title 24, Part 1.</td>
</tr>
<tr>
<td>Test</td>
<td>- Indicates that a test is required</td>
<td>SI - Indicates that the special inspection is to be performed by a special inspector</td>
</tr>
</tbody>
</table>

**Soils testing and Inspection: Geotechnical Verified Report - Form DSA-293**

**Roxanne Malek**  
Name of Architect or Engineer in general responsible charge

**David Bleiman**  
Name of Structural Engineer (When structural design has been delegated)

Signature of Architect or Structural Engineer:  
10/15/2018

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**Identification Stamp**

**DIV OF THE STATE ARCHITECT**

**APP. #** 01-117149

**AC** N/A  **F/LS** N/A  **SS**

**DATE**

---

**Approved**

**DIV. OF THE STATE ARCHITECT**

**APP. 01-117149**  **INC:** 1

**REVIEWED FOR**  
SS  **FLS**  ACS

**DATE:** 10/17/2018

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*In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2016 CBC Sec. 1.9.2.2.*
## Appendix: Work Exempt from DSA Requirements for Special Inspection or Structural Testing

Exempt items given in IR A-22 or the 2016 CBC (including DSA amendments) and those items identified below with an "X" by the design professional are NOT subject to DSA requirements for the structural tests or special inspections noted. Items marked as exempt shall be identified by either: 1) listing specific details/sheets noted in the spaces provided below OR 2) on the approved construction documents. The project inspector shall verify all construction complies with the approved construction documents.

<table>
<thead>
<tr>
<th>Exempted by</th>
<th>Exempted by Design Prof.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil:</td>
<td></td>
</tr>
<tr>
<td>1. Deep foundations acting as a cantilever footing designed based on minimum allowable pressures per 2016 CBC Table 1806A.2 and having no geotechnical report for the following types of structures: free standing sign, scrolling message sign, scoreboard, covered walkway or shade structure with dead load less than 5 psf and other light-weight structures of which the apex is less than 8’ above the highest adjacent grade.</td>
<td>X</td>
</tr>
<tr>
<td>2. Shallow foundations meeting the exception item #1 criteria specified in 2016 CBC Section 1803A.2.</td>
<td>X</td>
</tr>
<tr>
<td>(Optional) List details for applicable exempt items:</td>
<td></td>
</tr>
<tr>
<td>Welding:</td>
<td></td>
</tr>
<tr>
<td>1. Solid-clad and open-mesh gates with maximum leaf span or rolling section for rolling gates of 10’ and apex height less than 8'-0&quot; above lowest adjacent grade. When located above circulation or occupied space below, these gates are not located within 1.5x gate/fence height (max 8'-0&quot;) to the edge of floor or roof.</td>
<td>X</td>
</tr>
<tr>
<td>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); filet welds cannot be ground flush.</td>
<td>X</td>
</tr>
<tr>
<td>3. Non-structural interior cold-formed steel framing spanning less than 15'-0&quot;, such as in interior partitions, interior soffits, etc. supporting 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&quot; 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.</td>
<td>X</td>
</tr>
<tr>
<td>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 section 19, 19.1 and/or 19.2 of listing above).</td>
<td>X</td>
</tr>
<tr>
<td>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 section 19, 19.1 and/or 19.2 of listing above).</td>
<td>X</td>
</tr>
<tr>
<td>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 section 19, 19.1 and/or 19.2 of listing above).</td>
<td>X</td>
</tr>
<tr>
<td>7. Any support for exempt non-structural components given in CBC Section 1616A.1.18 (which replaces ASCE 7-10, Section 13.1.4) meeting the following: 1) when supported on a floor/roof, &lt;400# and resulting composite center of mass (including component's center of mass) &lt; 4’ above supporting floor/roof, 2) when hung from a wall or roof/floor, &lt;20# for discrete units or &lt;5 plf for distributed systems.</td>
<td>X</td>
</tr>
<tr>
<td>(Optional) List details for applicable exempt items:</td>
<td></td>
</tr>
</tbody>
</table>

* In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2016 CBC Sec. 1.9.2.2.
Optional) List details for applicable exempt items:

+ In the CODE REFERENCE AND NOTES column indicates DSA-SS/CC sections that may be used by community colleges, per 2016 CBC Sec. 1.9.2.2.
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SECTION 00350  NON-COLLUSION AFFIDAVIT
SECTION 00400  STATEMENT OF BIDDER’S QUALIFICATIONS
SECTION 00450  CERTIFICATION OF SITE VISIT
SECTION 00500  BID SECURITY FORMS
SECTION 00510  NOTICE OF AWARD
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SECTION 00650  NOTICE TO PROCEED
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SECTION 01030  ALTERNATES
SECTION 01050  FIELD ENGINEERING
SECTION 01140  WORK RESTRICTIONS
SECTION 01311  PROJECT MANAGEMENT AND COORDINATION
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NOT APPLICABLE

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
NOT APPLICABLE

DIVISION 08 - OPENINGS
NOT APPLICABLE

DRAFT

Contra Costa Community College District
Contra Costa College
C-4016 New Science Building – Increment 1
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NOT APPLICABLE

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PROJECT DIRECTORY

ARCHITECT: SMITHGROUPJJR
Roxanne Malek
301 Battery Street, 7th Floor
San Francisco, CA 94111
(415) 227-0100

LANDSCAPE ARCHITECT RHAA
Manuela King
225 Miller Ave.
Mill Valley, CA 94941
(415) 383-7900

CIVIL ENGINEER: BKF ENGINEERS
Dayne Johnson
1646 N. California Blvd, #400,
Walnut Creek, CA 94596
(925) 940-2200

Research Facilities Design LABORATORY PLANNING
Richard M. Heinz
3965 Fifth Avenue, Suite 400
San Diego, CA 92103
(619) 297-0159

STRUCTURAL ENGINEER RUTHERFORD + CHEKENE
David Bleiman
375 Beale Street, Suite 310
San Francisco, CA 94105
(415) 568-4400

MEP & SUSTAINABILITY INTEGRAL GROUP
Joseph O. Wenisch – M/P
Ray A. Juachon – Elec.
427 13th Street
Oakland, CA 9461
(510) 663-2070

AUDIO & VISUAL TEECOM
Andrew Gonzales
1333 Broadway Suite 601
Oakland, CA 94612-1906
510-250-6663
PLANETARIUM PLANNING
HELPING PLANETARIUM SUCCEED
Philip Groce
619 Orange Street
Macon, GA 31201
(418) 750-7870

OWNER:
Contra Costa Community College District
500 Court Street
Martinez, CA 94553
925-229-1000

FACILITIES PLANNING:
Ines Zildzic, Interim Chief Facilities Planner
925 - 229-6873

Ben Azarnoush, District Design Director
925 - 229-6844

Kathleen Halaszynski, Director of Construction Program Control
925-229-6846

Tracy Marcial, Energy Manager
925 - 229-6933

PROJECT MANAGER:
Ron Johnson
Critical Solutions, Inc.
1801 Oakland Blvd., Suite 300
Walnut Creek, CA 94596
925-944-5060

CONSTRUCTION MANAGER:
Critical Solutions, Inc.
1801 Oakland Blvd., Suite 300
Walnut Creek, CA 94596
925-944-5060

CCC – BUILDINGS & GROUNDS:
Bruce King, Buildings & Grounds Manager
510 - 215-4853

END OF SECTION 00015
SECTION 00016

CONTRA COSTA COLLEGE CAMPUS MAP

NOTE: ADA pathways are marked in bright red.

Pre-Bid Meeting

Contra Costa Community College District
Contra Costa College
C-4016 New Science Building – Increment 1
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NOTICE INVITING BIDS

C-4016 New Science Building – Increment 1, Site Work
Contra Costa College
2600 Mission Bell Drive, San Pablo, CA 94806

NOTICE IS HEREBY GIVEN that the Governing Board of the Contra Costa Community College District (District), Martinez, California, will receive sealed bid proposals for the furnishing of all labor, materials, equipment, transportation and services for the construction of the project entitled **C-4016 New Science Building – Increment 1, Site Work**.

**Construction Cost Estimate (Range):** $1 million to $1.3 million.

**CALIFORNIA LICENSE REQUIRED:** “A” - General Engineering or “B” - General Building.

**SCOPE:**
In general, the Work consists of the following, but not limited to: maintenance of temporary safety signage, wayfinding signage, roads, fencing, lighting and maintenance of storm water pollution prevention plan; partial demolition of some existing Health Sciences Building foundations; over-excavation and compaction; installation of below ground utilities; and all related work.

The District does not provide hardcopies of bid documents or reimburse cost of printing, delivery, or any expenses related to the bidding process.

For information directly from the Contra Costa Community College District, you may log in to the District Website: [http://www.4cd.edu/webapps/PurchasingViewBids/default.aspx](http://www.4cd.edu/webapps/PurchasingViewBids/default.aspx). Project documents available include, but are not limited to plans, specifications, addenda, bidders lists, bid results, etc., and can be viewed on this District webpage.

This project is subject to the terms and conditions of a Project Stabilization Agreement (PSA) executed between the Contra Costa Community College District and the Contra Costa County Building & Construction Trades Council (“Council”) and its affiliated local signatory unions.

All questions (RFIs) related to this project must be submitted electronically (email), and shall be directed to: Ron Johnson, Critical Solutions, Inc.
Email: bids@csipm.com

**NOTE:**
- Copy “C-4016 New Science Building – Increment 1, Site Work” into email SUBJECT line.
- Questions (RFIs) must be submitted within the body of the email. Do not include attachments.

Each bid shall be made on the BID PROPOSAL FORM (SECTION 00300), which is included in the Bid Documents and when submitted, shall be accompanied by a Bid Bond or Certified Cashier’s Check in the amount of 10% of bid (made payable to the Contra Costa Community College District). The District reserves the right to forfeit Bid Bond submitted for failure of the successful bidder to secure Payment and Performance Bonds.
IMPORTANT INFORMATION:
MANDATORY Pre-Bid Meeting and Job Walk: November 1, 2018, 10:00 AM
Building and Grounds Department – Conference Room
CONTRA COSTA COLLEGE (see map – SECTION 00016)
2600 Mission Bell Dr.
San Pablo, CA 94806

Last Date and Time for
Bidder’s Requests for Information: November 15, 2018
Last Day to issue Addendum: November 20, 2018
BIDS DUE no later than: November 27, 2018 2:00 PM
Bids Must Be Received at: CONTRA COSTA COMMUNITY COLLEGE DISTRICT (Lobby)
500 Court St.
Martinez, CA 94553
Attn: David Wetmore

Bids must be received by the District prior to the time and by the date noted above. Bids that are not received by the District prior to the time and by the date noted above will not be accepted, and will be returned to the Bidder unopened.

The successful bidder will be required to furnish a labor and material bond in an amount equal to one hundred percent (100%) of the contract price and a faithful performance bond in an amount equal to one hundred percent (100%) of the contract price, said bonds to be secured from a surety company acceptable to the Contra Costa Community College District and authorized to execute such surety in the State of California.

This project is a public works project and is subject to prevailing wage rate laws. A copy of the prevailing rates of wages is on file with the Contracts & Purchasing Office of the Contra Costa Community College District. Said rates of wages shall be included in the contract for the work by this reference.

Attention is directed to Section 4100 through 4113 of the Public Contract Code concerning Subcontractors, with emphasis on Section 4104, known as the “Subletting and Subcontracting Fair Practices Act, effective July 1, 2014.

Attention is directed to Labor Code Section 1725.5 regarding Department of Industrial Relations (DIR) contractor registration process including registration criteria and implementation of DIR registration requirements. Labor Code Section 1771.7 establishes contractor’s obligation to submit Certified Pay Roll (CPR) to the Department of Labor and Standards Enforcement (DLSE) and public works monitoring and enforcement. Labor Code Section 1773.3 requires the District to submit a PWC-100 to DIR for all public works contract awarded effective January 1, 2015.

Attention is directed to Section 00600, Construction Agreement, Article 5, and Section 00700, General Conditions, Article 8.4.1, regarding liquidated damages. Liquidated Damages shall be set for $1,000 Dollars for each calendar day the work is delayed beyond the Contract Substantial Completion date. The Governing Board of the Contra Costa Community College District reserves the right to reject any and all bids and/or waive any informality or irregularity in any bid received. No bidder may withdraw their Bid for a period of ninety (90) days after the date set for opening thereof.

END OF SECTION 00100
SECTION 00200
INSTRUCTIONS TO BIDDERS

1.1 ISSUING OF DOCUMENTS
   A. Bidding Documents may be examined at the Contra Costa Community College District, 500 Court Street, Martinez, CA 94553. By Appointment: Georgette Stewart, Facilities Department, phone: (925) 229-6847.

1.2 QUALIFICATIONS OF BIDDERS
   A. Bidders may be required to furnish evidence satisfactory to the District and the Architect that he has sufficient means and has had sufficient experience in the class of work called for to enable him to complete the Contract in a satisfactory manner.
   B. Bidders shall be Contractors properly licensed in accordance with the laws of the State of California.
   C. The successful Bidder shall furnish satisfactory Certificates of Insurance coverage as specified in the Contract Documents.

1.3 RECEIPT AND OPENING OF BIDS
   A. Contra Costa Community College District hereinafter referred to as the District, will receive Bids at the same time and place specified in the Notice inviting Bids.
   B. Complete the Bid Form included in the Project Manual.
   C. The envelopes containing the Bids shall be sealed, addressed to the District, and designated as “C-4016 New Science Building – Increment 1, Site Work, Contra Costa Community College District”. The envelope shall contain the name and address of the Bidder.
   D. Bids that are mailed shall have the previously described envelope placed inside an envelope addressed to: CONTRA COSTA COMMUNITY COLLEGE DISTRICT, 500 Court Street, Martinez, CA 94553, ATTENTION: JOVAN ESPRIT, Contracts Manager. Bids should be mailed in time to be received prior to the time set forth in the Advertisement for Bids.
   E. Bids which are conditional (or which make alterations, omissions, or reservations to the terms of the Bidding Documents) may be rejected as non-responsive.
   F. All monetary figures are required, both in writing and in numerals. In event of conflict between written quotations and numerical quotations, written quotations shall govern.
   G. Type or print all bid data legibly in ink except signatures which shall be in script. Mistakes may be crossed out and corrections inserted, if each is initialed in ink by signer of Bid.
   H. Bidder’s business address and signature shall be on the Bid. A Bid by a partnership shall furnish the full names of partners and be signed in the partnership name by one member of the partnership, or by authorized representative, followed by the signature and designation of the person signing. Bids by corporations, with corporate seal affixed, shall be signed with the legal name of the corporation followed by the name of the state of incorporation and by the signature and designation of the person authorized to bind it to the matter. The name of each person signing shall also be typed or printed below the respective signatures. When required by the District, satisfactory evidence of authority of the office signing in behalf of the corporation shall be furnished.
1. No Bids will be received after the date and time set forth in the Notice Inviting Bids.

1.4 BID SECURITY
A. Submit with the Bid a Bid Security in the amount of 10 percent (10%) of the Bid.
B. The District reserves the right to forfeit the Bid Bond submitted for failure of the successful bidder to secure Payment & Performance Bonds.

1.5 SURETY BONDS
A. The successful Bidder shall furnish a Labor and Material Payment Bond in the amount equal to one hundred percent (100%) of the Contract Price and a faithful Performance Bond in the amount equal to 100 percent (100%) of the Contract Price as security for the successful performance of the work and payment of persons performing labor and furnishing materials. The Bonds shall be executed by a surety company or companies acceptable to the District and authorized to execute such in the State in which the Project is located and shall be furnished within 10 days after Notice of Acceptance of said Bid. Surety shall be made in favor of the District and shall cover the guarantee periods as well as the construction period.

1.6 WITHDRAWAL OR REVISIONS OF BID
A. This Bid may be withdrawn or revised prior to the scheduled time for receipt. Bids not withdrawn prior to the scheduled time for receipt may not be withdrawn for a period of 90 days.

1.7 BID PROTESTS
A. Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest.
B. Bidder may file a protest with the District against the Bid of other Bidder or Bidders (“Bid Protest”) subject to the provisions of this Article. The procedures and time limits set forth in this Article are mandatory and are a Bidder’s sole and exclusive remedy in protesting other Bidders’ bids. Failure to comply with these procedures shall constitute a waiver of any right to pursue a Bid Protest, or to contest the District’s award of the contract for the work that is the subject of the Bid, in any legal proceeding before any authority with jurisdiction.
C. Bid Protests and Responses shall be governed by the following time limitations:
1. Bidder must deliver any Bid Protest to the District in writing before 2:00PM, five (5) working days after the date of bid opening. The District will reject any Bid Protest not received by the District by this deadline. Bidder must concurrently deliver a copy of its Bid Protest to all Bidders against whose Bids the Bid Protest is directed. The Bidder must include with its Bid Protest written proof to the District’s satisfaction that Bidder has delivered a copy of its Bid Protest to the other Bidder whose bid is the subject of the Bid Protest.
2. A Bidder whose Bid is the subject of a Bid Protest must deliver its written response, if any, (“Response”) to the District, before 2:00PM, five (5) working days after the date of bid opening. The District will reject any Response not received by the District by this deadline.
D. Delivery of Bid Protest or Response:
1. Bidder may deliver a Bid Protest to the District by personal delivery or electronic transmission such as by facsimile. Bidder is solely responsible for ensuring that the District receives any Bid Protest or Response by the deadlines set forth herein.

2. The District will not consider Bid Protests or Responses by telephone conversation or any other non-written communication.

3. Bidder shall submit any Bid Protest or Response to: David Wetmore, Director of Purchasing and Contract Services, Contra Costa Community College District, 500 Court Street, Martinez, CA 94553, Facsimile: 925-370-7512.

E. Content of Bid Protest:
   1. A Bid Protest must state the basis for the protest and provide supporting evidence.
   2. A Bid Protest must refer to the specific portion of the Bid that forms the basis of the protest.
   3. A Bid Protest must include the name, address, and telephone number of the person representing the protesting Bidder.
   4. A Bid Protest must be clearly identified as a Bid Protest.

1.8 AWARD AND REJECTION OF BIDS
A. In awarding or rejecting Bids, the District reserves the following rights:
   1. Identification of successful Bidder will not be determined at time of opening Bids.
   2. To obtain opinion of counsel on legality and sufficiency of bids.
   3. To reject all Bids, to re-bid, or waive irregularities or informalities in a Bid, and to accept or reject alternates.
   4. Request proof that the successful Bidder can provide performance and payment bonds as required.

1.9 EXAMINE DOCUMENTS AND VISIT SITE
A. Before submitting a Bid, the Bidder shall examine the Bidding Documents, visit the site of the work, attend the required site visit arranged by the District and obtain Certification of Attendance signed by the District, ascertain existing conditions and limitations, including those of labor, and include in the Bid a sum to cover the cost of all items described in the Contract Documents.

B. No consideration will be granted for alleged misunderstanding of the materials to be furnished or work to be done. The tender of a Bid carries with it the agreement to terms and conditions referred to in the Contract Documents.

1.10 DISCREPANCIES, AMBIGUITIES, OR CONFLICTS
A. If the Bidder is in doubt as to the true meaning of any part of the Contract Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Contract Documents with applicable rules, regulations, ordinances and/or laws, a written request for an interpretation or correction thereof must be submitted to the District’s Contract Manager. Bidders are solely responsible for submitting to District’s Contract Manager such request. Ambiguities or inconsistencies arising as a result of separation of sections or portions of the drawings or specifications by or for subcontractor bidding shall not relieve the Contractor for providing the complete Work without increase to or adjustment in the Contract Price or the
Time for performance. Interpretations or corrections of the Contract Documents will be by written addendum issued by the Architect. No person is authorized to render an oral interpretation or correction of any portion of the Contract Documents to any Bidder, and no Bidder is authorized to rely on any such oral interpretation or correction. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect or conflict therein.

1.11 ADDENDA
   A. Cost for work included in any Addenda issued during the time of bidding shall be included in the Bid, and will become a part of the Contract. List Addenda received as indicated on the Bid Form.

1.12 FORM OF AGREEMENT
   A. The form of agreement to be used for the Contract is provided by the District and is included in the Project Manual.

1.13 AWARD OF CONTRACT
   A. The District will be allowed a period of ninety (90) days after Bid Opening Date for evaluating the Bids.
   B. Bidders of record will be notified of the results of the District’s evaluation of bids and Award of Contract, if any.
   C. The contractor shall begin work within ten (10) calendar days of receipt of Notice to Proceed.

END OF SECTION 00200
SECTION 00210
INFORMATION AVAILABLE TO BIDDERS

PART 1 - REPORT AND INFORMATION

1.1 Existence of reports, record drawings, and utility surveys: Contra Costa Community College District, its consultants, and prior contractors may have collected documents providing a general description of the site and conditions of the work. These documents may consist of geotechnical reports for and around the site, record drawings, utility drawings, and information regarding underground utilities. These reports, documents and other information are not part of the Contract Documents and do not show new work to be constructed, rather, they show existing conditions that Contractor may have to address as part of its construction planning.

1.2 Available Documentation: The following existing documentation is available for review through District office for this project:

A. Campus Utilities Maps, and Topographic Surveys


C. Geologic and Seismic Hazards Assessment Report C-4016 New Science Building, Contra Costa College, by Kleinfelder, dated October 20, 2017


E. Kleinfelder Response to Comments and Addendum Letter No. 2, Temporary Shoring and use of Native Soil as Backfill, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California, dated March 14, 2018; Revised Date: June 14, 2018.

F. Kleinfelder Addendum #3 - Bearing Capacity Factor of Safety Clarification, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California, dated August 16, 2018.

G. AS-BUILT DRAWINGS (FOR REFERENCE – these buildings were recently demolished in Phase 1)
   1. Architectural Barrier Removal Drawings, 1995
   2. Humanities Annex Drawings, 1965
   3. Health Sciences Building Drawings, 1972


1.3 Contractor shall acknowledge and accept that the documents are not a part of the Contract Documents and are made available to bidders for reference only. The District and its representatives are not responsible for any and all discrepancies between the documents and
the existing and actual as-built conditions, and do not guarantee the accuracy of the documents.

1.4 The District and Architect assume no responsibility for the completeness or accuracy of the documents or the records compiled there from and the interpretations made from the documents. There is no express or implied guarantee that the conditions indicated in the documents are representative of those existing throughout the building and/or site Conditions differing substantially from those indicated may be encountered.

END OF SECTION 00210
SECTION 00300
BID PROPOSAL FORM

PROJECT NUMBER / NAME:  C-4016 New Science Building – Increment 1, Site Work

CAMPUS / LOCATION:  Contra Costa College, 2600 Mission Bell Drive, San Pablo, CA. 94806

DISTRICT:  CONTRA COSTA COMMUNITY COLLEGE DISTRICT
500 Court St, Martinez, CA 94553

Herein Referred to as "District"

1. INTRODUCTION

A. The Bidder proposes to perform the Work for the Contract Sum and within the proposed Contract Time, based upon an examination of the site and the Bid and Contract Documents.

B. The Bidder certifies this Bid is submitted in good faith.

C. The Bidder agrees that the Contract Sum and other proposed terms will be considered in evaluating Bids and may be negotiated and adjusted before awarding of Contract.

D. The signed copy of the Certification of the Visit to the Site shall be attached to the Bid Form Submittal.

E. A fully executed Statement of Bidder's Qualifications signed by an authorized officer of the Bidder submitting the Bid shall be attached to the Bid Form.

F. A fully executed Non-Collusion Affidavit signed by an authorized officer of the Bidder submitting Bid shall be attached to the Bid Form.

G. The District shall award the contract to the lowest responsive and responsible Bidder. The evaluation of the low bid shall be based on the total of Item 2.A Base Bid.

H. The District reserves the right to award the Additive/Deductive Alternates, if any, through change orders as budget allows within 30 calendar days after the Award of Contract.

2. CONTRACT SUM

A. BASE BID
   For labor, materials, bonds, fixtures, equipment, tools, transportation, services, sales taxes, and other costs necessary to complete the general construction in accordance with the Contract Documents, for a stipulated Contract Sum in the amount of:

   ________________________________________________ Dollars ($____________________ )


Contra Costa Community College District  Section 00300 - Page 1 of 5
Contra Costa College                Bid Proposal Form
C-4016 New Science Building – Increment 1
3. ADD ALTERNATES

A. None

____________________________________________Dollars ($__________________________ )

4. COMPLETION TIME

A. For establishing the Date of Final Completion, the contract time for the Base Bid shall be as indicated in Section 00600, Construction Agreement. This time may be subject to modification to facilitate the work, as mutually agreed upon at a later date.

B. The Bidder certifies that the Bid is based on the Contract Time for completion as stated in Section 00600, Construction Agreement. Bidder further certifies that the Base Bid amount is sufficient to cover all labor, materials, central office and construction site overhead, profit, and all other costs related to the completion of the Project for the entire Project construction time for both the General Contractor and all Subcontractors, as stated above in paragraphs 2 and 3.

5. ADDENDA

A. The Bidder acknowledges receipt of the following Addenda, and certifies the Bid has provided for all modifications and considerations required therein.

None [    ]

Addendum No.: _______ dated ________________
Addendum No.: _______ dated ________________
Addendum No.: _______ dated ________________
Addendum No.: _______ dated ________________

B. List of Additional Addenda Attached: Yes [    ] No. [    ].

6. DESIGNATION OF SUBCONTRACTORS

A. The Bidder has set forth a complete list indicating the type of work, name, and business address of each Subcontractor who will perform work in excess of one-half of one percent of the Contract Sum.

B. Any portion of the work in excess of the specified amount having no designated Subcontractor shall be performed by the Bidder.

C. Substitution of listed Subcontractors will not be permitted unless approved in advance by the District.

D. Prior to signing the Contract, the District reserves the right to reject any listed Subcontractor.
<table>
<thead>
<tr>
<th>Type of Work</th>
<th>Subcontractor's Name</th>
<th>Business Address/Phone</th>
<th>CSLB License # and DIR Registration #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<td>3</td>
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</tbody>
</table>

E. Complete list of Subcontractors is attached: [ ] Yes [ ] No
F. Continuation list of Subcontractors is attached: [ ] Yes [ ] No

7. ACCEPTANCE AND AWARD

A. The District reserves the right to reject this Bid and to negotiate changes before or after execution of the Contract. This Bid shall remain open and shall not be withdrawn for a period of 90 days after Bid Opening date.

B. If written notice of acceptance of this Bid is mailed or delivered to the Bidder within 90 days after the date set for the receipt of this Bid, or other time before it is withdrawn, the Bidder will execute and deliver to the District a Contract prepared by District with the required Surety Bonds and Certificates of Insurance, within 10 days after personal delivery or deposit in the mail of the notification of acceptance.

C. Notice of acceptance or request for additional information may be addressed to the Bidder at the address provided.

8. BID SECURITY

A. The required 10 percent (10%) Bid Security for this Bid is attached in the form of:

( ) Bid Bond Issued By: ________________________________

( ) Certified or Cashier's Check No. ________________________________

Issued by: ________________________________

9. BIDDER'S BUSINESS INFORMATION

A. Individual [ ]: ________________________________
Personal Name: ________________________________

Business Name: ________________________________

Address: _________________________________________

___________ Zip Code: __________

Telephone: ________________________________________

Fax Number: ________________________________________

B. Partnership [ ]: ________________________________

Co-partners’ Names: ________________________________

Business Name: ________________________________

Address: _________________________________________

___________ Zip Code: __________

Telephone: ________________________________________

Fax Number: ________________________________________

C. Corporation [ ]: ________________________________

Firm Name: ________________________________

Address: _________________________________________

___________ Zip Code: __________

Telephone: ________________________________________

Fax Number: ________________________________________

State of Incorporation: ________________________________

President: ________________________________________

Secretary: ________________________________________

Treasurer: ________________________________________

Manager: ________________________________________
D. **Power of Attorney:**

Name: ____________________________  
Title: ____________________________

E. **Contractor License No.** _________  State of ____________________________

F. Bidder is submitting this proposal on behalf of a Joint Venture. Names, license numbers, and relevant information are given on a separate attachment: Yes [ ] No [ ].

G. Upon request, furnish appropriate documentation to substantiate and/or support the data given.

10. The undersigned hereby certifies under penalty of perjury under the laws of the State of California that all the information submitted by the Bidder in connection with this Bid and all the representations herein made are true and correct.

Executed this day of ____________________________

<table>
<thead>
<tr>
<th>CSLB License No</th>
<th>Expiration Date</th>
<th>DIR Registration No.</th>
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<td>____________________________</td>
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</tbody>
</table>

Firm Name

__________________________
Signature

__________________________
By (Print or Type Name)

__________________________
Title

End of Section 00300
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NONCOLLUSION AFFIDAVIT
(TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID)

State of California
County of Contra Costa

______________________________________________________, being first duly sworn, deposes and says that he or she is of __________________________________________, the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

Date: _______________________________Signature: __________________________________________

State of California
County of Contra Costa

On ____________________________, before me, ____________________________, Notary Public, personally appeared __________________________________________, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal.

Date: _______________________________Signature: __________________________________________

[SEAL]

END OF SECTION 00350
Contra Costa Community College District (District), in accordance with Public Contract Code Section 20651.5, requires each prospective bidder for a contract, as described under Section 20651, to complete and submit to the District a standardized questionnaire and financial statement in a form specified by the District, including a complete statement of the prospective bidder’s financial ability and experience in performing public works. The questionnaire and financial statement shall be verified under oath by the bidder in the manner in which civil pleadings in civil actions are verified. The questionnaire responses of prospective bidders and their financial statements shall not be deemed public records and shall not be open to public inspection. All information requested must be provided and be current as of the date of the Bid.

I, ________________________________________________ being first duly sworn, depose and say:

(Name)

I am the ___________________________ of __________________________________

(Title)      (Company / Entity)

Firm Name: _____________________________________ Check One: □ Corporation

(as it appears on license) □ Partnership

Contact Person: ____________________________________ □ Sole Proprietor

Address: ________________________________________ □ Joint Venture

Phone: ___________________________ Fax: ___________________________

Email: ___________________________ Tax ID No.: __________________________

If firm is a sole proprietor or partnership:

Owner(s) of Company __________________________________________

Contractor’s License Number(s): (California State License Board Classification)

________________________________________

________________________________________

________________________________________

Contra Costa Community College District
Contra Costa College
C-4016 New Science Building – Increment 1

Section 00400 - Page 1 of 10
Statement of Bidder’s Qualifications
For Bidders That Are Corporations:

1a. Date incorporated: ________________________________

1b. Under the laws of what state: ________________________________

1c. Provide all the following information for each person who is either (a) an officer of the corporation (president, vice president, secretary, treasurer), or (b) the owner of at least ten per cent of the corporation’s stock.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Years with Company</th>
<th>% Ownership</th>
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1d. Identify every construction firm that any person listed above has been associated with (as owner, general partner, limited partner or officer) at any time during the last five years.

**NOTE:** For this question, “owner” and “partner” refer to ownership of ten per cent or more of the business, or 10 per cent or more of its stock, if the business is a corporation.

<table>
<thead>
<tr>
<th>Person’s Name</th>
<th>Construction Firm</th>
<th>Dates of Person’s Participation with Firm</th>
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</table>
**For Bidders That Are Partnerships:**

1a. Date of formation: ____________________________

1b. Under the laws of what state: ________________________

1c. Provide all the following information for each partner who owns 10 per cent or more of the firm.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Years with Partnership</th>
<th>% Ownership</th>
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</table>

1d. Identify every construction company that any partner has been associated with (as owner, general partner, limited partner or officer) at any time during the last five years.

**NOTE:** For this question, “owner” and “partner” refer to ownership of ten per cent or more of the business, or ten per cent or more of its stock, if the business is a corporation.

<table>
<thead>
<tr>
<th>Person’s Name</th>
<th>Construction Company</th>
<th>Dates of Person’s Participation with Company</th>
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Contra Costa Community College District
Contra Costa College
C-4016 New Science Building – Increment 1
For Bidders That Are Sole Proprietorships:

1a. Date of commencement of business. __________________________

1b. Tax ID number of company owner __________________________

1c. Identify every construction firm that the business owner has been associated with (as owner, general partner, limited partner or officer) at any time during the last five years.

**NOTE:** For this question, “owner” and “partner” refer to ownership of ten per cent or more of the business, or ten per cent or more of its stock, if the business is a corporation.

<table>
<thead>
<tr>
<th>Person’s Name</th>
<th>Construction Company</th>
<th>Dates of Person’s Participation with Company</th>
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For Bidders That Intend to Make a Bid as Part of a Joint Venture:

1a. Date of commencement of joint venture. __________________________

1b. Provide all of the following information for each firm that is a member of the joint venture that expects to bid on one or more projects:

<table>
<thead>
<tr>
<th>Name of Firm</th>
<th>% Ownership of Joint Venture</th>
</tr>
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<tbody>
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</table>
For All Bidders

2. Has there been any change in ownership of the firm at any time during the last five years?  
   NOTE: A corporation whose shares are publicly traded is not required to answer this question.  
   □ Yes □ No  
   If “yes,” explain on a separate signed page (referring to this question).

3. Is the firm a subsidiary, parent, holding company or affiliate of another construction firm?  
   NOTE: Include information about other firms if one firm owns 50 percent or more of another,  
   or if an owner, partner, or officer of your firm holds a similar position in another firm.  
   □ Yes □ No  
   If “yes,” explain on a separate signed page (referring to this question).

4. Are any corporate officers, partners or owners connected to any other construction firms?  
   NOTE: Include information about other firms if an owner, partner, or officer of your firm  
   holds a similar position in another firm.  
   □ Yes □ No  
   If “yes,” explain on a separate signed page (referring to this question).

5. List all California construction license numbers, classifications and expiration dates of the  
   California contractor licenses held by your firm:  
   ______________________________________  
   ______________________________________  
   If more space is needed add a separate signed page (referring to this question).

6. If any of your firm’s license(s) are held in the name of a corporation or partnership, list below the  
   names of the qualifying individual(s) listed on the CSLB records who meet(s) the experience and  
   examination requirements for each license.  
   ______________________________________  
   ______________________________________  
   If more space is needed add a separate signed page (referring to this question).

7. Has your firm changed names or license number in the past five (5) years?  
   □ Yes □ No  
   If “yes,” explain on a separate signed page, including the reason for the change, and all former  
   names under which the firm has conducted business.

8. Has any owner, partner or (for corporations) officer of your firm operated another construction  
   firm under any other name in the last five (5) years?  
   □ Yes □ No  
   If “yes,” explain on a separate signed page (referring to this question), including the reason for  
   the change.

9. Have you attached your latest copy of a REVIEWED OR AUDITED financial statement with  
   accompanying notes and supplemental information?
10. Is the attached Financial Statement for the identical organization of the Bidder?
   □ Yes □ No
   NOTE: A financial statement that is not either reviewed or audited is not acceptable. A letter verifying availability of a line of credit may also be attached; however, it will be considered as supplemental information only, and is not a substitute for the required financial statement.

   If “no”, explain the relationship and financial responsibility of the organization whose financial statement of provided (i.e., parent/subsidiary, etc.)

   If more space is needed add a separate signed page (referring to this question).

11. Contractor possesses a VALID AND CURRENT California Contractor’s license for the project or projects for which it intends to submit a bid.
   □ Yes □ No

12. List the categories of work your firm typically performs with its own forces, and check the adjacent boxes of those categories of work that will be self-performed on this project
   □ ____________________________   □ ____________________________
   □ ____________________________   □ ____________________________
   □ ____________________________   □ ____________________________

13. On a separate signed page (referring to this question), list all construction projects your organization has in progress and for each project listed, state; (i) a general description of the work performed or to be performed by your organization; (ii) the owner's name, name of the owner's representative, the owner's address and telephone number; (iii) the project architect, address and telephone number; (iv) percent presently completed and (v) the scheduled completion date.

14. On a separate signed page (referring to this question), list all construction projects completed by your organization in the past three years, and for each project, state: (i) a general description of the work performed by your organization on the project; (ii) the owner's name, name of the owner's representative, the owner's address and telephone number; (iii) the initial and final contract amount; (iv) the initial and final dates of completion; and (v) whether the project was completed within contract time and contract budget.

15. Has a claim or other demand ever been made against your organization’s California Contractors License Bond?
   □ Yes □ No
   If yes, on a separate signed page (referring to this question), state the following: (i) the name, address and telephone number of each person or entity making claim or demand; (ii) the date of each claim or demand; (iii) the circumstances giving rise to each such claim or demand; and (iv) the disposition of each such claim or demand.
16. Has a complaint ever been filed against your organization’s California Contractors License with the California Contractors State License Board (CSLB)?
   □ Yes  □ No
   If yes, on a separate signed page (referring to this question), state the following for each complaint: (i) the name, address and telephone number of each person or entity making the complaint; (ii) the date of each complaint; (iii) the circumstances giving rise to each such complaint; and (iv) the disposition of each such complaint, including without limitation, any disciplinary or other action imposed or taken by the California Contractors State License Board as a result of any such complaint.

17. Have any lawsuits or other proceedings ever been brought against your organization or any of its principals or officers in connection with any construction contract or construction project?
   □ Yes  □ No
   If “yes,” on a separate signed page (referring to this question) describe the circumstances, the amount or relief sought and the disposition of each such lawsuit or other proceeding.

18. Has your organization ever filed a lawsuit or initiated other proceedings in connection with any construction contract or construction project?
   □ Yes  □ No
   If “yes,” on a separate signed page (referring to this question) describe the circumstances, the amount or relief sought and the disposition of each such lawsuit or other proceeding.

19. Are there any judgments, orders or arbitration awards pending, outstanding or by which your organization or any of its officers or principals are bound by?
   □ Yes  □ No
   If “yes,” on a separate signed page (referring to this question) describe each such judgment, order or arbitration award and the present status of the satisfaction or discharge thereof.

20. Has any California State License Board (CSLB) license held by your firm, or its Responsible Managing Employee (RME) or Responsible Managing Officer (RMO) been suspended or revoked within the last five (5) years?
   □ Yes  □ No

21. Has your organization ever failed to complete a construction contract?
   □ Yes  □ No
   If “yes,” on a separate signed page (referring to this question) state the following; (i) describe each such contract; (ii) the owner’s name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the failure to complete.

22. Has your organization ever been declared in default of a construction contract?
   □ Yes  □ No
   If “yes,” on a separate signed page (referring to this question) state the following: (i) describe each such contract; (ii) the owner’s name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the declaration of default.

23. Has a claim or other demand ever been asserted against any Bid Bond, Performance Bond or Labor and Material Payment Bond posted by your organization in connection with any construction contract or your submittal of a bid or proposal on a construction contract?
24. At the time of submitting this qualification form, is your firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either Labor Code section 1777.1 or Labor Code section 1777.7?

☐ Yes   ☐ No

If “yes,” on a separate signed page (referring to this question) state the following: (i) state the name, address and telephone number of each such claimant; (ii) the date of the claim; and (iii) the disposition thereof.

25. At any time during the last five (5) years, has your firm, or any of its owners, officers, or partners been convicted of a crime involving the awarding of a contract of a government or Public construction project, or the bidding or performance of a government or Public contract?

☐ Yes   ☐ No

26. Has your firm or any of its owners, officers, or partners ever been convicted of a crime involving any federal, state, or local law related to bidding, awarding, or performance of any construction contract?

☐ Yes   ☐ No

27. Has your firm or any of its owners, officers or partners ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity in any way related to any construction contract?

☐ Yes   ☐ No

28. Is your firm CURRENTLY the debtor in a bankruptcy case?

☐ Yes   ☐ No

29. In the last twelve (12) months has your firm, or any firm with which any of your company’s owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing, any government agency or public works project for any reason?

NOTE: “Associated with” refers to another construction firm in which an owner, partner or officer of your firm held a similar position.

☐ Yes   ☐ No

If YES, on a separate signed page (referring to this question) state the following: (i) describe each such project; (ii) the owner’s name, address and telephone number; (iii) the circumstances and specific reason given for being prevented from bidding on or completing the project.

30. Has your organization ever refused to sign a contract awarded to it?

☐ Yes   ☐ No

If YES, on a separate signed page (referring to this question) state the following: (i) describe each such contract; (ii) the owner’s name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the refusal to sign the contract.

31. In the last twelve (12) months has your firm been denied an award of a public works contract based on a finding by a public agency that your company was NOT a responsible bidder?

☐ Yes   ☐ No
If YES, on a separate signed page (referring to this question) state the following: (i) describe each such contract; (ii) the owner's name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the determination.

32. Contractor has CURRENT workers' compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code section 3700 et. seq.
   ☐ Yes     ☐ No
   ☐ Contractor is exempt from this requirement, because it has no employees

33. Within the last two (2) years has there ever been a period when your firm had employees but was without Workers' Compensation insurance or state-approved self-insurance?
   ☐ Yes     ☐ No

34. Attach to this statement true and correct copies of the following:

   34.1 Your organization's California Contractor's License (the copy must clearly and legibly show: (i) the licensee name; (ii) the expiration date; and (iii) the classification(s) of licensure).

   34.2 The Contractor's License Bond posted by your organization in connection with your organization's California Contractor's License pursuant to California Business & Professions Code 7071.5 and 7071.6 (the copy must clearly and legibly show; (i) the Bond number or other information sufficient for identification; (ii) the name, address and telephone number of the Surety on the Bond; (iii) the signature of the individual executing the Bond on behalf of the Surety and if such individual's authority is conferred by a power of attorney or by such individual's authority is conferred by a power of attorney or by such individual's designation as an attorney in fact on behalf of the Surety, include a clear and legible copy of such power of attorney or attorney in fact designation; (iv) the principal on such Bond; and (v) the expiration date of such Bond).

   34.3 If your organization's California Contractor's License is issued by virtue of the qualification of a responsible managing employee or responsible managing officer of your organization, the Qualifier's Bond, if required pursuant to California business & Professions Code 7071.9 (the copy must clearly and legibly show; (i) the bond number or other information sufficient for identification; (ii) the name, address and telephone number of the Surety on the Bond; (iii) the signature of the individual executing the Bond on behalf of the Surety and if such individual's authority is conferred by a power of attorney or by such individual's designation as an attorney in fact on behalf of the Surety, include a clear and legible copy of such power of attorney or attorney in fact designation; (iv) the principal on such Bond; and (v) the expiration date of such Bond).
35. Certification

The responses to each and all of the foregoing are complete and accurate; there are no omissions of material fact or information such that would render any of the foregoing false or misleading; there are no misstatements of fact in any of the foregoing.

I, the undersigned, certify and declare that I have read all the foregoing answers to this Section and know their contents. The matters stated in the above answers are true of my own knowledge and belief, except as to those matters stated on information and belief, and as to those matters I believe them to be true. I declare under penalty of perjury under the laws of the State of California, that the foregoing is correct.

Dated: ______________

(Printed Name)

(Signature)

NOTARY PUBLIC

ACKNOWLEDGEMENT (By Corporation, Partnership or Individual)

STATE OF CALIFORNIA  )
  ) ss.
COUNTY OF CONTRA COSTA  )

On ______________, before me, _____________________________, Notary Public, personally appeared __________________________________, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

Witness my hand and official seal.

________________________________
Notary Public

[SEAL]

END OF SECTION 00400
SECTION 00450

CERTIFICATION OF SITE VISIT

The Governing Board of the
Contra Costa Community College District
500 Court Street
Martinez, California 94553

Gentlemen/Ladies:

I visited the C-4016 New Science Building – Increment 1, Site Work job site, on ______________________________ at ____________________ AM PM (Circle One)

I visited the C-4016 New Science Building – Increment 1, Site Work job site, on ______________________________ at ____________________ AM PM (Circle One)

to inspect the proposed work, which would be turned over to me in its present condition, with a representative of the Contra Costa Community College District in order to acquaint myself with the proposed work so that I might fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract, and acknowledge I had the opportunity to check the Record Drawing as-built drawings and/or previous Contract Documents, site conditions and Bid Documents with the authorized representative of the District.

Owner Representative:

[Signature]

Project Manager – CCCCCD Facilities

Date

or

[Signature]

Manager – Buildings & Grounds

Date

Bidder:

Name of Firm or Company

Authorized Signatory

Address

Phone Number

Fax Number

NOTE: Any bidder who fails to return this CERTIFICATION, fully executed, including signature of company representative AND a Contra Costa Community College District representative, with the proposal form, may have their bid rejected as non-responsive.

END OF SECTION 00450
PAYMENT BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Contra Costa Community College District (sometimes referred to hereinafter as “Obligee”) has awarded to ___________________________ (hereinafter designated as the “Principal” or “Contractor”), an agreement for the work described as follows: ___________________________ (hereinafter referred to as the “Public Work”); and

WHEREAS, said Contractor is required to furnish a bond in connection with said Contract, and pursuant to California Civil Code Section 9550;

NOW, THEREFORE, We, ___________________________, the undersigned Contractor, as Principal; and ___________________________, a corporation organized and existing under the laws of the State of ________________, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the Contra Costa Community College District and to any and all persons, companies, or corporations entitled by law to file stop notices under California Civil Code Section 9100, or any person, company, or corporation entitled to make a claim on this bond, in the sum of ___________________________ Dollars ($_________________), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code Section 9100; or fail to pay for any 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 due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code Section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys’ fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code Sections 9550 et seq.

This bond shall inure to the benefit of any person named in Civil Code Section 9100 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefor; nor by any change or modification of any terms of payment or extension of time for payment pertaining or
relating to any scheme or work of improvement herein above described; nor by any rescission or attempted rescission of the contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond; nor by any fraud practiced by any person other than the claimant seeking to recover on the bond; and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given; and under no circumstances shall the Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the Obligee and the Contractor or on the part of any obligee named in such bond; that the sole condition of recovery shall be that the claimant is a person described in California Civil Code Sections 9100, and who has not been paid the full amount of his or her claim; and that the Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this ______________ day of ______________, 20____.

PRINCIPAL/CONTRACTOR:

________________________________________

By: ________________________________

SURETY:

________________________________________

By: ________________________________

Attorney-in-Fact
IMPORTANT:       THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety’s name must also appear on the Treasury Department’s most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety)                      (Name and Address of agent or representative for service for service of process in California)

__________________________________________  ______________________________

__________________________________________  ______________________________

Telephone: ________________________________  Telephone: ________________________________

STATE OF CALIFORNIA  )
COUNTY OF   ) ss.

On ___________________________ before me, ______________________________________, (insert name and title of the officer)
a Notary Public in and for said State, personally appeared ____________________________, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____________________ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____________________ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

__________________________                      (SEAL)
Notary Public in and for said State

Commission expires: ____________________________

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.
CONTRACT PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, Contra Costa Community College District (sometimes referred to hereinafter as “Obligee”) has awarded to __________________________________________ (hereinafter designated as the “Principal” or “Contractor”), an agreement for the work described as follows: ____________________________________ (hereinafter referred to as the “Public Work”); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in that certain contract for said Public Work dated ______________ __________________, (hereinafter referred to as the “Contract”), which Contract is incorporated herein by this reference; and

WHEREAS, the Contractor is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, ______________________________________, the undersigned Contractor, as Principal, and ________________________________, a corporation organized and existing under the laws of the State of ______________, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the Contra Costa Community College District in the sum of ___________________________________ Dollars ($_______________), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the bounded Contractor, his or her 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 said Contract and any alteration thereof made as therein provided, on his or her part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill guarantees of all materials and workmanship; and indemnify, defend and save harmless the Obligee, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any change, extension of time, alteration in or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same, nor by any change or modification to any terms of payment or extension of time for any payment pertaining or relating to any scheme of work of improvement under the contract. Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any overpayment or underpayment by the Obligee that is based upon estimates.
approved by the Architect. The Surety stipulates and agrees that none of the aforementioned changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.

Whenever Principal shall be, and is declared by the Obligee to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by Obligee as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages; or, at Obligee’s sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the “balance of the Contract price” (as hereinafter defined), and to pay and perform all obligations of Principal 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 Obligee under the Contract and any modifications thereto, less the amount previously paid by the Obligee to the Principal, less any withholdings by the Obligee allowed under the Contract.

Surety expressly agrees that the Obligee may reject any agent or contractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal. Unless otherwise agreed by Obligee, in its sole discretion, Surety shall not utilize Principal in completing the Contract nor shall Surety accept a bid from Principal for completion of the work in the event of default by the Principal.

No final settlement between the Obligee and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

The Contractor and Surety shall remain responsible and liable for all patent and latent defects that arise out of or are related to the Contractor’s failure and/or inability to properly complete the Public Work as required by the Contract and the Contract Documents. The obligation of the Surety hereunder shall continue so long as any obligation of the Contractor remains.

Contractor and Surety agree that if the Obligee is required to engage the services of an attorney in connection with enforcement of the bond, Contractor and Surety shall pay Obligee’s reasonable attorneys’ fees incurred, with or without suit, in addition to the above sum.

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 reasonable attorneys’ fees to be fixed by the Court.
IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of ____________________, 20____.

PRINCIPAL/CONTRACTOR:

________________________________________

By: ________________________________

SURETY:

________________________________________

By: ________________________________

Attorney-in-Fact

The rate of premium on this bond is ____________________________ per thousand.

The total amount of premium charged: $__________________________ (This must be filled in by a corporate surety).

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety’s name must also appear on the Treasury Department’s most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety) (Name and Address of agent or representative for service of process in California)

________________________________________

________________________________________

Telephone: ____________________________ Telephone: ____________________________
STATE OF CALIFORNIA  )
COUNTY OF  ) ss.

On __________________________ before me, _________________________ 
(insert name and title of the officer)

On ____________________________, before me, _________________________, a Notary

Public in and for said State, personally appeared ________________________________, who
proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument as the Attorney-in-Fact of the ______________________
(Surety) and acknowledged to me that he/she/they subscribed the name of the
_____________________ (Surety) thereto and his own name as Attorney-in-Fact on the
executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.

WITNESS my hand and official seal.

________________________________________________________________________
Notary Public in and for said State

Commission expires: ____________________

NOTE: A copy of the power-of-attorney to local representatives of the bonding company
must be attached hereto.
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SECTION 00510

NOTICE OF AWARD

DATE: _____________________

TO: _____________________________________________

ADDRESS: _______________________________________

PROJECT: ________________________________________

The Contract Sum of your contract is ____________________________ Dollars, ($_________________).

You must comply with the following conditions within ten (10) calendar days of the date of this Notice of Award, that is, by ________________.

1. You must deliver to the District two fully executed counterparts of Section 00600, “Construction Agreement.”

2. You must deliver to the District the “Contract Performance Bond,” and “Payment Bond,” executed by you and your surety, which are included in Section 00500.

3. You must deliver to District the insurance certificates required in Section 00700, for insurance required in Section 00600, Construction Agreement.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited. Within ten (10) calendar days after you comply with these conditions, the District will return to you one fully signed counterpart of the Construction Agreement.

Contra Costa Community College District

By: ________________________________

Title: ________________________________

END OF DOCUMENT
SECTION 00600
CONSTRUCTION AGREEMENT

CONTRACT NO. ___________________
(Construction Agreement)

This Agreement shall not be enforceable until ratified and approved by the Contra Costa Community College District’s Governing Board. The estimated board meeting date is December 12, 2018.

(§1.1) Parties: (Public Agency) CONTRA COSTA COMMUNITY COLLEGE DISTRICT
500 Court St, Martinez, CA 94553

Contractor Address: ________________________________________________

(§1.2) Effective Date: See Article 1.4, below.

(§1.3) The Work: C-4016 NEW SCIENCE BUILDING – INCREMENT 1, SITE WORK

(§1.4) Completion Time: 189 Calendar Days from the Notice to Proceed to Substantial Completion, and 45 Calendar Days from Substantial Completion to Final Completion (Remaining Work).

(§1.5.1) Liquidated Damages, Substantial Completion: $1,000 per Calendar Day beyond the Contract Substantial Completion Date.

(§1.5.2) Liquidated Damages, Remaining Work/Final Completion: $200/ per calendar day Remaining Work is delayed beyond the Contract Final Completion Date.

(§1.6) Public Agency’s Agent: CONTRA COSTA COMMUNITY COLLEGE DISTRICT (“District”)

(§1.7) Contract Sum: xxx MILLION, xxx THOUSAND DOLLARS and NO CENT$ (000,000.00)

2. SCOPE OF WORK:

In general, the Work consists of the following, but not limited to: maintenance of temporary safety signage, wayfinding signage, roads, fencing, lighting and maintenance of storm water pollution prevention plan; partial demolition of some existing Health Sciences Building foundations; over-excavation and compaction; installation of below ground utilities; and all related work. See Section 00010, Table of Contents, for a list of all the Contract Documents (specifications and drawings) included in this the scope of work, including addendums issued and referenced in the Contractor’s bid form (Section 00300).
3. WORK CONTRACT, CHANGES

(a) By their signatures below, effective on the above date, these parties promise and agree as set forth in this Agreement, incorporating by these references labor and materials contained in Section 2, Scope of Work.

(b) Contractor shall, at Contractor's own cost and expense, and in a workmanlike manner, fully and faithfully perform and complete the work; and will furnish all materials, labor, services, equipment, and transportation necessary, convenient and proper in order fairly to perform the requirements of this contract, all strictly in accordance with the Public Agency's drawings and specifications.

(c) The work can be changed only with Public Agency's prior written order specifying such change and its cost agreed to by the parties; and the Public Agency shall never have to pay more than specified in Section 1.7 without such an order.

4. TIME: NOTICE TO PROCEED AND ACCEPTANCE

(a) Contractor shall start this work as directed in the specifications or the Notice to Proceed and shall complete it as specified in Section 1, Completion Time.

(b) Remaining Work after Substantial Completion. If the Architect or District determines that the work required by the Contract is Substantially Complete during any inspection conducted pursuant to this Agreement or Specification Section 01770, Contract Closeout Procedures, the Contractor shall be notified of that determination and the District shall determine if there is Remaining Work. A list of Remaining Work shall be issued only by the District or the Architect and only after the District has certified Substantial Completion. The District or Architect shall give the Contractor the necessary instructions for correction or completion of the Remaining Work, and the Contractor shall immediately comply with and execute such instructions within the Contract Time. Upon completion of the Remaining Work, another inspection shall be made that shall constitute the Final Inspection, provided the Remaining Work has been completed to the satisfaction of the District. If the remaining work has been completed to the satisfaction of the District, the District shall make the final acceptance and notify the Contractor in writing of this acceptance as of the date of Final Inspection.

(c) Final Acceptance – Upon due notice from the Contractor of completion of the entire project, the District shall make an inspection. If all construction provided for and contemplated by the contract is found to be completed to the District’s satisfaction, then that inspection shall constitute the Final Inspection and the District shall notify the Contractor in writing of final acceptance effective as of the date of the Final Inspection.

(d) Default for failure to Complete Remaining Work In the event the Contract Time expires before the Remaining Work is completed to the satisfaction of the District, the District may provide notice to the Contractor that the Remaining Work shall be completed by Contractor to the satisfaction of the District within ten consecutive calendar days from the date of such notice. The failure of the Contractor to satisfactorily complete the Remaining Work within the ten days shall entitle to District to declare Contractor in default and thereafter terminate the Contract. The ten-day notice provided under this paragraph shall not be construed as adding any time to the Contract Time and is a time period solely for the purposes of providing notice of default.

(e) Application for Final Payment. After the Contractor has completed all Remaining Work to the satisfaction of the District and delivered all maintenance and operating instructions, schedules, guarantees, warranties, bonds, certificates of inspection, marked-up record documents and other documents as required by the Contract, and after the District or Architect has indicated that the
If the work is acceptable, Contractor may make application for final payment following the Payments Procedures for progress payments. The final application for payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to the District) of all liens arising out of or filed in connection with the work on the project.

(f) Final Payment and Acceptance. If the Architect determines that the work has been completed and the Contractor’s other obligations under the Contract have been fulfilled, the Architect shall, within ten working days after receipt of the final application for payment, indicate in writing the Architect’s recommendation of payment and present the application to District for payment. Thereupon the Architect shall prepare a Certificate of Final Completion. Otherwise, Architect shall return the application to Contractor indicating in writing the reasons for refusing to recommend final payment. Contractor shall make the corrections identified in the Architect’s refusal to recommend final payment. Thirty days after presentation to District of the application and accompanying documentation, with the Architect’s recommendation and notice of acceptability of the work, the amount recommended by Architect shall be come due and payable by District to Contractor.

5. LIQUIDATED DAMAGES

5.1 LIQUIDATED DAMAGES - SUBSTANTIAL COMPLETION

If the Contractor fails to complete this contract and this Work within the time fixed therefore, allowance being made for contingencies as provided herein, Contractor becomes liable to the Public Agency for all its loss and damage there from; and because, from the nature of the case, it is and will be impracticable and extremely difficult to ascertain and fix the Public Agency's actual damage from any delay in performance hereof, it is agreed that Contractor will pay as liquidated damages to the Public Agency the reasonable sum specified in Section 1, the result of the parties' reasonable endeavor to estimate fair average compensation therefore, for each calendar day's delay in finishing said Work; and if the same be not paid, Public Agency may, in addition to its other remedies, deduct the same from any money due or to become due Contractor under this Contract. If the Public Agency for any cause authorizes or contributes to a delay, suspension of work or extension of time, its duration shall be added to the time allowed for completion, but it shall not be deemed a waiver nor be used to defeat any right of the Agency to damages for non-completion or delay hereunder. Pursuant to Government Code Section 4215, the Contractor shall not be assessed liquidated damages for delay in completion of the work, when such delay was caused by the failure of the Public Agency or the owner of a utility to provide for removal or relocation of existing utility facilities.

5.2 LIQUIDATED DAMAGES-THE REMAINING WORK

The Remaining Work, as such work is determined by the Public Agency or Public Agency’s Representative, shall be completed within the Contract Time or any proper extension thereof granted by Public Agency. If the Contractor shall neglect, fail or refuse to complete the Remaining Work within the Contract Time or any proper extension thereof granted by the Public Agency, then the Contractor does hereby agree, as part consideration for the awarding of this Contract, to pay to the Public Agency the amount specified in the Contract, not as a penalty but as liquidated damages for the Remaining Work for each such breach of Contract set forth herein for each and every consecutive calendar day that the Contractor shall be in default after expiration of the Contract Time.
6. **INTEGRATED DOCUMENTS**

The drawings and specifications and special provisions of the Public Agency's Notice Inviting Bids, and Contractor’s accepted bid for this work are hereby incorporated into this Contract; and they are intended to cooperate, so that anything exhibited in the drawings and not mentioned in the specifications or special provisions, or vice versa, is to be executed as if exhibited, mentioned and set forth in both, to the true intent and meaning thereof when taken all together; and differences of opinion concerning these shall be finally determined by the Public Agency.

7. **PAYMENT**

(a) For strict and literal fulfillment of these promises and conditions, and full compensation for all this work, the Public Agency shall pay the Contractor the sum specified in Section 1, except that in unit price contracts the payment shall be for finished quantities at unit bid prices.

(b) On or about the first day of each calendar month, the Contractor shall submit to the Public Agency a verified application for payment, supported by a statement showing all materials actually installed during the preceding month, the labor expended thereon, and the cost thereof; whereupon, after checking, the Public Agency shall issue to Contractor a certificate for the amount determined to be due, minus five (5%) percent thereof pursuant to the Public Agency’s General Terms and Conditions, but not until defective work and materials have been removed, replaced and made good.

8. **PAYMENTS WITHHELD**

(a) The Public Agency or its agent may withhold any payment, or because of later discovered evidence nullify all or any certificate for payment, to such extent and period of time only as may be necessary to protect the Public Agency from loss because of:

1. Defective work not remedied, or work not completed, or
2. Claims filed or reasonable evidence indicating probable filing, or
3. Failure to properly pay subcontractors or for material or labor, or
4. Reasonable doubt that the work can be completed for the balance then unpaid, or
5. Damage to another contractor, or
6. Damage to the Public Agency, other than damage due to delays.

(b) The Public Agency shall use reasonable diligence to discover and report to the Contractor, as the work progresses, the materials and labor which are not satisfactory to it, so as to avoid unnecessary trouble or cost to the Contractor in making good any defective work or parts.

(c) Thirty-five (35) calendar days after Public Agency files its notice of completion of the entire work, it shall issue a certificate to the Contractor and pay the balance of the contract sum after deducting all amounts withheld under this contract, provided the Contractor shows that all claims for labor and materials have been paid, no claims have been presented to the Public Agency based on acts or omissions of the Contractor, and no liens or withhold notices have been filed against the work or site, and provided there are not reasonable indications of defective or missing work or of late-recorded notices of liens or claims against Contractor.
9. **INSURANCE**

**Contractor’s Liability Insurance:** Before the commencement of the Work, the Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in California as admitted carriers with a financial rating of at least A status as rated in the most recent edition of Best’s Insurance Reports or as amended by the Supplementary General Conditions, if any, such insurance as will protect the Public Agency from claims set forth below, which may arise out of or result from the Contractor’s operations under the Contract and for which the Contractor may be legally liable, whether such operations are by the Contractor, by a Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

(a) Claims for damages because of bodily injury, sickness, disease, or death of any person District would require indemnification and coverage for employee claim;

(b) Claims for damages insured by usual personal injury liability coverage, which are sustained by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or by another person;

(c) Claims for damages because of injury or destruction of tangible property, including loss of use resulting therefrom, arising from operations under the Contract Documents;

(d) Claims for damages because of bodily injury, death of a person, or property damage arising out of the ownership, maintenance, or use of a motor vehicle, all mobile equipment, and vehicles moving under their own power and engaged in the Work;

(e) Claims involving contractual liability applicable to the Contractor’s obligations under the Contract Documents, including liability assumed by and the indemnity and defense obligations of the Contractor and the Subcontractors; and

(f) Claims involving Completed Operations, Independent Contractors’ coverage, and Broad Form property damage, without any exclusions for collapse, explosion, demolition, underground coverage, and excavating. (XCU)

(g) Claims involving sudden or accidental discharge of contaminants or pollutants.

**Subcontractor Insurance Requirements:** The Contractor shall require its Subcontractors to take out and maintain similar public liability insurance and property damage insurance as required under the above paragraph, titled “Contractor’s Liability Insurance, in amounts commensurate with the value of the subcontract. A “claims made” or modified “occurrence” policy shall not satisfy the requirements of the above paragraph, titled “Contractor’s Liability Insurance, without prior written approval of the District.

**Additional Insured Endorsement Requirement:** The Contractor shall name, on any policy of insurance, the District, Architect, Inspector, the State of California, their officers, employees, agents and independent contractors as Additional Insured. Subcontractors shall name the Contractor, the District, Architect, Inspector, the State of California, their officers, employees, agents and independent contractors as Additional Insured.

The Additional Insured Endorsement included on all such insurance policies shall state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the Additional Insured have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The insurance provided by the Contractor
must be designated in the policy as primary to any insurance obtained by the Public Agency. The amount of the insurer’s liability shall not be reduced by the existence of such other insurance.

**Workers’ Compensation Insurance:** During the term of this Contract, the Contractor shall provide workers’ compensation insurance for all of the Contractor’s employees engaged in Work under this Contract on or at the Site of the Project and, in case any of the Contractor’s Work is subcontracted, the Contractor shall require the Subcontractor to provide workers’ compensation insurance for all the Subcontractor’s employees engaged in Work under the subcontract. Any class of employee or employees not covered by a Subcontractor’s insurance shall be covered by the Contractor’s insurance. In case any class of employees engaged in Work under this Contract on or at the Site of the Project is not protected under the Workers’ Compensation laws, the Contractor shall provide or cause a Subcontractor to provide adequate insurance coverage for the protection of those employees not otherwise protected. The Contractor shall file with the District certificates of insurance as required under Section 00700, Article 11.6, and in compliance with Labor Code § 3700.

**Specific Insurance Requirement:** Contractor shall take out and maintain and shall require all subcontractors, if any, whether primary or secondary, to take out and maintain:

(a) **Workers’ Compensation Insurance:** $1,000,000.00; Contractor is aware of and complies with Labor Code Section 3700 and the Worker’s Compensation Law.

(b) **Comprehensive General Liability Insurance** with a combined single limit per occurrence of not less than $1,000,000.00 and $2,000,000.00 project specific aggregate, or Commercial General Liability Insurance (including automobile insurance) which provides limits of not less than:
   
   (1) Per occurrence (combined single limit) $1,000,000.00
   
   (2) Project Specific Aggregate (for this project only) $2,000,000.00
   
   (3) Products and Completed Operations $1,000,000.00

(c) **Insurance Covering Special Hazards**
   The following Special hazards shall be covered by riders or riders to above mentioned public liability insurance or property damage insurance policy or policies of insurance, in amounts as follows:
   
   (1) Automotive and truck where operated in amounts $1,000,000.00
   
   (2) Material Hoist where used in amounts $1,000,000.00
   
   (3) Explosion, Collapse and Underground (XCU coverage) $1,000,000.00

(d) In addition, provide Excess Liability Insurance coverage in the amount of Two Million Dollars ($2,000,000.00).

**Builder’s Risk/ “All Risk” Insurance/Course-of-Construction Insurance Requirements:** The Contractor, during the progress of the Work and until final acceptance of the Work by District upon completion of the entire Contract, shall maintain Builder’s Risk, Course of Construction or similar first party property coverage issued on a replacement cost value basis consistent with the total replacement cost of all insurable Work and the Project included within the Contract Documents. Coverage is to insure against all risks of accidental direct physical loss, and must include, by the basic grant of coverage or by endorsement, the perils of vandalism, malicious mischief (both without any limitation regarding vacancy or occupancy), fire, sprinkler leakage, civil authority, sonic boom, earthquake, flood, collapse, wind,
lightning, smoke and riot. The coverage must include debris removal, demolition, increased costs due to enforcement of building ordinance and law in the repair and replacement of damage 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 which is the subject of the Contract Documents, including completed Work and Work in progress, to the full insurable value thereof. Such insurance shall include the District and the Architect as additional named insureds, and any other person with an insurable interest as designated by the District.

The Contractor shall submit to the District for its approval all items deemed to be uninsurable. The risk of the damage to the Work due to the perils covered by the “Builder’s Risk/All Risk” Insurance, as well as any other hazard which might result in damage to the Work, is that of the Contractor and the surety, and no claims for such loss or damage shall be recognized by the District nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.

10. BONDS

**Bond Requirements:** Prior to commencing any portion of the Work, the Contractor shall furnish separate payment and performance bonds for its portion of the Work which shall cover 100% faithful performance of and payment of all obligations arising under the Contract Documents and/or guaranteeing the payment in full of all claims for labor performed and materials supplied for the Work. All bonds shall be provided by a corporate surety authorized and admitted to transact business in California as sureties.

To the extent, if any, that the Contract Sum is increased in accordance with the Contract Documents, the Contractor shall, upon request of the Public Agency, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the Public Agency. To the extent available, the bonds shall further provide that no change or alteration of the Contract Documents (including, without limitation, an increase in the Contract Sum, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor will release the surety. If the Contractor fails to furnish the required bonds, the Public Agency may terminate the Contract for cause.

On signing this contract, Contractor shall deliver to Public Agency for approval good and sufficient bonds with sureties, in amount(s), specified in the specifications or special provisions, guaranteeing faithful performance of this contract and payment for all labor and materials hereunder.

Surety Qualifications: Only bonds executed by admitted Surety insurers as defined in Code of Civil Procedure § 995.120 shall be accepted. Surety must be a California-admitted surety and listed by the U.S. Treasury with a bonding capacity in excess of the Project cost.

Alternate Surety Qualifications: If a California-admitted surety insurer issuing bonds does not meet these requirements, the insurer will be considered qualified if it is in conformance with § 995.660 of the California Code of Civil Procedure and proof of such is provided to the District.

11. FAILURE TO PERFORM

If the Contractor at any time refuses or neglects, without fault of the Public Agency or its agent(s), to supply sufficient materials or workers to complete this agreement and work as provided herein, for a
period of ten days or more after written notice thereof by the Public Agency, the Public Agency may furnish same and deduct the reasonable expenses thereof from the contract price.

12. LAWS APPLY: General

Both parties recognize the applicability of various federal, state and local laws and regulations, especially Chapter 1 of Part 7 of the California Labor Code (beginning with Section 1720, and including Sections 1735, 1777.5, 1777.6, forbidding discrimination) and intend that this agreement complies therewith. The parties specifically stipulate that the relevant penalties and forfeitures provided in the Labor Code, especially in Sections 1775, 1776, and 1813, concerning prevailing wages and hours, shall apply to this agreement as though fully stipulated herein.

13. SUBCONTRACTORS

Public Contract Code Sections 4100-4113 are incorporated herein.

14. WAGE RATES

(a) Pursuant to Labor Code Section 1773, the Director of the Department of Industrial Relations has ascertained the general prevailing rates of wages per diem, and for holiday and overtime work, in the locality in which this work is to be performed, for each craft, specified in the call for bids for this work and are on file with the Public Agency, and are hereby incorporated herein.

(b) This schedule of wages is based on a working day of eight (8) hours unless otherwise specified; and the daily rate is the hourly rate multiplied by the number of hours constituting the working day. When less than that number of hours are worked, the daily wage rate is proportionately reduced, but the hourly rate remains as stated.

(c) The Contractor, and all subcontractors, must pay at least these rates to all persons on this work, including all travel, subsistence, and fringe benefit payments provided for by applicable collective bargaining agreements. All skilled labor not listed above must be paid at least the wage scale established by collective bargaining agreement for such labor in the locality where such work is being performed. If it becomes necessary for the Contractor or any subcontractor to employ any person in a craft, classification or type of work (except executive, supervisory, administrative, clerical or other non-manual workers as such) for which no minimum wage rate is specified, the contractor shall immediately notify the Public Agency which shall promptly determine the prevailing wage rate therefore and furnish the Contractor with the minimum rate based thereon, which shall apply from the time of the initial employment of the person affected and during the continuance of such employment.

15. HOURS OF LABOR

Eight hours of labor in one calendar day constitutes a legal day's work, and no worker employed at any time on this work by the Contractor or by any subcontractor shall be required or permitted to work longer thereon except as provided in Labor Code Sections 1810-1815.
16. **APPRENTICES**

Properly indentured apprentices may be employed on this work in accordance with Labor Code Sections 1777.5 and 1777.6, forbidding discrimination.

17. **PREFERENCE FOR MATERIALS**

The Public Agency desires to promote the industries and economy of Contra Costa County, and the Contractor therefore promises to use the products, workers, laborers and mechanics of this County in every case where the price, fitness and quality are at least equal.

18. **ASSIGNMENT**

This agreement binds the heirs, successors, assigns, and representatives of the Contractor; but Contractor cannot assign it in whole or in part, nor any monies due or to become due under it, without the prior written consent of the Public Agency and the Contractor's surety or sureties, unless they have waived notice of assignment.

19. **NO WAIVER BY PUBLIC AGENCY**

Inspection of the work and/or materials, or approval of work and/or materials inspected, or statement by any officer, agent or employee of the Public Agency indicating the work or any part thereof complies with the requirements of this contract, or acceptance of the whole or any part of said work and/or materials, or payments therefore, or any combination of these acts, shall not relieve the Contractor of Contractor's obligation to fulfill this contract as prescribed; nor shall the Public Agency be thereby stopped from bringing any action for damages or enforcement arising from the failure to comply with any of the terms and conditions hereof.

20. **HOLD HARMLESS AND INDEMNITY**

(a) Contractor promises to and shall hold harmless and indemnify from the liabilities as defined in this section.

(b) The indemnities benefited and protected by this promise are the Public Agency and its elective and appointive boards, commissions, officers, agents and employees.

(c) The liabilities protected against are any liability or claim for damage of any kind allegedly suffered, incurred or threatened because of actions defined below, including personal injury, death, property damage, inverse condemnation, or any combination of these, regardless of whether or not such liability, claim or damage was unforeseeable at any time before the Public Agency approved the improvement plan or accepted the improvements as completed, and including the defense of any suit(s) or action(s) at law or equity concerning these.

(d) The actions causing liability are any act or omission (negligent or non-negligent) in connection with the matters covered by this contract and attributable to the contractor, subcontractor(s), or any officer(s), agent(s), or employee(s) of one or more of them.

(e) Non-conditions: The promise and agreement in this section is not conditioned or dependent on whether or not any Indemnities has prepared, supplied, or approved any plan(s), drawing(s),
specifications(s) or special provision(s) in connection with this work, has insurance or other indemnification covering any of these matters, or that the alleged damage resulted partly from any negligent or willful misconduct of any Indemnities.

21. **EXCAVATION**

Contractor shall comply with the provisions of Labor Code Section 6705, if applicable, by submitting to Public Agency a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during trench excavation.

22. **GOVERNMENT CODE SECTION 10532**

Contractor shall be subject to the examination and audit of the Auditor General for a period of three years after final payment under the contract.

23. **WARRANTY**

(a) In addition to any other warranties or guaranties in the Contract Documents, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the Work or Phase of Work, unless otherwise provided or extended in the Contract Documents. If the District takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the District takes possession.

(c) The Contractor shall remedy at the Contractor’s expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor’s expense any damage to District-owned or controlled real or personal property, when that damage is the result of—

   (1) The Contractor’s failure to conform to contract requirements; or
   (2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor’s warranty with respect to work repaired or replaced will run for 1 year or as otherwise provided or extended from the date of repair or replacement.

(e) The District shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the District shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor’s expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall—

   (1) Obtain all warranties that would be given in normal commercial practice;
   (2) Require all warranties to be executed, in writing, for the benefit of the District, if directed by the District; and
(3) Enforce all warranties for the benefit of the District, if directed by the District.

(h) In the event the Contractor’s warranty under paragraph (b) of this clause has expired, the District may bring suit at its expense to enforce a subcontractor’s, manufacturer’s, or supplier’s warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the District nor for the repair of any damage that results from any defect in District-furnished material or design.

(j) This warranty shall not limit the District’s rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

24. CONSEQUENTIAL DAMAGES

The Contractor and Public Agency waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:

(a) Damages incurred by the Public Agency for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

(b) Damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party’s termination. Nothing contained in this subparagraph shall be deemed to preclude an award of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

25. HAZARDOUS MATERIALS

(a) If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos, lead or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Public Agency in writing.

(b) The Public Agency shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. The Public Agency shall furnish in writing to the Contractor the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written notification from the Public Agency and Contractor. The Contract Time shall be extended appropriately.
26. SAFETY

(a) **Safety Programs.** In addition to and as required by other Sections of the Contract Documents, the Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code §§8350 et seq.). Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs. Prior to commencement of Work, the Contractor shall meet with the Campus Buildings and Grounds Manager, Project Manager, and Construction Manager to review Contractor’s safety precautions and implementation of safety programs during the Work.

(b) **Safety Precautions.** In addition to and as required by other Sections of the Contract Documents, the Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and (iii) other property or items at the site of the Work, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall take adequate precautions and measures to protect existing roads, sidewalks, curbs, pavement, utilities, adjoining property and improvements thereon (including without limitation, protection from settlement or loss of lateral support) and to avoid damage thereto. Without adjustment of the Contract Price or the Contract Time, the Contractor shall repair, replace or restore any damage or destruction of the foregoing items as a result of performance or installation of the Work.

(c) **Safety Signs, Barricades.** In addition to and as required by other Sections of the Contract Documents, the Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities.

(d) **Safety Notices.** In addition to and as required by other Sections of the Contract Documents, the Contractor shall give or post all notices required by applicable law and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

27. PROJECT STABILIZATION AGREEMENT

(a) **Definitions.** As used in this clause— "Project Stabilization Agreement" (hereinafter “PSA”) means the pre-hire collective bargaining agreement between the Contra Costa Community College District...
and the Contra Costa Building and Construction Trades Council attached to these Contract Documents which establishes the terms and conditions of employment for the Project.

(b) Contracts.

(1) The Contractor/Employer shall maintain in a current status, throughout the life of this Contract, the PSA included in these Contract Documents. By accepting the award of this Construction Contract for the Project, whether as Contractor or subcontractor, the Contractor/Employer agrees to be bound by each and every provision of the PSA, and evidence its acceptance prior to the commencement of work by executing the PSA Agreement to be Bound in the form attached to the PSA found in these Contract Documents.

(2) Subcontracts. At the time that any Contractor/Employer enters into a subcontract with any subcontractor providing for the performance of the construction subcontract, the Contractor/Employer shall provide a copy of the PSA to said subcontractor and shall require the subcontractor, as a part of accepting an award of a construction subcontract, to agree in writing to be bound by each and every provision of the PSA, and agree that it will evidence its acceptance prior to the commencement of work by executing the PSA Agreement to be Bound in the form attached to the PSA found in these Contract Documents.

(c) Reporting.

(1) PSA Preconstruction Conference. The Contractor/Employer shall, prior to the commencement of work under this Contract, hold a Preconstruction Conference in accordance with PSA Article 5 PRECONSTRUCTION CONFERENCE which shall be attended by a representative from each Contractor/Employer, the Unions, and the District. The Contractor/Employer shall contact the Contra Costa Building and Construction Trades Council at least two (2) weeks prior to scheduling the Preconstruction Conference so that the Unions can be notified of the date, time, and place of the Conference.

i. The Contractor/Employer shall lead the Preconstruction Conference and take minutes of the meeting.

ii. The Contractor/Employer shall submit written meeting minutes of the Conference in a form preapproved by the District within five (5) working days. The minutes shall include the names and organizations of each person attending the Conference. The minutes shall also include copies of the Agreements to be Bound required by this Contract and the PSA.

(d) Monthly Reporting. During each month in which construction work is performed by the Contractor/Employer or by any subcontractor, from Notice to Proceed through Notice of Completion, report the information required below to the District as a monthly administrative Submittal. These reports shall be submitted with each regularly scheduled payment application, or the application will be returned to the Contractor/Employer for resubmittal with the required reports.

(1) New Agreements to be Bound resulting from new subcontracts, if any, entered into by each Contractor/Employer.

(2) Each instance during the reporting period of which a Union is unable to fill a requisition for employees thereby causing the Contractor/Employer to apply Article 8 REFERRAL Clause 8.3, to obtain qualified work persons for the Contract work.

(3) A summary of efforts during the reporting period to comply with the goals of Article 10 LOCAL HIRE, including a spreadsheet report of the number of hours worked by all journeymen and by all apprentices on site, and the subset of the number of hours worked by journeymen and by apprentices who are residents of Contra Costa County.
(4) A summary of efforts to utilize the Center for Military Recruitment, Assessment and Veterans Employment, in accordance with Article 15 HELMETS TO HARDHATS.

27. SIGNATURES AND ACKNOWLEDGEMENT

Public Agency, By:  

David Wetmore, Director of Purchasing and Contracts

Note to Contractor: (1) Execute acknowledgement form below, and (2) if a corporation, affix Corporate Seal.

Contractor hereby also acknowledging awareness of and compliance with Labor Code S1861 concerning Worker's Compensation Law.

Contractor:  

By: _____________________________ (CORPORATE SEAL)

(Designate Official Capacity) NAME

Print NAME and TITLE

License Number ___________________________ Federal ID Number ___________________________

NOTARY PUBLIC

STATE OF CALIFORNIA SS.

ACKNOWLEDGEMENT (By Corporation, Partnership or Individual)

County of Contra Costa )

The person(s) signing above for Contractor, known to me in individual and business capacity as stated, personally appeared before me today and acknowledged that he/she/they executed it and that the corporation or partnership named above executed it.

Dated: _____________________________  

(Notearial Seal)

END OF SECTION 00600
FIRST AMENDMENT TO THE
PROJECT STABILIZATION AGREEMENT
for the
CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Preamble

This is the First Amendment (this "Amendment") to the Project Stabilization Agreement ("Agreement") for the Contra Costa Community College District entered into as of the 22\textsuperscript{nd} day of October, 2012, by and between the Contra Costa Community College District ("District") together with contractors and/or subcontractors who became or will become signatory to the Agreement by signing the Agreement Exhibit A, the "Agreement to be Bound", and the Contra Costa Building & Construction Trades Council ("Council") and its affiliated local unions that have executed the Agreement (all of whom are referred to collectively as "Unions").

Recitals

WHEREAS the District, the Council, and the Unions desire to amend the Agreement to reflect certain agreed upon changes as set forth below, with the understanding that all other terms, conditions and Recitals in the Agreement remain valid and in effect; and

WHEREAS Article 2, Section 2.4.10 of the Agreement provides that the District and the Contra Costa Building and Construction Trades Council may mutually agree in writing to amend and extend this Agreement at any time.

NOW THEREFORE, in consideration of the mutual promises and covenants herein contained, the District and the Contra Costa Building and Construction Trades Council, and its affiliated local unions that become signatory to this Amendment, together with the contractors and/or subcontractors who became or will become signatory to the Agreement, do mutually agree to amend the Agreement as noted below with all other terms and conditions to remain unchanged and in effect.

Amendment

Article 1 Section 1.6 is hereby amended and revised to state as follows:

"Project" means any District construction project that has a total minimum estimated construction cost of one million dollars ($1,000,000) or more. The District may, at its discretion, designate other project(s) or contract(s) with a total estimated construction cost of less than one million dollars ($1,000,000) to be covered by this Agreement if the District believes it is in the best interest of the District to do so. Routine maintenance of District properties are not covered by the scope of this Agreement.

Article 2 is hereby amended to include Section 2.4.11 which states as follows:

2.4.11 Pursuant to Section 2.4.10, this Agreement has been reviewed and considered for extension or renewal, and the District and the Contra Costa Building and Construction Trades Council have agreed that the Agreement shall be extended for a term of five (5) years from the original expiration date of the Agreement which is the 22\textsuperscript{nd} day of October 2017. At the close of the extension term, the Agreement shall be reviewed and considered for further extension or renewal, with modifications, if appropriate. Except as amended herein, the Agreement shall continue in full force and effect in accordance with its terms.
Contra Costa Community College District

BY:  ____________________________  DATE:  11/2/17
Fred E. Wood
Chancellor

Contra Costa Building and Construction
Trades Council, AFL-CIO

BY:  ____________________________  DATE:  10/16/2017
Bill Whitney, Chief Executive Officer
Asbestos Workers Local #16
Mark [Signature]
Boilermakers Local #549
Bricklayers Local #3
Northern California Regional Council of Carpenters for itself and on behalf of its affiliated local unions
Ruth [Signature]
Sheet Metal Workers Local #104
Operating Engineers Local #3
District Council #16, Painters and Allied Trades for itself and on behalf of its affiliated local unions
Sprinkler Fitters Local #483
United Association Local #342
Elevator Constructors Local #8
Teamsters Local #315
Roofer Local #81
Iron Workers Local #378
Northern California District Council of Laborers for itself and on behalf of its affiliated local unions
Paul [Signature]
Cement Masons Local #300
Electrical Workers Local #302
Plasterers Local #88
United Association Local #159
United Association Local #355
PROJECT STABILIZATION AGREEMENT

for the

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

PREAMBLE

This Project Stabilization Agreement is entered into this 25th day of OCTOBER, 2012 by and between the Contra Costa Community College District (hereinafter, the "District"), together with contractors and/or subcontractors, who shall become signatory to this Agreement by signing the "Agreement To Be Bound" (Exhibit A) (all of whom are referred to herein as "Contractors/Employers"), and the Contra Costa County Building & Construction Trades Council ("Council") and its affiliated local unions that have executed this Agreement (all of whom are referred to collectively as "Unions").

Recitals

WHEREAS, the purpose of this Agreement is to promote efficiency of construction operations during the construction of District Projects and provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the District's interest and the public's interest in assuring the timely and economical completion of the District's construction Projects; and

WHEREAS, the successful and efficient completion of the District's construction Projects is of the utmost importance to the District and its educational programs and mission; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work, including those to be represented by the Unions affiliated with the Council; and

WHEREAS, it is recognized that District construction Projects require multiple contractors and bargaining units on the job site at the same time over an extended period of time, and that the potential for work disruption is substantial in the absence of a binding commitment to maintain continuity of work; and

WHEREAS, the interests of the general public, the District, the Unions and Contractors/Employers would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractors/Employers and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on District Projects by
the Contractors/Employers and the Unions to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, this Agreement is not intended to replace, interfere, abrogate, diminish or modify existing local or national collective bargaining agreements in effect during the duration of the Program, insofar as a legally binding agreement exists between the Contractor(s)/Employer(s) and the affected Union(s) except to the extent that the provisions of this Agreement are inconsistent with said collective bargaining agreements, in which event, the provisions of this Agreement shall prevail; and

WHEREAS, the contracts for the construction of District Projects will be awarded in accordance with the applicable provisions of the California Public Contract Code; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory completion of all District construction Projects subject to the Agreement.

NOW, THEREFORE, the parties, in consideration of the mutual promises and covenants herein contained, do mutually agree as follows:

ARTICLE 1

DEFINITIONS

1.1 "Agreement" means this Project Stabilization Agreement, plus Exhibit A and Exhibit B.

1.2. "District" means the Contra Costa Community College District and the administrative staff under its Chancellor.

1.3. "Contractor(s)/Employer(s)" means any individual, firm, partnership, corporation or other entity, or any combination thereof, including joint ventures, which is an independent business enterprise and has entered into a contract with the District or any of its contractors or subcontractors of any tier, with respect to construction work on any District Project covered by this Agreement.

1.4. "Master Agreement" means the Master Collective Bargaining Agreement of each craft union signatory hereto, copies of which have been made available by the Council to the District and are on file with the Council and which are incorporated herein by reference and designated the "Schedule A(s)," and are listed in Exhibit B.

1.5. "Project Manager" or "Construction Manager" means any employee or business entity(ies) designated by the District to oversee District Projects subject to this Agreement.

1.6. "Project" means any District construction project that has a total minimum estimated construction cost of two million dollars ($2,000,000) or more. The District may, at its discretion,
Designate other project(s) or contract(s) with a total estimated construction cost of less than two million dollars ($2,000,000) to be covered by this Agreement if the District believes it is in the best interest of the District to do so. Routine maintenance of District properties are not covered by the scope of this Agreement.

1.7. "Union" or "Unions" means the Contra Costa Building and Construction Trades Council, AFL-CIO and its affiliated local unions that have executed this Agreement.

ARTICLE 2

SCOPE OF AGREEMENT AND TERM

2.1. This Agreement shall apply to all on-site demolition, construction, alteration, painting or repair of buildings, structures and other works and related activities on any Project covered by this Agreement that is within the craft jurisdiction of one of the Unions and that is directly or indirectly part of the Project, including, without limitation, pipelines (including those in linear corridors built to serve the Project), pumps, pump stations, start-up, site preparation, on-site survey work, soils and material inspection and testing, including x-ray technicians, and all on-site fabrication work provided such work is within the fabrication provision of a local Master Agreement or national agreement of one of the Unions. On-site fabrication work includes work done for the Project in temporary yards or areas near the Project, and at the site of any batch plant constructed solely to supply materials to the Project. This Agreement also covers all off-site work, including fabrication, that is traditionally performed by any of the Unions that are directly or indirectly part of the Project, provided such work is covered by a provision of a local Master Agreement or a local addendum to a national agreement of the applicable Union(s) including delivery and off-haul work to the full extent of the law.

2.2. This Agreement shall govern the award of all construction contracts on all District Projects covered by this Agreement. The District has the absolute right to combine, consolidate, add, or cancel covered Project(s) or portions of covered Project(s). Once a construction Project is completed, it is no longer covered by this Agreement. For the purposes of this Agreement, a construction Project shall be considered completed upon filing of a Notice of Completion.

2.3. All labor disputes involving the application or interpretation of the collective bargaining agreement to which a signatory Contractor/Employer and a signatory Union are parties shall be resolved pursuant to the resolution procedures of the collective bargaining agreement. All disputes relating to the interpretation or application of this Agreement shall be subject to resolution pursuant to the grievance arbitration procedure set forth herein.

2.4. Exclusions:

2.4.1. This Agreement shall be limited to construction work on covered Projects and is not intended to, and shall not, govern any construction work performed at the District at any time prior to the effective date, or after the expiration or termination, of this Agreement.
2.4.2. This Agreement is not intended to, and shall not affect or govern the award of public works contracts by the District which are outside the approved scope of the Projects.

2.4.3. This Agreement is not intended to, and shall not affect the operation or maintenance of the District.

2.4.4. This Agreement shall not apply to a Contractor's/Employer's executives, managerial employees, engineering employees, supervisors (except those covered by existing building and construction trades collective bargaining agreements), and office and clerical employees.

2.4.5. This Agreement shall not apply to employees of the District.

2.4.6. This Agreement shall not apply to contracts awarded pursuant to any emergency public works project(s).

2.4.7 The District shall retain the right at all times to perform and/or subcontract small, incidental portions of related work on the Project site not contracted by the construction contract documents to the signatory Contractor(s) bound to this Agreement.

2.4.8. No provisions negotiated in any Master Agreement solely to apply to work covered by this Project Stabilization Agreement shall apply if such provisions are less favorable to the Contractor for work covered by this Project Stabilization Agreement than those provisions uniformly required of contractors for construction work normally covered by those Master Labor Agreements.

2.4.9  It is the legal obligation of the District to obtain the most competitive bids while maintaining the conditions of the Agreement. To ensure that a competitive bid is received from a range of general contractors, the Contra Costa Building and Construction Trades Council shall assist the District in soliciting interested parties in bidding on the Project(s). Additionally, the District recognizes that multiple subcontractor quotations of bids ensure the most competitive overall bid. The Contra Costa Building and Construction Trades Council shall assist the District in encouraging and soliciting local and other subcontractors in bidding to interested general contractors. In the event the Project bids over the estimated construction cost of the Project, the District reserves the right to request a list of all subcontractors which bid to the two lowest general contractors to verify that adequate competitive bidding was conducted. Additionally, if the project bids are over the estimated construction cost and fewer than three (3) general contractors bid on the Project(s), the District reserves the right, without reservation, to reject all bids and re-bid the Project.

2.4.10  This Agreement shall become effective on the day it is signed by the District, the Contra Costa Building and Construction Trades Council, AFL-CIO, and its affiliated local Unions and shall continue in full force and effect for a period of five (5) years, at which time this Agreement will be reviewed and considered for extension or renewal, with modifications, if appropriate. The terms of this Agreement shall continue to apply to
those Projects subject to this Agreement until construction is completed. The District and
the Contra Costa Building and Construction Trades Council may mutually agree in
writing to amend, extend or terminate this Agreement at any time. Should either the
District or the Contra Costa Building and Construction Trades Council, AFL-CIO, wish to
unilaterally terminate this Agreement prior to its expiration, that party must provide
written notice to the other party and, if a mutually acceptable resolution cannot be
reached, shall submit the request to a neutral arbitrator selected from the following list of
arbitrators, through a striking procedure, with a coin toss determining the order of
striking, for a final and binding determination whether just cause exists for early
termination of the Agreement because it is no longer serving the Purposes, as set forth
in the Recitals, herein:

Thomas Angelo
William Riker
Barry Winograd
Jerilou Cossack
William Engler

ARTICLE 3

EFFECT OF AGREEMENT

3.1. By executing this Agreement, the Unions and the District agree to be bound by each and
all of the provisions of the Agreement.

3.2. By accepting the award of a construction contract for a Project, whether as contractor or
subcontractor, the Contractor/Employer agrees to be bound by each and every provision of the
Agreement and agrees that it will evidence its acceptance prior to the commencement of work
by executing the Agreement to be Bound in the form attached hereto as Exhibit A.

3.3. At the time that any Contractor/Employer enters into a subcontract with any
subcontractor providing for the performance of a Construction Contract, the
Contractor/Employer shall provide a copy of this Agreement to said subcontractor and shall
require the subcontractor as a part of accepting an award of a construction subcontract to agree
in writing to be bound by each and every provision of this Agreement prior to the
commencement of work. If a Contractor/Employer requires a subcontractor to agree in writing to
comply with the terms of this Agreement as a condition of awarding work to the subcontractor,
the Contractor/Employer shall not be liable in any way for the subcontractor's failure to pay the
wages and benefits required by this Agreement except as required by the provisions of the
California Labor Code.

3.4. Except as enumerated in this Agreement, all other terms and conditions of employment
described in the Master Agreement of the Union having traditional and customary jurisdiction
over the work shall apply. The provisions of this Agreement shall take precedence over
conflicting provisions of any applicable Master Agreement, or any other national, area or local
collective bargaining agreement, except that all work performed under the NTL Articles of
Agreement, the National Stack/Chimney Agreement and the National Cooling Tower Agreement; all instrument calibration work and loop checking Covered Work shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and work within the craft jurisdiction of the Elevator Constructors will be performed under the terms of the National Agreements of the International Union of Elevator Constructors; provided that Articles 4 and 13 of this Agreement shall apply to all Covered Work. In the absence of a conflict, the provisions of the applicable Master Agreements shall govern.

3.5. This Agreement shall only be binding on the signatory parties hereto and shall not apply to the parents, affiliates, subsidiaries or other ventures of any such party.

3.6. This Agreement shall not be effective unless and until the District, the Contra Costa Building and Construction Trades Council AFL-CIO and all the Unions listed on the signature page have signed and dated this Agreement.

ARTICLE 4

WORK STOPPAGES. STRIKES, SYMPATHY STRIKES AND LOCKOUTS

4.1. The Unions, District and Contractor(s)/Employer(s) agree that for the duration of the Program:

4.1.1. There shall be no strikes, sympathy strikes, work stoppages, picketing, handbilling or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or employees employed on a covered Project, at the job site of the Project or at any other facility of the District because of a dispute on a covered Project or with a Contractor/Employer on the Project. It shall not be considered a violation of this provision for a Union to withhold labor (but not picket) from any Contractor/Employer who fails to make its timely payment of Trust Fund contributions or fails to meet its weekly payroll. The affected Union shall give 72-hour written notice to the District prior to withholding labor due to a Contractor’s failure to make timely payment of Trust Fund contributions or payroll. Although disputes arising between the Unions and Contractor(s)/Employer(s) on other projects are not governed by this Agreement, a Union may not take any action against Contractor(s)/Employer(s) on District property and/or on a District Project because of a dispute between the Unions and Contractor(s)/Employer(s) on other projects.

4.1.1.1 If the arbitrator determines, in accordance with this Article, a work stoppage has occurred, the respondent Union(s) shall, within eight (8) hours of receipt of the decision, direct all of the employees they represent on the Project to immediately return to work. If the craft(s) involved do not return to work by the beginning of the next regularly scheduled shift following such eight (8) hour period after receipt of the arbitrator’s decision, and the respondent Union(s) have not complied with their obligations to immediately instruct, order and use their best efforts to cause a cessation of the violation and return the employees they
represent to work, then the non-complying respondent Union(s) shall each pay a sum as liquidated damages to the District, and each will pay an additional sum per shift, as set forth in 4.1.1.3 below, for each shift thereafter on which the craft(s) have not returned to work.

4.1.1.2 If the arbitrator determines in accordance with this Article that a lock-out has occurred, the respondent Contractor(s) shall, within eight (8) hours after receipt of the decision, return all the affected employees to work on the Project, or otherwise correct the violation found by the arbitrator. If the respondent Contractor(s) do not take such action by the beginning of the next regularly scheduled shift following the eight (8) hour period, each non-complying respondent Contractor shall pay or give as liquidated damages, to the affected Union(s) (to be apportioned among the affected employees and the benefit funds to which contributions are made on their behalf, as designated by the arbitrator) and each shall pay an additional sum per shift, as set forth in 4.1.1.3 below, for each shift thereafter in which compliance by the respondent Contractor(s) have not been completed.

4.1.1.3 The arbitrator shall retain jurisdiction to determine compliance with this Section and to establish the appropriate sum of liquidated damages, which shall be not less than One Thousand Dollars ($1,000.00), nor more than Five Thousand Dollars ($5,000.00) per shift for each non-complying entity.

4.1.2. As to employees employed on a covered Project, there shall be no lockout of any kind by a Contractor/Employer subject to the Agreement.

4.1.3. If a Master Agreement between a Contractor/Employer and the Union expires before the Contractor/Employer completes the performance of a Construction Contract and the Union or Contractor/Employer gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike the Contractor/Employer on said contract for work covered under this Agreement, and the Union and the Contractor/Employer agree that the expired Master Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached between the Union and Contractor/Employer.

4.2. When a remedy is sought for an alleged breach of this Article, any party to this Agreement shall institute the following procedure, prior to any other action at law or equity.

4.2.1. A party invoking this procedure shall notify Thomas Angelo, as the permanent arbitrator, or Robert Hirsch, as the alternate, under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators in Article 12, Section 12.2. Notice to the arbitrator shall be by the most expeditious means available, with notices by facsimile or telephone to the party alleged to be in violation and to the Contra Costa Building and Construction Trades Council and involved Union if a Union is alleged to be in violation.
4.2.2. Upon receipt of said notice, the District will contact the designated arbitrator named above or his alternate who will attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3. The arbitrator shall notify the parties by facsimile or telephone of the place and time for the hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

Thomas Angelo's postal address, phone number, fax number and e-mail address are:

Thomas Angelo  
PO Box 1937  
Mill Valley CA 94943  
Phone: (415) 381-1701  
Fax: (415) 380-9792  
tangelomv@gmail.com

Robert Hirsch postal address, phone number, and e-mail address are:

Robert Hirsch  
PO Box 170428  
San Francisco, CA 94117  
Phone: 415-362-9999  
Rmhirsch@gmail.com

4.2.4. The sole issue at the hearing shall be whether or not a violation of Article 4, Section 4.1 of the Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation or mitigation of such violation or to award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the award. The arbitrator may order cessation of the violation of this Article and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

4.2.5. Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator’s award as issued under Section 4.2.4 of this Article, all parties waive the right
to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

4.2.6. Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

4.2.7. The fees and expenses of the arbitrator shall be divided equally between the parties to the arbitration.

4.2.8. The parties to this Agreement agree that the labor organizations have not waived their legal rights to undertake otherwise lawful activity with regard to any dispute or disputes which they may have regarding non-Project construction work and operations; provided, however, that any such activities by the signatory Unions shall not disrupt or interfere in any way with any work done at any District site. Recognizing the above and, in order to carry out the principles of this Agreement, the parties agree that should a signatory Union have a dispute with regard to non-covered work on or adjacent to any District site, the signatory Union will notify the Contra Costa Building and Construction Trades Council and shall not undertake on or adjacent to the property, any public activity regarding the dispute. Representatives of the involved Union and the Council shall meet with the representatives of the District to discuss and review the valid, legal manner and means by which the signatory Union may undertake its activities with regard to this dispute (giving due consideration in such discussions and review to the traditional concerns for the ongoing operations of the Project and to the importance of the continuity of the work covered by the Master Agreement), and develop a program which allows the signatory Union to exercise its legal rights but at the same time eliminates any possible disruptive effect on the ongoing Project construction work.

4.2.9. Should any Union or the District (or its Project Manager/Project Contractors/Employers) become aware of a possible or actual labor dispute involving non-Project construction work or operations and involving non-signatory unions which may result in public activity on or about any District site by such non-signatory unions, the representative of each will jointly meet to discuss such activity and to work together, using their best efforts, to avoid having such activity adversely impact or otherwise delay or interfere with ongoing Project construction work.

4.2.10. To the extent any provision in this Article 4 conflicts with the dispute resolution provisions of Public Contract Code section 20104, et seq, this Article 4 shall be null and void.
ARTICLE 5

PRECONSTRUCTION CONFERENCE

5.1. A preconstruction conference shall be held prior to the commencement of each construction Project. Such conference shall be attended by a representative each from the participating Contractor(s)/Employer(s) and Union(s) and the Project Manager.

ARTICLE 6

NO DISCRIMINATION

6.1. The Contractor(s)/Employer(s) and Unions agree not to engage in any form of discrimination on the ground or because of; race, color, creed, national origin, ancestry, age, sex, sexual orientation, disability or Acquired Immune Deficiency Syndrome or AIDS Related Condition (AIDS/ARC), or union status against any employee, or applicant for employment, on the Program.

ARTICLE 7

UNION SECURITY

7.1. The Contractor(s)/Employer(s) recognize the Union(s) as the sole bargaining representative of all craft employees working within the scope of this Agreement.

7.2. No employee covered by this Agreement is required to join any Union as a condition of being first employed on the Project.

7.3. All employees working on the Project shall be governed by the applicable Union security clause of the applicable craft's "Schedule A" Agreement. Employees hired by the Contractor(s)/Employer(s) shall, as a condition of employment, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the local Union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union employees from joining the local Union.

7.4. Authorized representatives of the Unions shall have access to the Projects whenever work covered by this Agreement is being, has been, or will be performed on the Projects, provided it is not disruptive to the work on the Projects or the operation of the District.
ARTICLE 8

REFERRAL

8.1. Contractor(s)/Employer(s) performing construction work on covered Projects shall, in filling craft job requirements be bound by and utilize the registration facilities and referral systems established or authorized by the signatory Unions when such procedures are not in violation of Federal law. The Contractor(s)/Employer(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.2. The Contractor(s)/Employer(s) shall have the unqualified right to select and hire directly all supervisors above the level of General Foreman it considers necessary and desirable, without such persons being referred by the Union(s). The selection of craft foremen and general foremen shall be entirely the responsibility of the Contractor(s). Foremen and general foremen shall take orders from the designated Contractor(s) representatives.

8.3. In the event that referral facilities maintained by the Unions are unable to fill the requisition of a Contractor/Employer for employees within a forty-eight (48) hour period (Saturday, Sundays and holidays excluded) after such requisition is made by the Contractor/Employer, the Contractor/Employer shall be free to obtain work persons from any source.

8.4. Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s)/Employer(s). The parties to this Agreement support the development of increased numbers of skilled construction workers from graduates of District schools and residents of Contra Costa County and the surrounding East Bay Area to meet the needs of District Projects and the requirements of the industry generally. Toward that end, the Unions agree to encourage the referral and utilization, to the extent permitted by law and the hiring hall procedures, of qualified graduates of District schools, Contra Costa residents and residents of the East Bay Area as journeymen and apprentices to covered Projects and entrance into such apprenticeship and training programs as may be operated by the Unions.

8.5. Recognizing the special needs of District Projects, the Unions shall consider a Contractor(s)/Employer(s) request to transfer key employees to work on a covered Project in a manner consistent with the Union's referral procedures.

ARTICLE 9

BENEFITS

9.1. All Contractor/Employers agree to pay contributions to the vacation, pension and other form of deferred compensation plan, apprenticeship, and health benefit funds established in the applicable Schedule A for each hour worked on the Project in amounts no less than those designated in the Department of Industrial Relations Wage Determination of the applicable craft.
9.2. The Contractor(s)/Employer(s) shall not be required to pay contributions to any other trust funds that are not contained in the published prevailing wage determination to satisfy their obligation under this Article except those Contractor(s)/Employer(s) who are signatory to the Master Agreements with the respective trades shall continue to pay all trust fund contributions as outlined in such Master Agreements.

9.3. By signing this Agreement, the Contractor(s)/Employer(s) adopt and agree to be bound by the written terms of the legally established Trust Agreements as described in Section 9.1 above specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds.

9.4. Wages, Hours, Terms and Conditions of Employment: The wages, hours and other terms and conditions of employment on a Project shall be governed by the Master Agreement of the respective crafts, copies of which shall be on file with the District, to the extent such Master Agreement is not inconsistent with the applicable Department of Industrial Relations Prevailing Wage Determinations which shall establish minimum wages. Where a subject is covered by the Master Agreement and not covered by a Wage Determination or this Agreement, the Master Agreement will prevail. When a subject is covered by both the Master Agreement and this Agreement, to the extent there is any inconsistency, this Agreement will prevail.

ARTICLE 10

LOCAL HIRE

10.1. It is an objective of the parties that not less than 25 percent (25%) of all hours worked by journeyman and apprentices on the Project, on a craft by craft basis, be worked by residents of the area served by the Contra Costa Community College District. The Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s)/Employer(s). The parties to this Agreement support the development of increased numbers of skilled construction workers from the area served by the District. To the extent allowed by law, and consistent with the local Union's hiring hall provisions, and as long as they possess the requisite skills and qualifications, residents of the area served by the District, including journeyman and apprentices, shall be referred for Project work covered by this Agreement.

ARTICLE 11

COMPLIANCE

11.1. It shall be the responsibility of the Contractor(s)/Employer(s) and Unions to investigate and monitor compliance with the provisions of the Agreement contained in Article 9. Nothing in this agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Employers on the Project. The District shall monitor and enforce compliance with the prevailing wage requirements of the State and Contractor'(s)/Employer'(s) compliance with this Agreement if the District operates a labor compliance program ("LCP") on the Covered Project and if that LCP requires the District to monitor and enforce this compliance.
ARTICLE 12

GRIEVANCE ARBITRATION PROCEDURE

12.1. The parties understand and agree that questions between or among parties signatory to a Master Agreement arising out of or involving the interpretation of a Master Agreement shall be resolved under the grievance procedure provided in that Master Agreement. The parties further understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, such dispute shall be settled by means of the procedures set out herein. No grievance filed under this Grievance Arbitration Procedure shall be recognized unless the grieving party (Union on its own behalf, or on behalf of an employee whom it represents, or a Contractor/Employer on its own behalf) provides notice in writing to the signatory party with whom it has a dispute within five (5) days after becoming aware of the dispute but in no event more than thirty (30) days after it reasonably should have become aware of the event giving rise to the dispute. The time limits in this Section 12.1 may be extended by mutual written agreement of the parties.

12.2. Grievances shall be settled according to the following procedures:

Step 1: Within five (5) business days after the receipt of the written notice of the grievance, the Business Representative of the involved local Union or his/her designee, or the representative of the employee, and the representative of the involved Contractor/Employer shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within the five (5) business days after its referral to Step 1, the International Union Representative and the Contractor involved shall meet within seven (7) working days of the referral of the dispute to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. In the event that these representatives are unable to resolve the dispute after its referral to Step 2, either involved party may submit it within three (3) business days to the Grievance Committee, which shall meet within five (5) business days after such referral (or such longer time as is mutually agreed upon by all representatives on the Grievance Committee), to confer in an attempt to resolve the grievance. The Grievance Committee shall be comprised of

- two (2) representatives of the District; and
- two (2) representatives of the Contra Costa Building & Construction Trades Council.

If the dispute is not resolved within such time (five (5) business days after its referral or such longer time as mutually agreed upon) it may be referred within five (5) business days by either party to Step 3.

Step 3: Within five (5) business days after referral of a dispute to Step 3, the representatives shall choose a mutually agreed upon arbitrator for final and binding
The parties agree that if the permanent arbitrator or his alternate is not available, an arbitrator shall be selected by the alternate striking method from the list of five (5) below:

1. Barry Winograd
2. Thomas Angelo
3. Robert Hirsch
4. William Riker
5. Joseph Grodin

The decision of the Arbitrator shall be binding on all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from, any of the provisions of the Agreement. The expense of the Arbitrator shall be divided equally between the parties to the arbitration.

The Arbitrator shall arrange for a hearing on the earliest available date from the date of his/her selection. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the presiding Arbitrator.

The time limits specified in any step of the Grievance Procedure set forth in Section 12.2 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without an agreed upon extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

In order to encourage the resolution of disputes and grievances at Steps 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

ARTICLE 13

JURISDICTIONAL DISPUTES

13.1. The assignment of Covered Work will be solely the responsibility of the Employer performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

13.2. All jurisdictional disputes on this Project between or among the Building and Construction Trades Unions and their employers, parties to this Agreement, shall be settled and
adjusted according to the present Plan established by the Building and Construction Trades
Department or any other plan or method of procedure that may be adopted in the future by the
Building and Construction Trades Department. Decisions rendered shall be final, binding and
conclusive on the Employers and Unions parties to this Agreement.

13.2.1. For the convenience of the parties, and in recognition of the expense of travel
between Northern California and Washington, DC, at the request of any party to a
jurisdictional dispute under this Agreement an Arbitrator shall be chosen by the
procedures specified in Article V, Section 5, of the Plan from a list composed of John
Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator's hearing
on the dispute shall be held at the offices of the applicable Building and Construction
Trades Council. All other procedures shall be as specified in the Plan.

13.3. All jurisdictional disputes shall be resolved without the occurrence of any strike, work
stoppage, or slow-down of any nature, and the Employer's assignment shall be adhered to until
the dispute is resolved. Individuals violating this Section shall be subject to immediate
discharge.

13.4. Each Employer will conduct a pre-job conference with the Local Council prior to
commencing work. Primary Employer will be advised in advance of all such conferences and
may participate if they wish. Pre-job conferences for different Employers may be held together.

ARTICLE 14

APPRENTICES

14.1. Recognizing the need to maintain continuing support of programs designed to develop
adequate numbers of competent workers in the construction industry, the
Contractor(s)/Employer(s) shall employ apprentices of a State-approved Apprenticeship
Program in the respective crafts to perform such work as is within their capabilities and which is
customarily performed by the craft in which they are indentured.

14.2. The apprentice ratios will be in compliance with the applicable provisions of the
California Labor Code and Prevailing Wage Rate Determination.

14.3. There shall be no restrictions on the utilization of apprentices in performing the work of
their craft provided they are properly supervised.

ARTICLE 15

HELMETS TO HARDHATS

15.1. The Contractors/Employers and Unions recognize a desire to facilitate the entry into the
building and construction trades of veterans and members of the National Guard and Reserves
who are interested in careers in the building and construction industry. The
Contractors/Employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center"), a joint Labor-Management Cooperation Trust Fund, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section 186(c)(9), and a charitable tax exempt organization under Section 501(c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

15.2. The Unions and Contactors/Employers agree to coordinate with the Center to create and maintain an integrated database of veterans and members of the National Guard and Reserves interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Contractors/Employers and Unions will give credit to such veterans and members of the National Guard and Reserves for bona fide, provable past experience.

15.3. In recognition of the work of the Center and the value it offers to the Project, Contractors/Employers performing work on the Project, on a voluntary basis, may elect to contribute to the Center the amount of one cent ($0.01) per hour for each hour worked by each individual employee covered by this Agreement. Any such payments shall be forwarded monthly to the Center in a form and manner to be determined by the Center's Trustees.

15.4. The Center shall function in accordance with, and as provided in the Agreement and Declaration of Trust creating the fund, and any amendments thereto, and any other of its governing documents. Each Contractor(s)/Employer(s) electing to contribute to the Center approves and consents to the appointment of the Trustees designated pursuant to the Trust Agreement establishing the Center and hereby adopts and agrees to be bound by the terms and provisions of the Trust Agreement.

ARTICLE 16

MANAGEMENT RIGHTS

16.1. The Contractor(s)/Employer(s) shall retain full and exclusive authority for the management of their operations, including the right to direct their work force in their sole discretion. No rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of employees except that lawful manning provisions in the Master Agreement shall be recognized.

16.2. Except as provided in Section 2.1, there shall be no limitation or restriction upon the choice of materials or upon the full use and installation of equipment, machinery, package units, factory pre-cast prefabricated or preassembled materials, tools or other labor saving devices. The on-site installation or application of all items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that installation of specialty items which may be furnished by the owner of the Project or a Contractor shall be performed by
construction persons employed under this Agreement who may be directed by other personnel in a supervisory role, provided, however, in limited circumstances requiring special knowledge of the particular item(s), may be performed by construction persons of the vendor or other companies where necessary to protect a manufacturer’s warranty. In such instances all provisions of this Agreement shall apply. The issue of whether it is necessary to use construction persons of the vendor or other companies to protect the manufacturer’s warranty shall be subject to the grievance and arbitration clause of this Agreement.

ARTICLE 17

SAVINGS CLAUSE

17.1 The parties agree that in the event any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction such as the Department of Industrial Relations, the Division of Apprenticeship Standards, and other applicable labor related governmental agencies the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by a court of competent jurisdiction or other labor related governmental authorities, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

ARTICLE 18

MISCELLANEOUS PROVISIONS

18.1 Counterparts: This Agreement may be executed in counterparts, such that original signatures may appear on separate pages, and when bound together all necessary signatures shall constitute an original. Facsimile signature pages transmitted to other parties to this Agreement shall be deemed equivalent to original signature.

18.2 Warranty of Authority: Each of the persons signing this Agreement represents and warrants that such person has been duly authorized to sign this Agreement on behalf of the party indicated, and each of the parties by signing this Agreement warrants and represents that such party is legally authorized and entitled to enter into this Agreement.

18.3 Ratification by Governing Board: This Agreement shall not be binding on the District until it is approved by the Contra Costa Community College District Governing Board.

18.4 The Agreement shall be included as a condition of the award of all Construction Contracts that are a part of the PSA Program.

18.5 The parties shall establish and implement reasonable substance abuse testing procedures and regulations, which may include prehire, reasonable cause, random and post-
accident testing, to the extent permitted and/or required by Federal and State Law. Should the District administrator for the PSA approve an established program to which signatory Unions are currently a party, such program may become the Project-wide substance abuse testing program, after consultation with the Unions. Until there is such a Project-site substance abuse testing procedure negotiated by the District administrator and the Unions for the PSA, such substance abuse testing procedures as are contained in the Schedule A’s shall be applicable to work on the Project, pursuant to their terms.

Contra Costa Community College District

BY: Helen Benjamin
    Chancellor

DATE: 10-22-12

Contra Costa Building & Construction Trades
Council AFL-CIO (Council)

BY: Greg Feere
    Secretary-Treasurer
    Business Manager

Exhibit A
Agreement to Be Bound

Project Stabilization Agreement

The undersigned, as a Contractor on the Contra Costa Community College Project Stabilization Agreement "Project", subject to the Project Stabilization Agreement "Agreement", for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the promises made in the Agreement and all attachments, a copy of which was received and is acknowledged, hereby:

1. Accepts and agrees to be bound by the terms and conditions of the Agreement together with any and all amendments and supplements now existing or which are later made thereto only for the duration and scope of the Contractor's work on the Project.

2. The Contractor agrees to be bound by the legally established trust agreements designated in local master collective bargaining agreements. The Contractor authorizes the parties to such local trust agreements to appoint trustees and successor trustee to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor.

3. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement.

4. Agrees to secure from any Contractor(s) (as defined in said Agreement) which are or become a subcontractor (of any tier) to it a duly executed Agreement to be Bound in a form identical to this document.

___________________________________   __________________________
Signature of (Sub)Contractor     Date

___________________________________________ ___________________________
(Authorized Officer & Title)     Contractor's State License #
Exhibit B
List of "Schedule A" Agreements:
Collective Bargaining Agreements of each craft signatory to this Project Stabilization Agreement

1. Asbestos Workers Local 16
2. Boilermakers Local 549
3. Bricklayers Local 3
4. Northern California Regional Council of Carpenters for and on Behalf of Their Affiliated Crafts
5. Sheet Metal Workers Local 104
6. Operating Engineers Local 3
7. Painters District Council 16
8. Sprinkler Fitters Local 483
9. United Association Local 342
10. Teamsters Local 315
11. Hod Carriers Local 166
12. Roofers Local 81
13. Iron Workers Local 378
14. Laborers Local Union 324
15. Laborers Local Union 67
16. Cement Masons Local 300
17. Electrical Workers Local 302
18. Plasterers Local 66
19. United Association Local 159
20. United Association Local 355
21. Elevator Constructors Local 8
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**PSA for the Contra Costa Community College District 2012**
SECTION 00650
NOTICE TO PROCEED

Date: __________________________

TO: _____________________________________________________________

ADDRESS:________________________________________________________________

PROJECT: __________________________________________________________________

You are notified that the Contract Time under the above contract will commence to run on ______________. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Section 00600, Construction Agreement, the date of Substantial Completion is ______________________, and the date for Final Completion is ______________________.

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

By: __________________________________________

Ray Pyle
Title: Chief Facilities Planner

END OF DOCUMENT
SECTION 00700

GENERAL CONDITIONS

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ARTICLE 1

GENERAL CONDITIONS

1.1 Basic Definitions

1.1.1 Action of the Governing Board is a vote of a majority of the District’s governing board.

1.1.2 Approval for a Contract, Agreement, or Change Order means written authorization through action of the governing board unless specific delegation of approval authority is delegated to a District representative.

1.1.3 Approved. The term “approved,” when used to convey Architect’s action on Contractor’s submittals, applications, and requests, is limited to Architect’s duties and responsibilities as stated in the Conditions of the Contract.

1.1.4 Architect means the architect, engineer, or other design professional engaged by the District to design and perform general observation of the work of construction and interpret the drawings and specifications for the Project.

1.1.5 As shown, as indicated, as detailed refer to drawings accompanying this specification.

1.1.6 Bid/Bidders. The term Bid and Proposal have the same meaning, and the same is true for Bidders and Proposers.

1.1.7 Contract or Agreement. When the terms are used in these General Conditions shall be references to the Contract Documents as defined herein.

1.1.8 Contract Time. Contract Time means the number of consecutive calendar days specified in the contract immediately after the date to commence work issued by Owner in the Notice to Proceed and includes both the time allowed for completion of the work required to achieve Substantial Completion and the time allowed to complete the Remaining Work.

1.1.9 Contractor. Whenever the term “Contractor” is used in the Contract or elsewhere in the Contract Documents, it refers to a person or entity that has an agreement directly with the District to perform any of the work for the Project. The term Contractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Contractor or his authorized representative. The term Contractor does not include any contractors under separate and direct contract with the District. A Subcontractor is a person or entity that has a direct or indirect contract with the Contractor to perform any of the Work at the site.

1.1.10 Contractor’s Construction Schedule. The document prepared by the Contractor, which details the events of construction and establishes completion dates for the various stages of the Work and the entire project.

1.1.11 The Contract Documents. The Contract Documents consist of the Agreement between District and Contractor (hereinafter the Agreement or Contract), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, addenda issued prior to bid, instructions
to bidders, notice to bidders, and the requirements contained in the Bid Documents, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is a written amendment to the Contract signed by parties, a Change Order, a Construction Change Directive, or a written order for a minor change in the Work issued by the Architect. The Contract Documents collectively form the Contract. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a written Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Architect and Contractor, between the District and any Subcontractor or Sub-subcontractor, or between any persons or entities other than the District and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect’s duties.

1.1.12 Contractor, District, and Architect are those mentioned as such in the Agreement. They are treated throughout the Contract Documents as if they are of singular number and neuter gender. Any reference to “Owner” shall mean “District.”

1.1.13 Construction Manager. Whenever the term “Construction Manager” or “CM” is used in the contract or elsewhere in the Contract Documents, it refers to the District assigned Construction Manager, or the District Project Manager if no CM is assigned.

1.1.14 Days means calendar days, unless otherwise noted as working days.

1.1.15 Directed. Terms such as “directed,” “requested,” “authorized,” “selected,” “approved,” “required,” and “permitted” mean directed by the Architect or the District, requested by the Architect or District, and similar phrases.

1.1.16 District. Whenever the term “District” is used in the Contract Documents, it refers to the Contra Costa Community College District or those persons designated by the District to act in/on its behalf.

1.1.17 The Drawings are graphic and pictorial portions of the Contract Documents prepared for the Project and approved changes thereto, wherever located and whenever issued, showing the design, location, and scope of the Work, generally including plans, elevations, sections, details, schedules, and diagrams as drawn or approved by the Architect.

1.1.18 Emergency shall be defined as a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage.

1.1.19 Exposed. Whenever this term is used it shall be understood to mean any item or surface, exterior, or interior, which can be seen by a person outside the building, or seen by a person inside any usable space within the building during normal activity. Mechanical and electrical rooms, utility and service tunnels, air handling rooms, and penthouses or platforms shall be considered to have exposed surfaces, as shall the mechanical and electrical construction within them. The interior of closets and alcoves shall be considered exposed surfaces, and shall be finished to match the finish of the adjoining room or space, unless another finish is shown. The interiors of cabinets shall be considered exposed, but a finish different from that of the exterior may be permitted or specified. Spaces which are not normally
occupied or used by occupants or building staff, such as shafts, hoistways, ceiling plenums, attics and
crawl spaces shall be considered “concealed” spaces, unless finishes are shown or specified for their
surfaces.

1.1.20 **Final Completion.** The date when all Work for the total project has been completed in
accordance with the terms of the Contract Documents and has been inspected following completion of
Work identified in the Punchlist Inspection and accepted by the Architect and the District.

1.1.21 **Furnish.** Whenever this term is used it shall be understood to mean “purchase and deliver
to the project site” ready for unloading, unpacking, assembly, installation, and similar operations.

1.1.22 **Governing Dictionary.** The definitions of words used in these Specifications, which are
not defined, The General Conditions, or in referenced standards, are as given in “The American Heritage
Dictionary of the English Language”.

1.1.23 **Indicated.** The term “indicated” refers to graphic representations, notes, or schedules on
Drawings or to other paragraphs or schedules in Specifications and similar requirements in the Contract
Documents. Terms such as “shown,” “noted,” “scheduled,” and “specified” are used to help the user
locate the reference.

1.1.24 **Inspector of Record** is the individual retained by the District in accordance with titles 21
and 24 of the California Code of Regulations and who will be assigned to the Project. May also be referred
to as the Project Inspector.

1.1.25 **Install.** Whenever this term is used it shall be understood to mean “receive, unload,
inventory, store and be responsible for at the project site, transport from point of receipt to final
destination, protect, unpack, erect, install in place, anchor, connect, apply, and place in operation or
finish, cleaning, complete for intended use.”

1.1.26 **Installer.** An installer is the Contractor or another entity engaged by Contractor as an
employee, Subcontractor, or Sub subcontractor, to perform a particular construction operation, including
installation, erection, application, and similar operations. Using a term such as “carpentry” does not imply
that certain construction activities must be performed by accredited or unionized individuals of a
corresponding generic name, such as “carpenter.” It also does not imply that requirements specified
apply exclusively to trades people of the corresponding generic name.

1.1.27 **Locality in which the work is performed** means the county in which the Project is located.

1.1.28 **Option.** Whenever this term is used it shall be understood to mean a choice from among
the specified products or procedures which shall be made by the Contractor. The choice is not “whether”
the work is to be performed, but “which” product or “which” procedure is to be used. The product or
procedure chosen by the Contractor shall be provided at no increase in the cost to the District with no
lessening of the Contractor’s responsibility for its performance. All or any options selected or proposed are still subject to all requirements for submittals and for approval of same.

1.1.29 Or Equal and Or Approved Equal. The terms “or equal” and “or approved equal” shall mean “or equal as approved in writing by the Architect”.

1.1.30 The Project is the complete construction of the Work performed in accordance with the Contract Documents.

1.1.31 The Project Manual. The Project Manual is the volume assembled for the Work which may include, without limitation, the bidding requirements, sample forms, Conditions of the Contract, and Specifications.

1.1.32 The Project Site. Project site is the space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.1.33 Provide shall include “provide complete in place,” that is “furnish and install.” Complete and ready for the intended use.

1.1.34 Punch List Inspection. The inspection performed by the Construction Manager, Architect and the District upon written notification by the Contractor that the Work is substantially complete.

1.1.35 Regulations. The term “regulations” includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

1.1.36 Remaining Work. Remaining Work means the work required by the Contract, but not required for Substantial Completion, that the District or Architect determines has not been satisfactorily completed at the time of Substantial Completion, deferred commissioning requirements, deferred and seasonal testing, and all maintenance and operating instructions, schedules, reports, guaranties, warranties, bonds, certificates of inspection, marked-up As-Built documents, prevailing wage compliance reports and all other documents as required by the Contract Documents. Remaining Work may also be referred to as Punch List work.

1.1.37 Safety Orders are those issued by any cognizant city, county, state or federal agency.

1.1.38 Site refers to the grounds of the Project as defined in the Contract Documents and such adjacent lands as may be directly affected by the performance of the Work.

1.1.39 The Specifications. The Specifications are that portion of the Contract Documents consisting of the written requirements for material, equipment, construction systems, instructions, quality assurance standards, workmanship, and performance of related services.

1.1.40 Specification Language. These Specifications are written in the imperative mood, as defined in the Construction Specifications Institute’s Manual of Practice. Imperative language is directed to the Contractor. The indicative mood is employed on occasion when such sentence structure is necessary to convey the intended meaning in a more accurate or understandable form. The text is streamlined, with the colon (:) employed as a symbol for the words “shall be”, “shall have”, “shall conform.
with”, “shall comply with”, or “shall meet the requirements of”. The colon is also used to separate a paragraph title or heading from the text that follows.

1.1.41 Standards, Rules, and Regulations referred to are recognized printed standards and shall be considered as one and a part of these specifications within limits specified. Federal, state and local regulations are incorporated into the Contract Documents by reference.

1.1.42 Subcontractor, as used herein, includes those having direct or indirect contracts with Contractor and ones who furnished labor, material or services for a special design according to drawings and specifications of this Work, but does not include ones who merely furnish material not so worked.

1.1.43 Substantial Completion. The date on which the Work or designated portion thereof, as certified by the District Project Manager and Architect, is sufficiently complete, in accordance with the Contract Documents, so the District, may occupy or utilize the Work or designated portion thereof for the use for which it is intended.

1.1.44 Surety is the person, firm, or corporation that executes as surety the Contractor’s Performance Bond and Payment Bond.

1.1.45 Work of the Contractor or Subcontractor shall include all labor, materials and equipment necessary for the Contractor to fulfill all of its obligations pursuant to the Contract Documents. It shall include the initial obligation of any Contractor or Subcontractor who performs any portion of the Work, to visit the Site of the proposed Work (a continuing obligation after the commencement of the Work), to fully acquaint and familiarize itself with the conditions as they exist and the character of the operations to be carried out under the Contract Documents, and make such investigation as it may see fit so that it shall fully understand the facilities, physical conditions, and restrictions attending the Work under the Contract Documents. Each such Contractor or Subcontractor shall also thoroughly examine and become familiar with the Drawings, Specifications, and associated bid documents before preparing and submitting any bid.

1.1.46 Workers includes laborers, workers, and mechanics.

1.2 Execution, Correlation and Intent

1.2.1 Correlation and Intent

1.2.1.1 Documents Complementary and Inclusive. The Contract Documents are complementary; what is required by one shall be as binding as if required by all. The Contract Documents will be construed in accordance with the laws of the State of California and applicable building codes and statutes of the City and/or County where the Project is located. The intent of the Contract Documents is to describe and provide for a functionally complete and operational Project (or part thereof) to be constructed in accordance with the Contract Documents. All Work, materials, and equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as necessary to properly execute and complete the Work to conform to the requirements of the Contract Documents and provide for a functionally complete and operational Project shall be provided by Contractor with no change in the Contract Sum or Contract Time. A typical or representative detail on the Drawings shall constitute the
standard for workmanship and material throughout corresponding parts of the Work. Where necessary, and where reasonably inferable from the Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of the Work with no change in the Contract Sum or Contract Time. The details of such adaptation shall be submitted to the City for approval. Repetitive features shown in outline on the Drawings shall be in exact accordance with corresponding features completely shown. All Contract Documents form the Contractor’s contract with the District. Any item of Work mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be provided by Contractor as if shown or mentioned in both. Ambiguities or inconsistencies arising as a result of separation of sections or portions of the drawings or specifications by or for subcontractor bidding shall not relieve the Contractor for providing the complete Work at the Contract Price and within the Contract Time.

1.2.1.2 Coverage of the Drawings and Specifications. The Drawings and Specifications generally describe the Work to be performed by Contractor. Generally, the Specifications describe Work which cannot be readily indicated on the Drawings and indicate types, qualities, and methods of installation of the various materials and equipment required for the Work. It is not intended to mention every item of Work in the Specifications, which can be adequately shown on the Drawings, or to show on the Drawings all items of Work described or required by the Specifications even if they are of such nature that they could have been shown. All materials or labor for Work, which is shown on either the Drawings or the Specifications (or is reasonably inferable therefrom as being necessary to complete the Work), shall be provided by the Contractor to provide a complete project. It is intended that the Work be of sound, quality construction, and the Contractor shall be responsible for the inclusion of adequate amounts to cover installation of all items indicated, described, or implied in the portion of the Work to be performed by them.

1.2.1.3 Conflicts. In the event there is a discrepancy between the various Contract Documents, the more stringent, higher quality, and greater quantity of Work shall apply.

1.2.1.4 Conformance with Laws. Each and every provision of law required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein, even if through mistake or otherwise any such provision is not inserted, or is not correctly inserted. Before commencing any portion of the Work, Contractor shall check and review the Drawings and Specifications for such portion for conformance and compliance with all laws, ordinances, codes, rules and regulations of all governmental authorities and public and municipal utilities affecting the construction and operation of the physical plant of the Project, all quasi-governmental and other regulations affecting the construction and operation of the physical plant of the Project, and other special requirements, if any, designated in the Contract Documents. Such checking shall include Title 21 and Title 24 of the California Code of Regulations, California Building Code, local utility, local water connection, local grading and all other applicable agencies. In the event Contractor observes any violation of any law, ordinance, code, rule or regulation, or inconsistency with the Contract Documents, Contractor shall, within five (5) days, notify Architect and District in writing of same and shall ensure that any such violation or inconsistency shall
be corrected in the manner provided hereunder prior to the construction of that portion of the Project. The Contractor shall bear all expenses of correcting Work done contrary to said laws, ordinances, rules, and regulations if the Contractor performed same (1) without first consulting the Architect for further instructions regarding said Work or (2) disregarded the Architect’s instructions regarding said work.

1.2.1.5 Ambiguity and Inconsistency. Before commencing any portion of the Work, Contractor shall carefully examine all Drawings and Specifications and other information given to Contractor as to materials and methods of construction and other Project requirements. Contractor shall, within five (5) days, notify Architect and District in writing of any perceived or alleged error, inconsistency, conflict, ambiguity, or lack of detail or explanation in the Drawings and Specifications in the manner provided herein. If the Contractor or its Subcontractors, material or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any Work under the Contract Documents, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all costs arising therefrom including, without limitation, the cost of correction thereof without increase or adjustment to the Contract Price or the time for performance. If Contractor performs, permits, or causes the performance of any Work under the Contract Documents prepared by or on behalf of Contractor which is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all resulting costs, including, without limitation, the cost of correction, without increase to or adjustment in the Contract Price or the Time for performance. Ambiguities or inconsistencies arising as a result of separation of sections or portions of the drawings or specifications by or for subcontractor bidding shall not relieve the Contractor for providing the complete Work without increase to or adjustment in the Contract Price or the Time for performance.

1.2.2 Addenda and Deferred Approvals

1.2.2.1 Addenda are the changes in specifications, drawings, and contract documents, which have been authorized in writing by the District or Architect prior to receipt of bids, and which alter, explain, or clarify the contract documents. Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda unless otherwise specified in the addenda.

1.2.2.2 Deferred Approvals. Contract Documents which require deferred approval items are meant to be for illustration purposes only. Contractor is responsible for all deferred approval requirements set forth in the Contract Documents. Contractor is responsible to comply with all laws, building codes, and regulations necessary to obtain all necessary approvals, including those required from the Division of the State Architect (“DSA”) and the State Fire Marshall. Contractor shall not be granted an extension of time for failure to obtain necessary approvals due to failure to comply with laws, building codes, and other regulations (including Title 24 of the California Code of Regulations). Contractor shall schedule all deferred approval items in its progress schedule pursuant to Article 3. If Contractor fails to include deferred-approval items in its schedule which results in a critical path delay, then Contractor shall be subject to the assessment of liquidated damages.
1.2.2.3 Deferred Approval Requirements. Deferred approvals shall be submitted and processed pursuant to the requirements of Division 1 of the Specifications. All deferred approvals shall be prepared by Contractor or Contractor’s agent early enough so as to not delay the Project. Contractor is aware that Title 21 California Code of Regulations Section 17(g) and Title 24 California Code of Regulations Section 4-317 have specific requirements for deferred approval as to governing agencies and as to the Architect and Engineer for the Project. As a result, any delay associated with the time for approval by applicable agencies or by the Architect or Architect’s consultants shall be Contractor’s.

1.2.3 Specification Interpretation

1.2.3.1 Titles. The Specifications are separated into titled sections for convenience only and not to dictate or determine the trade or craft involved.

1.2.3.2 As Shown, Etc. Where “as shown,” “as indicated,” “as detailed,” or words of similar import are used, reference is made to the Drawings accompanying the Specifications unless otherwise stated. Where “as directed,” “as required,” “as permitted,” “as authorized,” “as accepted,” “as selected,” or words of similar import are used, the direction, requirement, permission, authorization, approval, acceptance, or selection by Architect is intended unless otherwise stated.

1.2.3.3 General Conditions. The General Conditions and supplementary general conditions are a part of each and every section of the Specifications.

1.2.3.4 Abbreviations. In the interest of brevity, the Specifications are written in an abbreviated form and may not include complete sentences. Omission of words or phrases such as “Contractor shall,” “shall be,” etc., are intentional. Nevertheless, the requirements of the Specifications are mandatory. Omitted words or phrases shall be supplied by inference in the same manner as they are when a “note” occurs on the Drawings. In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.2.3.5 Plural. Words in the singular shall include the plural whenever applicable or the context so indicates.

1.2.3.6 Metric. The Specifications may indicate metric units of measurement as a supplement to U.S. customary units. When indicated thus: 1” (25 mm), the U. S. customary unit is specific, and the metric unit is nonspecific. When not shown with parentheses, the unit is specific. The metric units correspond to the “International System of Units” (SI) and generally follow ASTM E 380, “Standard for Metric Practice.”

1.2.3.7 Standard Specifications. Any reference to standard specifications of any society, institute, association, or governmental authority is a reference to the organization’s standard specifications, which are in effect at the date of the Contractor’s proposal unless directed otherwise. If applicable specifications are revised prior to completion of any part of the Work, the Contractor may, if acceptable to Architect, perform such Work in accordance with the revised specifications. The standard specifications, except as modified in the Specifications for the Project, shall have full force
and effect as though printed in the Specifications. Architect will furnish, upon request, information as to how copies of the standard specifications referred to may be obtained.

1.2.4 **Rules of Document Interpretation**

1.2.4.1 In the event of conflict within the drawings, the following rules shall apply:

(a) General Notes, when identified as such, shall be incorporated into other portions of Drawings.

(b) Schedules, when identified as such, are complementary with other notes and other portions of Drawings including those identified as General Notes.

(c) Larger scale drawings shall take precedence over smaller scale drawings.

(d) At no time shall the Contractor base construction on scaled drawings.

1.2.4.2 Specifications shall govern as to materials, workmanship, and installation procedures.

1.2.4.3 If Contractor observes that drawings and specifications are in conflict, Contractor shall, within five (5) days, notify the Architect in writing for the purposes of obtaining an interpretation of the Contact Documents.

1.2.4.4 In the case of conflict or inconsistencies, the order of precedence shall be as follows:

(a) General Conditions take precedence over Drawings and Specifications.

(b) Special Conditions take precedence over General Conditions.

(c) The Agreement shall take precedent over the Special Conditions.

(d) In the case of disagreement or conflict between or within standards, specifications, and drawings, the more stringent, higher quality, and greater quantity of Work shall apply.

1.3 **OWNERSHIP AND USE OF ARCHITECT’S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS**

The Drawings, Specifications, and other contract documents for the Project are the property of the District and/or Architect pursuant to Education Code § 17316. The Contractor may retain one contract record set. 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. All copies except the Contractor’s record set, shall be returned or properly accounted for upon completion of the Work. The Drawings, Specifications, and other documents prepared by the Architect, and copies thereof furnished to the Contractor are not to be used by the Contractor or any Subcontractor, Sub-subcontractor, or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work. The District and/or Architect hereby grants the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings, Specifications, and other documents prepared for the Project in the execution of their Work under the Contract Documents. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the District’s property interest or other reserved right.
ARTICLE 2

DISTRICT

2.1 INFORMATION AND SERVICES REQUIRED OF THE DISTRICT

2.1.1 Site Survey.

If applicable, the District will furnish, at its expense, a legal description of the Site and a land survey showing the boundaries of the Site. Contractor shall be responsible for all surveys regarding location of construction, grading and site work.

2.1.2 Soils.

When required by the scope of the Project, the District will furnish, at its expense, the services of geotechnical engineers or consultants when reasonably required and deemed necessary by the Architect or as required by local or state codes. Such services, with written reports and appropriate written professional recommendations, may include test boring, test pits, soil bearing values, percolation tests, air and water pollution tests, and ground corrosion and resistivity tests, including necessary operations for determining subsoil, air, and water conditions.

2.1.3 Contractor Reliance.

If appropriate to the Work, a soils investigation report has been obtained from test holes at the Site, and such report is available for the Contractor’s use in preparing its bid and Work under this Contract. The soils report is provided for review. Any information obtained from such report or any other information given on drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only. If, during the course of Work under this Contract, Contractor encounters subsurface conditions which differ materially from those indicated in the soils investigation report, then Contractor shall notify the District within five (5) calendar days of discovery of the condition, and changes to the contract price may be made in accordance with Article 7 entitled “Changes in the Work.” Contractor agrees that no claim against District will be made by Contractor for damages and hereby waives any rights to damages in the event the Contractor fails to notify District within the five-day period mentioned above.

WARNING: DISTRICT DOES NOT WARRANT THE SOILS AT THE PROJECT SITE. SOILS INVESTIGATION REPORT IS PROVIDED FOR CONTRACTORS INFORMATION ONLY. CONTRACTOR HAS CONDUCTED AN INDEPENDENT INVESTIGATION OF THE PROJECT SITE AND THE SOILS CONDITIONS OF THE SITE. DISTRICT DOES NOT WARRANT THE SOILS CONDITIONS OF THE SITE AND CONTRACTOR IS FULLY RESPONSIBLE TO ASCERTAIN SITE CONDITIONS FOR THE PURPOSES OF DETERMINING CONSTRUCTION MEANS AND METHODS PRIOR TO COMMENCING CONSTRUCTION. THE SOILS INVESTIGATION REPORT IS NOT A CONTRACT DOCUMENT.

2.1.4 Utilities.

2.1.4.1 Regional Notification Center. Contractor, except in an emergency, shall contact the appropriate regional notification center at least two working days prior to commencing any excavation if the excavation will be conducted in an area or in a private
easement which 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 carried out by the Contractor unless such an inquiry identification number has been assigned to the Contractor or any subcontractor of the Contractor and the District has been given the identification number by the Contractor. Any damages arising from failure to make appropriate regional notification shall be at the sole risk of Contractor. Any delays caused by failure to make appropriate regional notification shall be at the sole risk of Contractor and shall not be considered for extension of time pursuant to Paragraph 8.4.

2.1.4.2 Utilities – Removal and Restoration

The District has endeavored to determine the existence of utilities at the Site of the Work from the records of the District of known utilities in the vicinity of the Work. The positions of these utilities as derived from such records are shown in the Contract Documents.

No excavations were made to verify the locations shown for underground utilities. The service connections to these utilities may not be shown on the drawings. It shall be the responsibility of the Contractor to determine the exact location of all service connections. The Contractor shall make its own investigations, including exploratory excavations, to determine the locations and type of service connections, prior to commencing work which could result in damage to such utilities. The Contractor shall immediately notify the District’s representative as to any utility discovered by Contractor in a different position than shown in the Contract Documents or which is not shown on the Contract Documents.

Contractor shall coordinate its Work with all utilities, including, but not limited to electricity, water, gas and telephone and meet with said utilities prior to the start of any work.

2.1.4.3 Other Utilities.

In case it should be necessary to remove, relocate, or temporarily maintain a utility because of interference with the Work, the work on the utility shall be performed and paid for as follows:

When it is necessary to remove, relocate or temporarily maintain a service connection, the cost of which is not required to be borne by the owner thereof, the Contractor shall bear all expenses incidental to the work on the service connection. The work on the service connection shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the service connection has the option of doing such work with his own forces or permitting the work to be done by the Contractor.

When it is necessary to remove, relocate, or temporarily maintain a utility which is in the position shown on the drawings, the cost of which is not required to be borne by the owner thereof, the Contractor shall bear all expenses incidental to the work on the utility. The work on the utility shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the utility has the option of doing such work with his own forces or permitting the work to be done by the Contractor.

When it is necessary to remove, relocate, or temporarily maintain a utility which is not shown on the drawings or is in a position different from that shown on the drawings and were it in the position shown on the drawings would not need to be removed, relocated, or temporarily maintained, and the cost of which is not required to be borne by the owner thereof, the District will make arrangements with
the owner of the utility for such work to be done at no cost to the Contractor, or will require the Contractor to do such work in accordance with Article 7 or will make changes in the alignment and grade of the Work to obviate the necessity to remove, relocate, or temporarily maintain the utility. Changes in alignment and grade will be ordered in accordance with Article 7 herein.

No representations are made that the obligations to move or temporarily maintain any utility and to pay the cost thereof is or is not required to be borne by the owner of such utility, and it shall be the responsibility of the Contractor to investigate to find out whether said cost is required to be borne by the owner of the utility.

The right is reserved to governmental agencies and to owners of utilities to enter at any time upon any street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work and for the purpose of maintaining and making repairs to their property.

2.1.5 Existing Utility Lines; Removal, Relocation.

2.1.5.1 Main or Trunkline Facilities

If the Contractor while performing the contract discovers utility facilities not identified by the District in the Contract Documents, Contractor shall, within five (5) days, notify the District and utility in writing.

The District has the responsibility to identify, with reasonable accuracy, main or trunkline facilities on the drawings and specifications. In the event that main or trunkline utility facilities are not identified with reasonable accuracy in the drawings and specifications, District shall assume the responsibility for their timely removal, relocation, or protection.

The owner of the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

The Contractor shall exercise reasonable care and shall be compensated by the District for the actual verified field costs of locating, and removing, relocating, protecting or temporarily maintaining such main or trunkline utility facilities not indicated with reasonable accuracy in the drawings and specifications, and for equipment in use on the project necessarily idled during such work. This work shall be performed in accordance with Article 7 of these General Conditions.

Alternatively, District may make changes in the alignment and grade of the work to obviate the need to remove, relocate, or temporarily maintain the utility, in accordance with Article 7 or District may make arrangements with the owner of the utility for such work to be done at no cost to the Contractor.

The Contractor shall not be assessed a forfeiture for delay in completion of the Project when such delay is caused by the failure of the District or the owner of the utility to provide for the removal, relocation, protection or temporary maintenance of all such main or trunkline facilities not indicated with reasonable accuracy.

Nothing herein shall preclude the District from pursuing any appropriate remedy against the utility for delays which are the responsibility of the utility.
Nothing herein shall be construed to relieve the utility from any obligation as required either by law or by contract to pay the cost of removal or relocation of existing utility facilities.

2.1.5.2 Assessment. These subparagraphs shall not be construed to preclude assessment against the Contractor for any other delays in completion of the Work. Nothing in these subparagraphs shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, or meter junction boxes on or adjacent to the Site.

2.1.5.3 Notification. If the Contractor, while performing Work under this Contract, discovers utility facilities not identified by the District in the Contract Documents, Contractor shall, within five (5) days, notify the District and the utility in writing. If Contractor fails to notify the District within five (5) days after discovery of any utility facilities not identified by District in the Contract Documents, Contractor waives all rights to be compensated for any extra Work or damages resulting from such discovered utilities.

2.1.6 Easements.

District shall secure and pay for easements for permanent structures or permanent changes in existing facilities, if any, unless otherwise specified in the Contract Documents.

2.2 DISTRICT’S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, including, but not limited to:

1. Failure to supply adequate workers on the entire Project or any part thereof;
2. Failure to supply a sufficient quantity of materials;
3. Failure to perform any provision of this Contract;
4. Failure to comply with safety requirements, or due to Contractor is creation of an unsafe condition;
5. In the case of bona fide emergency;
6. Failure to order materials in a timely manner;
7. Failure to prepare deferred-approval items or shop drawings in a timely manner;
8. Failure to comply with Contractor’s schedule which would result in a delay to the critical path;

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails (within a five-day period after receipt of written notice or a shorter time period expressly stated in the written notice from the District in an emergency situation) to commence and continue correction of such default with diligence and promptness, the District may correct such deficiencies without prejudice to other remedies the District may have, including those set forth in Article 14 after providing five-day written notice to Contractor and Surety. If during this five (5) day period, Surety personally delivers notice to District that it intends to perform such work, District shall allow Surety seven (7) days to perform. In an emergency situation, the District may correct such deficiencies without
prejudice to other remedies the District may have, including those set forth in Article 14 after providing 48 hours’ notice to the Contractor. In either case, the Contractor will be invoiced the cost of correcting such deficiencies, including compensation for additional services and expenses made necessary by such default, or neglect. The invoice amount shall be deducted from the next payment due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the District.

ARTICLE 3

THE CONTRACTOR

3.1 SUPERVISION AND CONSTRUCTION PROCEDURES

3.1.1 Contractor.

The Contractor shall continually supervise and direct the Work using the Contractor’s best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, procedures; and shall coordinate all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. The Contractor shall not perform the Work without utilizing the Contract Documents or, where required, approved shop drawings, product data, or samples for any such portion of the work. If any of the Work is performed by contractors retained directly by the District, Contractor shall be responsible for the coordination and sequencing of the work of those other contractors so as to avoid any impact on the project schedule pursuant to the requirements of Article 6 and Article 8. Specific duties of the Contractor shall include those set out in Section 43 of Title 21 of the California Code of Regulations and Section 4-343 of Title 24 of the California Code of Regulations. These duties include, but are not limited to the following:

(a) Responsibilities. It is the duty of the Contractor to complete the Work covered by his or her contract in accordance with the approved drawings and specifications. The Contractor in no way is relieved of any responsibility by the activities of the Architect, Engineer, Inspector or DSA in the performance of their duties.

(b) Performance of the work. The Contractor shall carefully study the approved drawings and specifications and shall plan its schedule of operations well ahead of time. If at any time it is discovered that work is being done which is not in accordance with the approved drawings and specifications, the contractor shall correct the work immediately.

All inconsistencies or times which appear to be in error in the drawings and specifications shall promptly be called to the attention of the Architect or, Engineer, for interpretation or correction. Local conditions which may affect the structure shall be brought to the Architect’s attention at once. In no case, shall the instruction of the Architect be construed to cause work to be done which is not in conformity with the approved drawings, specifications, change orders, construction change directives, and as required by law.

The Contractor shall not carry on Work except with the knowledge of the Inspector of Record.
(c) Verified Reports. The Contractor shall make and submit to the District from time to time, verified reports as required in Section 36 of Title 21 and Section 4-366 of Title 24. Contractor shall fully comply with any and all reporting requirements of Education Code Sections 81147, et seq., in the manner prescribed by Title 24, as applicable.

3.1.2 Contractor Responsibility.

The Contractor shall be responsible to the District for acts and omissions of the Contractor’s employees, Subcontractors, material and equipment suppliers, and their agents, employees, invitees, and other persons performing portions of the Work under direct or indirect contract with the Contractor or any of its Subcontractors.

3.1.3 Obligations not Changed by Architect’s Actions.

The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect’s administration of the Contract or by tests, inspections, or approvals required or performed by persons other than the Contractor.

3.1.4 Acceptance/Approval of Work.

The Contractor shall be responsible to determine when any completed portions of the Work already performed under this Contract or provided pursuant to Article 6 are suitable to receive subsequent Work thereon.

3.1.5 Performance of Work With Own Force.

Contractor shall perform at least 15% of the Work, exclusive of supervisory and clerical work without the services of any subcontractor. Contractor shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills as may be necessary to perform the Work in accordance with the Contract Documents.

3.2 SUPERVISION

3.2.1 Full Time Supervision.

Unless personally present on the Project site where the Work is being performed, the Contractor shall keep on the Work at all times during its progress a competent construction Superintendent satisfactory to the District. The Superintendent shall be present on a full-time basis, shall be dedicated exclusively to the Project and shall not share superintendence duties with another project or job. The Superintendent shall not be replaced except with written consent of the District. The Superintendent shall represent the Contractor in its absence and shall be fully authorized to receive and fulfill any instruction from the Architect, the Inspector, the District or any other District representative. All Requests for Information shall be originated by the Superintendent and responses thereto shall be given to the Superintendent. No Work shall begin on any day by any Subcontractor or other person on the Project site until the Superintendent has arrived, or shall any Work continue during the day after the Superintendent has departed from the Project site. The Superintendent shall have authority to bind Contractor through
the Superintendent’s acts. The Superintendent shall represent the Contractor, and communications given to the Superintendent shall be binding on the Contractor. Before commencing the Work, Contractor shall give written notice to District and Architect of the name and a Statement of Qualifications of such superintendent for District approval. Superintendent shall not be changed except with written consent of District, unless a superintendent proves to be unsatisfactory to Contractor and ceases to be in its employ, in which case, Contractor shall notify District and Architect in writing. Contractor shall provide a replacement superintendent approved by the District prior to performing additional work.

3.2.2 Staff.

Notwithstanding other requirements of the contract documents, the Contractor and each Subcontractor shall: (1) furnish a competent and adequate staff as necessary for the proper administration, coordination, supervision, and superintendence of its portion of the Work; (2) organize the procurement of all materials and equipment so that the materials and equipment will be available at the time they are needed for the Work; and (3) keep an adequate force of skilled and fit workers on the job to complete the Work in accordance with all requirements of the Contract Documents.

3.2.3 Right to Remove.

District shall have the right, but not the obligation, to require the removal from the Project of any superintendent, staff member, agent, or employee of any Contractor, Subcontractor, material or equipment supplier.

3.3 LABOR AND MATERIALS

3.3.1 Contractor to Provide.

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, material, equipment, tools, construction equipment and machinery, water, heat, air conditioning, utilities, transportation, and other facilities, services and permits necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

3.3.2 Quality.

Unless otherwise specified, all materials and equipment to be permanently installed in the Project shall be new and shall be of the highest quality or as specifically stated in the Contract Documents. The Contractor shall, if requested, furnish satisfactory evidence as to kind and quality of all materials and equipment within ten (10) days of a written request by the District, including furnishing the District with bona fide copies of invoices for materials or services provided on the Project. All labor shall be performed by workers skilled in their respective trades, and shall be of the same or higher quality as with the standards of other school construction.

3.3.3 Replacement.

Any work, materials, or equipment, which do not conform to these requirements or the standards set forth in the Contract Documents, may be disapproved by the District, in which case, they shall be removed and replaced by the Contractor at no additional cost or extension of time to the District.
3.3.4 Discipline.

The Contractor shall enforce strict discipline and good order among the Contractor’s and Subcontractor’s employees, and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. As used in this subsection, “unfit” includes any person who the District concludes is improperly skilled for the task assigned to that person, who fails to comply with the requirements of this article, or who creates safety hazards which jeopardize other persons and/or property.

3.3.5 Noise, Drugs, Tobacco, and Alcohol.

Contractor shall take all steps necessary to insure that employees of Contractor or any of its subcontractors’ employees do not use, consume, or work under the influence of any alcohol, tobacco or illegal drugs while on the project. Contractor shall further prevent any of its employees or its subcontractor employees from playing any recorded music devices or radios or wearing any radio headphone devices for entertainment while working on the project. Likewise, Contractor shall prevent its employees or subcontractor’s employees from bringing any animal onto the project. Contractors shall not violate any written school policies.

3.3.6 Delivery of Material.

Contractor shall place orders for materials or equipment so that the Work may be completed in accordance with the Construction schedule for the Work as set forth in Article 8 of this Agreement. Contractor shall, upon demand from the Architect, furnish to the Architect documentary evidence including, but not limited to purchase orders, invoices, bills of materials, work orders and bills of lading, showing that orders have been placed.

3.3.7 Liens and Other Security Interests of Subcontractors and Material Suppliers.

No material, supplies, or equipment for the Work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with all improvements and appurtenances constructed or placed thereon by it, to District free from any claims, security interests, 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 this Contract shall have any right to place a lien upon the premises or any improvement or appurtenance thereof, except that Contractor may install metering devices or other equipment of a utility company or political subdivision, title to which is commonly retained by the utility company or political subdivision. In event of installation of any such metering device or equipment, Contractor shall advise District as to its owner within five (5) days of such installation in writing, prior to making the installation.

3.3.8 Title to Materials.

The title to new materials 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 the District and Architect; no part of said materials shall be removed from its place of storage,
and Contractor shall keep an accurate inventory of all said materials and equipment in a manner satisfactory to the District or its authorized representative.

3.3.9 Assemblies.

For all material 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. Incidental items not indicated on the 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 in the Contract Documents 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.

3.4 WARRANTY

3.4.1 The Contractor warrants to the District that material and equipment furnished under the Contract will be of the highest quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor’s warranty and guaranty to District includes, but is not limited to the following representations:

3.4.1.1 In addition to any other warranties and guaranties provided elsewhere, Contractor shall, and hereby does, warrant all Work after the date of Notice of Completion of Work by District and shall repair or replace any or all such work, together with any other work, which may be displaced in so doing that may prove defective in workmanship or materials within a one (1) year period from date of completion as defined in Public Contract Code Section 7107(c) without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.

3.4.1.2 In the event of failure of Contractor to comply with above mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired and made good at expense of Contractor who hereby agrees to pay costs and charges therefore immediately on demand.

3.4.1.3 If, in the opinion of the District, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District, the District will attempt to give the notice required by this Article. If the Contractor cannot be contacted or does not comply with the District’s requirements for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this article, proceed to make such correction or attention which shall be charged against Contractor. Such action by the District will not relieve the Contractor of the guarantee provided in this Article or elsewhere in this Contract.
3.4.1.4 This Article does not in any way limit the guarantee on any items for which a longer warranty or guaranty is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish District all appropriate guaranty or warranty certificates upon completion of the project.

3.4.2 Format - All Warranties/Guaranties and shall include:

3.4.2.1 Contractor, subcontractor, and equipment supplier shall provide Warranties and Guaranties on their original company letterhead with original signature.

3.4.2.2 Contractor shall provide original Warranties and Guaranties. Photo copies, fax and e-mail copies are not acceptable.

3.4.3 Preparation

3.4.3.1 Contractor shall obtain warranties and guaranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within fifteen (15) days after Notice of Substantial Completion of the applicable Work or Phase of Work. Except for items put into use with District’s permission, Contractor shall leave date of beginning of time of warranty or guaranty blank until the date of completion is determined by District.

3.4.3.2 Contractor’s Response to Construction Warranty and Guaranty Service Requirements: Following oral or written notification by the District, respond to construction warranty and guaranty service requirements within 24 hours, or earlier in case of emergency.

3.4.4 Warranty and/or Guaranty Tags.

At the time of installation of mechanical equipment or other major system elements, tag each warranted or guaranteed item with a durable, oil and water resistant tag approved by the District. Attached each tag with a copper wire and spray with a silicone waterproof coating. The date of Substantial Completion and the Contractor Authorized signature must remain blank until the date the District makes a determination of Substantial Completion. Show the following information on the tag:
WARRANTY/GUARANTY INFORMATION – [insert project number and name on actual tag]

a. Type of product/material ____________________________________________

b. Model number _____________________________________________________

c. Serial number _____________________________________________________

d. Contract number ___________________________________________________

e. Warranty/Guaranty period ________ (months) from ___________ to ___________

f. Inspector's signature _______________________________________________

g. Construction Contractor ___________________________________________

Address __________________________________________________________________

Telephone number __________________________________________________________________

h. Warranty or Guaranty contact _________________________________________

Address __________________________________________________________________

Telephone number __________________________________________________________________

j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE 
DURING THE WARRANTY PERIOD.

3.5 TAXES

Contractor will pay all applicable Federal, State, and local taxes on all materials, labor, or services 
furnished by it, and all taxes arising out of its operations under the Contract Documents. District is exempt 
from Federal Excise Tax, and a Certificate of Exemption shall be provided upon request.

3.6 PERMITS, FEES AND NOTICES

3.6.1 Payment.

The Contractor shall secure and pay for all permits and governmental fees, licenses, and 
inspections necessary for proper execution and completion of the Work which are necessary after 
execution of the Contract and are legally required by any authority having jurisdiction over the Project, 
except those required by the Division of the State Architect (DSA). District shall be responsible for all 
testing and inspection as required by the DSA on-site or within the distance limitations set forth in 
Paragraph 13.5.2.

3.6.2 Compliance.

The Contractor shall comply with and give notices required by any law, ordinance, rule, regulation, 
and lawful order of public authorities bearing on performance of the Work.

3.6.3 Responsibility.

The Contractor shall perform all Work in conformance with every applicable law, statute, 
ordinance, building code, rule or regulation. The Contractor shall assume full responsibility for such Work 
and shall bear the attributable cost of correction or project delay.
3.7 Not used.

3.8 CONTRACTOR’S CONSTRUCTION SCHEDULES

3.8.1 Requirements.

(a) Within ten (10) calendar days after being awarded the contract, Contractor shall submit a schedule for District’s approval using Microsoft Project, or Oracle Primavera software. Contractor shall provide digital schedule files to District on CD for this schedule, and all subsequent progress schedules required by the District. The schedule shall not exceed time limits set forth in the Contract Documents and shall comply with all of the scheduling requirements as set forth in the Specifications. Failure to submit a schedule or submittal of a schedule which shows completion of the Work beyond the specified completion date shall be deemed a material breach by the Contractor. The schedule must indicate the beginning and completion of all phases of construction and shall use the “critical path method” (commonly called CPM) for the value reporting, planning and scheduling, of all Work required under the Contract Documents. The scheduling is necessary for the District’s adequate monitoring of the progress of the Work and shall be prepared in accordance with the time frame described in Article 8 of the General Conditions. The District may disapprove of any schedule or require modification to it if, in the opinion of the District, adherence to the progress schedule will not cause the Work to be completed in accordance with the Agreement.

(b) Contractor shall not submit a schedule showing early completion without indicating float time through the date set for Project completion by District. Contractor’s schedule shall account for all days past early completion as float which belongs to both District and Contractor. Usage of float shall not entitle Contractor to any delay claim or damages due to delay.

(c) Contractor shall not be granted an extension of time for failure to obtain necessary approvals for deferral approvals due to failure to comply with laws, building codes, and other regulations (including Title 24 of the California Code of Regulations). Contractor shall schedule all deferred approval items and shop drawings in its progress schedule. If Contractor fails to include deferred approval items and shop drawings in its schedule which results in a critical path delay, then Contractor shall be subject to the assessment of liquidated damages.

(d) In addition to providing a schedule update every thirty (30) days, the Contractor, if requested by the Architect or District, shall provide revised schedules within ten (10) days if, at any time, the Architect or District, consider the completion date to be in jeopardy because of “activities behind schedule.” The additional schedule shall include a new arrow or precedence diagram and schedule reports conforming to the requirements above, designed to show how the Contractor intends to accomplish the Work to meet the completion date. The form and method employed by the Contractor shall be the same as for the original construction schedule accepted by the District. The Contractor shall modify any portions of the schedule that become infeasible because of “activities behind schedule” or for any other valid reason. An activity that cannot be completed by its original latest
completion date shall be deemed to be behind schedule. If Contractor submits a revised schedule showing an earlier completion date for the Project, District’s acceptance of this revised schedule shall not entitle Contractor to any delay claim or damages due to any such revised schedule.

(e) Contractor shall include in the schedule all shop drawings, and deferred submittals. Include activities for the submittal, District/Architect’s review (minimum duration of 14 calendar days), procurement (or fabrication as applicable); and link the finish of the procurement/fabrication activity to the start of the related field activity at the Site.

3.8.2 Failure to Meet Requirements.

Failure of the Contractor to provide proper schedules as required by this Article and Article 9 is a material breach of the contract and grounds for termination pursuant to Article 14. The District, at its sole discretion, may choose, instead, to withhold, in whole or in part, any progress payments or retention amounts otherwise payable to the Contractor.

3.9 Not used.

3.10 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the Site for the District one current copy of the International Building Code, Titles 19, 21 and 24 of the California Code of Regulations and one record copy of the Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to record changes and selections made during construction. In addition, the Contractor shall maintain at the Site approved Shop Drawings, Product Data, Samples, and similar required submittals. These documents shall be available to the District, and shall be delivered to the District upon completion of the Work.

3.11 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SUBSTITUTIONS

3.11.1 Submittals defined.

3.11.1.1 Shop Drawings. The term “shop drawings” as used herein means drawings, diagrams, schedules, and other data, which are prepared by Contractor, Subcontractors, manufacturers, suppliers, or distributors illustrating some portion of the Work, and includes: illustrations; fabrication, erection, layout and setting drawings; manufacturer’s standard drawings; schedules; descriptive literature, instructions, catalogs, and brochures; performance and test data including charts; wiring and control diagrams; and all 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 their position conform to the requirements of the Contract Documents. The Contractor shall obtain and submit with shop drawings all seismic and other calculations and all product data from equipment manufacturers. “Product data” as used herein are 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. As used herein, the term “manufactured” applies to standard units usually mass-produced, and “fabricated” means items specifically assembled or made out of selected materials to meet individual design requirements. Shop drawings shall: establish the actual detail of all manufactured or fabricated items, indicate proper relation
to adjoining work, amplify design details of mechanical and electrical systems and equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions.

3.11.1.2 **Samples.** The term “samples” as used herein are physical examples furnished by Contractor to illustrate materials, equipment, or quality and includes natural materials, fabricated items, equipment, devices, appliances, or parts thereof as called for in the Specifications, and any other samples as may be required by the District/Architect to determine whether the kind, quality, construction, finish, color, and other characteristics of the materials, etc., proposed by the Contractor conform to the required characteristics of the various parts of the Work. All Work shall be in accordance with the approved samples.

3.11.1.3 **Contractor’s Responsibilities.** Contractor shall obtain and shall submit all required shop drawings, samples, etc., required by the Specifications with such promptness as to cause no delay in its own Work or in that of any other contractor or subcontractor but in no event later than ten (10) days after the award of the Contract. No extensions of time will be granted to Contractor or any Subcontractor because of its failure to have shop drawings and samples submitted in accordance with the Schedule. Each Subcontractor shall submit all shop drawings, samples, and manufacturer’s descriptive data for the review of the District, the Contractor, and the Architect through the Contractor. By submitting shop drawings, product data, samples, etc., the Contractor represents that it has determined and verified all materials, field measurements, catalog numbers, related field construction criteria, and other relevant data in connection with each such submission, and that it has checked, verified, and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents, including the construction schedule. The submission of the shop drawings, product data, samples, etc., shall not deviate from the requirements of the Contract Documents including detailing and design intent which is specifically outlined in Contract Documents except as specifically authorized by the District/Architect or through an accepted substitution pursuant to Paragraph 3.10.4. All deviations from the Contract Documents shall be narratively described in a transmittal accompanying the shop drawings. However, shop drawings shall not be used as a means of requesting a substitution, the procedure for which is defined in Paragraph 3.10.4, “Substitutions.” Review by District and Architect shall not relieve the Contractor or any Subcontractor from its responsibility in preparing and submitting proper shop drawings in accordance with the Contract Documents. Any submission, which in District/Architect’s opinion is incomplete, contains errors, or has been checked superficially will be returned un-reviewed by the District/Architect for resubmission by the Contractor. Contractor shall stamp, sign, and date each submittal indicating its representation that the submittal meets all of the requirements of the Contract Documents and evidence Contractor’s review through execution of the following stamp to be placed on each shop drawings:

“The contractor has reviewed and approved the field dimensions and the construction criteria, and has also made written notation regarding any information in the shop drawings that does not conform to the contract documents. This shop drawing has been coordinated with all other shop drawings received to date by contractor and this duty of coordination has not been delegated to subcontractors, material suppliers, the Architect, or the engineers on this project.”

Signature of Contractor and date”
3.11.1.4  **Extent of Review.** In reviewing shop drawings, the District nor the Architect will not verify dimensions and field conditions. The Architect will review and approve shop drawings, product data, samples, etc., for aesthetics and for conformance with the design concept of the Work and the information in the Contract Documents. The District nor the Architect’s review shall neither be construed as a complete check which relieves 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 the District’s/Architect’s attention to the deviations at the time of submission. The District’s or Architect’s review shall not relieve the Contractor or Subcontractors from responsibility for errors of any sort in shop drawings or schedules, for proper fitting of the Work, coordination of the differing subcontractor trades and shop drawings and Work which is not indicated on the shop drawings at the time of submission of shop drawings. Contractor and Subcontractors shall be solely responsible for any quantities which may be shown on the submittals or Contract Documents.

3.11.2  **Drawing Submission Procedure.**

3.11.2.1  **Transmittal Letter and Other Requirements.** All shop drawings must be properly identified with the name of the Project and dated, and each lot submitted must be accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item clearly stating in narrative form, as well as “clouding” on the submissions, all qualifications, departures, or deviations from the Contract Documents. Shop drawings, for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. All Subcontractor submissions shall be made through the Contractor. Each drawing shall have a clear space for the stamps of Architect and Contractor.

3.11.2.2  **Copies Required.** Unless otherwise approved by the District, each submittal shall include six (6) legible prints of each drawing or schedule, table, cut sheet, etc., including fabrication, erection, layout and setting drawings, and such other drawings as required under the various sections of the Specifications, until final acceptance thereof is obtained. Subcontractor shall submit copies, in an amount as requested by the Contractor, of: (1) manufacturers’ descriptive data for materials, equipment, and fixtures, including catalog sheets showing dimensions, performance, characteristics, and capacities; (2) wiring diagrams and controls; (3) schedules; (4) all seismic calculations and other calculations; and (5) other pertinent information as required by the District or Architect.

3.11.2.3  **Corrections.** The Contractor shall make all corrections required by District/Architect and shall resubmit, as required by District/Architect, corrected copies of shop drawings or new samples until approved. Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections required by the District/Architect on previous submissions. Professional services required for more than one (1) re-review of required submittals of shop drawings, product data, or samples are subject to charge to the Contractor pursuant to Paragraph 4.4.

3.11.2.4  **Approval Prior to Commencement of Work.** No portion of the Work requiring a shop drawing or sample submission or other submittal shall be commenced until the submission has been reviewed by Contractor and Architect and approved by Architect unless specifically directed in writing by the District. All such portions of the Work shall be in accordance with approved shop drawings and samples.
3.11.3 Sample Submissions Procedure.

3.11.3.1 Samples Required. In case a considerable range of color, graining, texture, or other characteristics are anticipated in finished products, a sufficient number of samples of the specified materials shall be furnished by the Contractor to indicate the full range of characteristics which will be present in the finished products; and products delivered or erected without submittal and approval of a full range of samples shall be subject to rejection. Except for range samples, and unless otherwise called for in the various sections of the Specifications, samples shall be submitted in duplicate. All samples shall be marked, tagged, or otherwise properly identified with the name of the submitting party, the name of the Project, the purpose for which the samples are submitted and the date, and shall be accompanied by a letter of transmittal containing similar information, together with the Specification section number. Each tag or sticker shall have clear space for the review stamps of Contractor and Architect.

3.11.3.2 Labels and Instructions. All samples of materials shall be supplied with the manufacturer’s descriptive labels and application instructions.

3.11.3.3 Architect’s Review. The Architect will review and, if appropriate, approve submissions and will return them to the Contractor with the Architect’s stamp and signature applied thereto, indicating the timing for review and appropriate action in compliance with the Architect’s (or District’s) standard procedures.

3.11.3.4 Not used.

3.11.3.5 Not used.

3.11.3.6 District’s Property. All shop drawings, computer disks, annotated specifications, samples and other submittals shall become the District’s property upon receipt by the District or Architect.

3.11.4 Substitutions.

3.11.4.1 One Product Specified. Unless the Specifications state that no substitution is permitted, whenever the Contract Documents indicate any specific material, product, thing or service, or any specific name, make, trade name, or catalog number, with or without the words “or equal,” such specification shall be deemed to be used for the purpose of facilitating description of the material, product, thing or service desired and shall be deemed to be followed by the words “or equal” unless the Contract Documents specify “no substitution allowed”, “no equal”, “no equivalent”, or other language with similar meaning, in which case no substitutions will be allowed. Pursuant to Paragraph 3.11.4.3, the Contractor may, unless otherwise stated, within three (3) work days after the bid opening, submit a substitution request for any material, product, thing or service, which shall be materially equal or better in every respect to that so indicated or specified (“Specified Item”) and will completely accomplish the purpose of the Contract Documents.

(a) Products Specified Which are Commercially Unavailable. If the Contractor fails to make a request for substitutions for products, within three (3) work days after bid opening, and such products subsequently become commercially unavailable, the Contractor may request a substitution for such commercially unavailable item. The decision to grant this request is solely at the District’s discretion. The written approval of the District, consistent with the procedure for Change Orders, shall be required for the use of a proposed substitute material. The District may condition its approval of the substitution upon the delivery to District of an extended warranty or guaranty or other assurances of adequate performance of the substitution as well as an equitable deduction in the
contract sum should the substituted item cost less than the Specified Item. All risks of delay due to the approval of a requested substitution by the District, DSA, or any other governmental agency having jurisdiction, shall be on the requesting party. All additional costs, all procurement and construction delays, and all costs for review by the Architect or its consultants shall be the responsibility of the Contractor and will be deducted from Contractor’s pay request.

3.11.4.2 Substitution Request Form. Requests for substitutions of materials, products, things or services in place of a Specified Item must be submitted to the District in writing on the District’s Substitution Request Form (“Request Form”) within three (3) work days after bid opening, except as provided for in Paragraph 3.11.4.1. (a Substitution Request Form is included at the end of this document; or may be obtained from the District.)

The Request Form must be accompanied by evidence as to whether the proposed substitution:

1. Is equal in quality/service/ability to the Specified Item;
2. Will entail no changes in detail, construction, and scheduling of related work;
3. Will be acceptable in consideration of the required design and artistic effect;
4. Will provide no cost disadvantage to the District;
5. Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
6. Will required no change of the construction schedule.

3.11.4.3 In completing the Request Form, the bidder shall state, with respect to each requested substitution, that the bidder will agree to provide the Specified Item in the event that the District denies the bidder’s request for such requested substitution. In the event the District denies the bidder’s requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District, and waives all rights to submit a claim.

3.11.4.4 After bids are opened, the apparent lowest bidder shall provide, within three (3) days of opening such bids, any and all Drawing, Specifications, samples, performance data, calculations, and other information, as may be required to assist the Architect and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

3.11.4.5 After the District’s receipt of such evidence by the bidder, the District will make its final decision as to whether the bidder’s request for substitution for any Specified Items will be granted. The decision as to whether a proposed request for substitution is equal to a Specified Item shall be at the sole discretion of the District. Any request for substitution that is granted by the District shall be documented and processed through a Change Order. The District may condition its approval of any substitution upon delivery to the District of an extended warranty or guaranty or other assurances of adequate performance of the substitution. Any and all risks of delay due to approval by the District, DSA or any other governmental agency having jurisdiction shall be on the bidder.

3.11.4.6 If the Architect and District accept a proposed substitution, the Contractor agrees to pay for all District expenses, including but not limited to Division of the State Architect fees, engineering and design services, compensation to the Architect and affected engineers for their required time to process such substitution through the Division of the State Architect, if required, and to make all changes and adjustments in materials or the work of all trades directly or indirectly affected by the substituted item or items at no cost to the District.
3.12 INTEGRATION OF WORK

3.12.1 Scope.

The Contractor shall be responsible for cutting, fitting, or patching to complete the Work and to make all parts fit together properly. Contractor shall be responsible for ensuring that all trades are coordinated and scheduled so as to ensure the timely and proper execution of the work. When modifying existing work or installing new Work adjacent to existing work, Contractor shall match, as closely as conditions of Site and materials will allow, the finishes, textures, and colors of the original work, refinishing existing work at no additional cost to District. All cost caused by defective or ill-timed work shall be borne by Contractor. Contractor shall be solely responsible for protecting existing work on adjacent properties and shall obtain all required permits for shoring and excavations near property lines and complying with agency and utility company requirements for tie-ins to their respective utility systems.

3.12.2 Structural Members.

New or existing structural members and elements, including reinforcing bars and seismic bracing, shall not be cut, bored, or drilled except by written authority of the Architect and DSA. Work done contrary to such authority is at the Contractor’s risk and subject to replacement at its own expense without reimbursement under the Contract. Schedule delays resulting from unauthorized work shall be the Contractor’s responsibility.

3.12.3 Subsequent Removal.

Permission to patch any areas or items of the Work shall not constitute a waiver of the District’s or the Architect’s right to require complete removal and replacement of the areas of items of the Work if, in the opinion of the Architect or the District, the patching does not satisfactorily restore quality and appearance of the Work or does not otherwise conform to the Contract Documents.

3.13 CLEANING UP

3.13.1 Contractor’s Responsibility.

Contractor at all times shall keep premises free from debris such as waste, dust, excess water, storm water runoffs, rubbish, and excess materials and equipment. Contractor shall not leave debris under, in, or about the premises, but shall promptly remove same from the premises and dispose of it in a lawful manner. Disposal receipts or dump tickets shall be furnished to the Architect within five (5) days of request. Upon completion of Work, Contractor shall clean interior and exterior of buildings, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected, so surfaces are free from foreign material or discoloration; Contractor shall clean and polish all glass, plumbing fixtures, equipment, finish hardware and similar finish surfaces. Upon completion of the Work, Contractor shall also remove temporary utilities, fencing, barricades, planking, sanitary facilities and similar temporary facilities from Site.

Contractor shall remove rubbish and debris resulting from the Work on a daily basis. Contractor shall maintain the structures and Site in a clean and orderly condition at all times until acceptance of the project by the District. Contractor shall keep its access driveways and adjacent streets, sidewalks, gutters and drains free of rubbish, debris and excess water by cleaning and removal each day.
3.13.1.1 In addition to the general cleaning, the following special cleaning shall be done at the completion of the work in accordance with the specifications including, but not limited to:

(a) Remove putty stains from glazing, then wash and polish glazing.
(b) Remove marks, stains, fingerprints and other soil or dirt from painted, stained or decorated work.
(c) Remove temporary protection and clean and polish floors and waxed surfaces.
(d) Clean and polish hardware and plumbing trim; remove stains, dust, dirt, plaster and paint.
(e) Remove spots, soil, plaster and paint from tile work, and wash tile.
(f) Clean all fixtures and equipment, remove excess lubrication, clean light fixtures and lamps, polish metal surfaces.
(g) Vacuum-clean carpeted surfaces.
(h) Remove debris from roofs, down spout and drainage system.

3.13.2 Failure to Cleanup.

If the Contractor fails to clean up as provided in the Contract Documents, the District may do so, and the cost thereof shall be the responsibility of the Contractor and deducted from the next progress payment.

3.14 ACCESS TO WORK

The Contractor shall provide the District, the Architect, Engineers and the Inspector of Record, access to the Work in preparation and progress wherever located. Contractor shall provide safe and proper facilities for such access so that District’s representatives may perform their functions.

CONTRACTOR IS AWARE THAT THIS CONTRACT MAY BE SPLIT INTO SEVERAL PHASES AS ADDRESSED IN ARTICLE 6.

3.15 ROYALTIES AND PATENTS

3.15.1 Payment and indemnity for Infringement.

Contractor shall hold and save the District and its officers, agents, and employees, the Architect, and the Architect’s consultants harmless from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by the District, unless otherwise specifically provided in the contract documents, and unless such liability arises from the sole negligence, or active negligence, or willful misconduct of the District, the Architect, or the Architect’s consultants.

3.15.2 Review.

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

3.16.1 Contractor.

Contractor shall defend, indemnify and hold harmless District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors from all liabilities, claims, actions, liens, judgments, demands, damages, losses, costs or expenses of any kind arising from death, personal injury, property damage or other cause based or asserted upon any act, omission, or breach connected with or arising from the progress of Work or performance of service under this Agreement or the Contract Documents. As part of this indemnity, Contractor shall protect and defend, at its own expense, District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors from any legal action including attorneys fees or other proceeding based upon such act, omission, or breach.

Furthermore, Contractor agrees to and does hereby defend, indemnify and hold harmless District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors from every claim or demand made, and every liability, loss, damage, expense or attorneys fees of any nature whatsoever, which may be incurred by reason of:

(a) Liability for (1) death or bodily injury to persons; (2) damage or injury to, loss (including theft), or loss of use of, any property; (3) any failure or alleged failure to comply with any provision of law or the Contract Documents; or (4) any other loss, damage or expense, sustained by any person, firm or corporation in connection with the Work called for in this Agreement or the Contract Documents, except for liability resulting from the sole or active negligence, or the willful misconduct of the District.

(b) Any bodily injury to or death of persons or damage to property caused by any act, omission or breach of Contractor or any person, firm or corporation employed by Contractor, either directly or by independent contract, including all damages or injury to, loss (including theft), or loss of use of, any property, sustained by any person, firm or corporation, including District, arising out of or in any way connected with Work covered by this Agreement or the Contract Documents, whether said injury or damage occurs either on or off District property, but not for any loss, injury, death or damages caused by the sole or active negligence or willful misconduct of the District.

(c) Any dispute between Contractor and Contractor’s subcontractors/supplies/sureties, including, but not limited to, any failure or alleged failure of the Contractor (or any person hired or employed directly or indirectly by the Contractor) to pay any Subcontractor or Materialman of any tier or any other person employed in connection with the Work and/or filing of any stop notice or mechanic’s lien claims.

Contractor, at Contractor’s own expense, cost, and risk, shall defend any and all claims, actions, suits, or other proceedings that may be brought or instituted against the District, its officers, agents or employees, on or founded upon any cause, damage, or injury identified herein Section 3.16.1 and shall pay or satisfy any judgment that may be rendered against the District, its officers, agents or employees in any action, suit or other proceedings as a result thereof.
Contractor shall ensure that its contract with each of its subcontractors contains provisions requiring the subcontractors to defend, indemnify and hold harmless the District, Architect, Inspector, the State of California to a minimum level as set forth in this Article and consistent with the language of 3.16.1.

The Contractor’s and Subcontractors’ obligation to defend, indemnify and hold harmless the District, Architect, Inspector, the State of California and their officers, employees, agents and independent contractors hereunder shall include, without limitation, any and all claims, damages, and costs for the following: (1) any damages or injury to or death of any person, and damage or injury to, loss (including theft), or loss of use of, any property; (2) breach of any warranty or guaranty, express or implied; (3) failure of the Contractor or Subcontractors to comply with any applicable governmental law, rule, regulation, or other requirement; and (4) products installed in or used in connection with the Work.

3.17 **SUBMISSION OF DAILY REPORTS**

3.17.1 General.

At the close of each working day, the Contractor shall submit a daily report to the District and the Inspector, on forms approved by the District, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day. An attempt shall be made to reconcile the report daily, and it shall be signed by a District representative and the Contractor. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved that day. Each party shall retain a signed copy of the report. Reports by subcontractors or others shall be submitted through the Contractor.

3.17.2 Labor.

The report required by Paragraph 3.17.1 shall show names of workers, classifications, hours worked.

3.17.3 Materials.

The report required by Paragraph 3.17.1 shall describe materials used.

3.17.4 Equipment.

The report required by Paragraph 3.17.1 shall show type of equipment, size, and hours of operation, including loading and transportation, if applicable.

3.18 **EXECUTION OF THE WORK**

3.18.1 Examination.

3.18.1.1 Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record all observations in writing.

3.18.1.2 Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
3.18.1.3 Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

3.18.1.4 Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.18.2 Existing Site and/or Building Conditions.

The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning Work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work. Before construction, verify the location and points of connection of all utility services for the entire Project.

3.18.3 Existing Utilities.

The existence and location of underground and other utilities and construction indicated in the Contract Documents as existing are not guaranteed. Prior to beginning the Work investigate and verify the existence and location of all underground utilities and/or other improvements affecting the Work.

3.18.3.1 Before construction, verify the location and invert all elevations at points of connection of sanitary sewer, storm sewer, and water-service piping; and all underground electrical services.

3.18.3.2 Furnish location data for work related to Project that must be performed by public utilities serving Project site.

3.18.4 Preparation.

Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a written request for information (RFI) to the District.

Existing Utility Information: Furnish information to the District and Architect that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Contractor shall coordinate with authorities having jurisdiction.

Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, Contractor shall investigate and verify all dimensions of other construction by field measurements before fabrication. Contractor shall coordinate fabrication schedule with construction progress to avoid delaying the Work.

Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Contract Documents. Contractor shall be responsible for all coordination and measurements including means and methods of Construction.
3.18.5 Construction Layout.

Verification: Before proceeding to lay out the Work, Contractor shall verify layout information and Field condition in relation to the Contract documents. Notify District and Architect immediately of any discrepancies.

3.18.6 Installation.

General Contractor shall locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

3.18.6.1 Make vertical work plumb and make horizontal work level.

3.18.6.2 Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.

3.18.6.3 Conceal pipes, ducts, and wiring in furnished areas, unless otherwise indicated.

3.18.6.4 Maintain minimum headroom clearance of eight feet in spaces without a suspended ceiling.

3.18.6.5 Contractor shall comply with manufacturer’s written instructions and recommendations for installing products in applications indicated.

3.18.6.6 Contractor shall install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for performance until accepted by District.

3.18.6.7 Contractor shall conduct construction operations so no part of the Work is subjected to damage or loading in excess of that expected during normal conditions of occupancy.

3.18.6.8 Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

3.18.6.9 Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

3.18.6.10 Allow for building movement, including thermal expansion and contraction.

3.18.6.11 Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

3.18.6.12 Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

3.18.6.13 Hazardous Materials: Use only products, cleaners, and installation materials that are not classified as or considered hazardous.
3.18.7 District-Installed Products

3.18.7.1 Site Access: Provide access to Project site for District’s construction forces.

3.18.7.2 Coordination: Coordinate construction and operations of the Work with work performed by District construction forces.

3.18.7.3 Construction Schedule: Inform District of Contractor’s preferred construction schedule for District’s portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify District and Architect if changes to schedule are required due to differences in actual construction progress.

3.18.7.4 Pre-installation Conferences: Include District’s construction forces at pre-installation conferences covering portions of the Work that are to receive District’s work. Attend pre-installation conferences conducted by District’s construction forces if portions of the Work depend on District’s construction forces.

3.19 DSA VERIFIED REPORTS AND CERTIFICATE OF COMPLIANCE

3.19.1 Contractor Actions.

The Contractor acknowledges and agrees that a material obligation of the Contractor under the Contract Documents is the completion by the Contractor of all actions and activities which by the Contract Documents or by operation of applicable law, code, rule or regulation are the responsibility of the Contractor relating to DSA reporting requirements pursuant to Education Code §81141 (including amendments thereto) and issuance of DSA’s Certificate of Compliance for the Project pursuant to Education Code §81147 (including amendments thereto) upon completion of Project construction. The foregoing shall include without limitation, the timely preparation, completion and filing of Verified Reports during Project construction and the filing of the Final Verified Report with DSA within ten (10) days of the determination of Project Final Completion. The Contractor shall provide the Project Inspector, Architect, Construction Manager retained by the District for the Project and the District with copies of all Verified Reports completed by the Contractor and submitted to DSA; such copies shall be provided to the Project Inspector, Architect, the Construction Manager and the District concurrently with the Contractor’s submission thereof to DSA.


Notwithstanding any provision of the Contract Documents to the contrary, the completion and filing of the Final Verified Report with DSA by the Contractor is an express condition precedent to the District’s disbursement of Twelve Thousand Dollars ($12,000) of the Contract Sum due the Contractor under this Agreement (“the Final Verified Report Value”). The Final Verified Report Value is in addition to, and not in lieu of, retention withheld and retained by the District from Progress Payments disbursed to the Contractor during Project construction. The District’s disbursement of the Final Verified Report Value to the Contractor shall be made by the District within thirty (30) days of the presentation by the Contractor to the Project Inspector, Architect, Construction Manager and District of reasonably satisfactory written evidence that the Contractor has filed the Contractor’s Final Verified Report with DSA in accordance with the preceding and the submission of a billing statement by the Contractor to the District for payment of the Final Verified Report Value. If the Contractor fails to file the Final Verified
Report with DSA within ten (10) days of the determination of Project Final Completion, notwithstanding the preparation or filing of such Final Verified Report by the Contractor thereafter, the District may in the sole and exclusive discretion of the District retain and withhold from disbursement to the Contractor all or any part of the Final Verified Report Value as damages for the failure of the Contractor to have timely discharged its obligations hereunder.

3.20 NOISE CONTROL

The Contractor shall be responsible for the installation and maintenance of noise reducing devices on construction equipment. Contractor shall comply with the requirements of the city and county having jurisdiction with regard to noise ordinances governing construction sites and activities. Construction equipment noise is subject to the control of the Environmental Protection Agency’s Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). If classes are in session at any point during the progress of the Project, and, in the District’s reasonable discretion, the noise from such Work disrupts or disturbs the students or faculty or the normal operation of the college, at the District’s request, the Contractor shall schedule the performance of all such Work around normal campus hours or make other arrangements so that the Work does not cause such disruption or disturbance. In no event shall Contractor have a right to receive additional compensation or an extension to the contract time as a result of any such rescheduling or the making of such arrangements. These controls shall be implemented during site preparation and construction.

ARTICLE 4

ADMINISTRATION OF THE CONTRACT

4.1 ARCHITECT

4.1.1 Replacement of Architect.

In the case of the termination of the Architect, the District may appoint an architect or another construction professional or may perform such functions with its own licensed professional personnel. The status of the replacement Architect under the Contract Documents shall be the same as that of the former architect.

4.2 ARCHITECT’S ADMINISTRATION OF THE CONTRACT

4.2.1 Status.

Pursuant to Titles 24 and 21 of the California Code of Regulations and as required pursuant to the Field Act, Education Code 81130 et. seq. the Architect will provide administration of the Contract Documents and the Work, and will be a District representative during construction, as well as during the one (1) year period following the commencement of any warranties or guaranties. The Architect will have authority to act on behalf of the District only to the extent provided in the Contract Documents.
4.2.2 Site Visits.

The Architect will visit the Site at intervals necessary in the judgment of the Architect to become generally familiar with the progress and quality of the Work and to determine in general if the Work is being performed in accordance with the Contract Documents.

4.2.3 Limitations of Construction Responsibility.

The Architect shall not have control over, charge of, or be responsible for construction means, methods, techniques, schedules, sequences or procedures, fabrication, procurement, shipment, delivery, receipt, installation, or for safety precautions and programs in connection with the Work, since these are solely the Contractor’s responsibility under the Contract Documents. The Architect shall not be responsible for the Contractor’s, Subcontractors’, material or equipment suppliers’, or any other person’s schedules or failure to carry out the Work in accordance with the Contract Documents. The Architect shall not have control over or charge of acts or omissions of the Contractor, Subcontractors, their agents or employees, or any other persons or entities performing or supplying portions of the Work. The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect’s administration of the Contract Documents, or by tests, inspections, or approvals required or performed by persons other than the Contractor.

4.2.4 Communications Facilitating Contract Administration.

Except as otherwise provided in the Contract Documents the Contractor shall communicate through the District representative. The District representative shall be promptly informed, and shall receive copies of all written communications. Contractor shall not rely upon any communications from the District that is not from the District’s representative. Communications by and with the Architect’s consultants shall be through the Architect. Communications by and with Subcontractors and material or equipment suppliers shall be through the Contractor.

4.2.5 Payment Applications.

The Architect will review and make recommendations to the District regarding the amounts due the Contractor on the Certificates for Payment pursuant to Article 9 and subject to the Inspector’s approval and Architect’s observation.

4.2.6 Rejection of Work.

In addition to the rights, duties, and obligations of the Inspector under this Article, the Architect may recommend to the District that the District reject Work which does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable to achieve the intent of the Contract Documents, the Architect may recommend to the District that the District require additional inspection or testing of the Work in accordance with Paragraph 13.5, whether or not such Work is fabricated, installed, or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.
4.2.7 Warranties and Guaranties Upon Completion.

The Architect, in conjunction with the District and Inspector will conduct field reviews of the Work to determine the date of completion, shall receive and forward to the District for the District’s review and records written warranties, guaranties, and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment when the Architect believes the Work has been completed in compliance with the requirements of the Contract Documents. The handling by the Architect of such warranties, guaranties, maintenance manuals, or similar documents shall not diminish or transfer to the Architect any responsibilities or liabilities required by the Contract Documents of the Contractor or other entities, parties, or persons performing or supplying the Work.

The Architect will conduct a field review of the Contractor’s comprehensive list of items to be completed or corrected (final punch list) and one (1) follow-up field review if required. The cost incurred by the District for further field reviews or the preparation of further punch lists by the Architect shall be invoiced to the Contractor and deducted from the final payment.

4.2.8 Interpretation.

The Architect will interpret and decide matters concerning performance and requirements of the Contract Documents.

4.2.9 Additional Instructions.

4.2.9.1 Typical Parts and Sections. Whenever typical parts or sections of the Work are completely detailed on the Drawings, and other parts or sections which are essentially of the same construction are shown in outline only, the complete details shall apply to the Work which is shown in outline.

4.2.9.2 Dimensions. Dimensions of Work shall not be determined by scale or rule. Figured dimensions shall be followed at all times. If figured dimensions are lacking on Drawings, Architect shall supply them on request. The Architect’s decisions on matters relating to aesthetic effect will be final.

4.3 INSPECTOR OF RECORD

4.3.1 General.

One or more project inspectors employed by the District and approved by the Division of the State Architect will be assigned to the Work in accordance with the requirements of Title 24 of the California Code of Regulations. The Inspector(s) duties are as specifically defined in Title 24.

4.3.2 Inspector’s Duties.

All Work shall be under the observation of the Inspector. The Inspector shall have free access to any or all parts of the Work at any time. The Contractor shall furnish the Inspector such information as may be necessary to keep the Inspector fully informed regarding progress and manner of Work and character of materials. Such observations shall not, in any way, relieve the Contractor from responsibility for full compliance with all terms and conditions of the Contract, or be construed to lessen to any degree the Contractor’s responsibility for providing efficient and capable superintendence. The Inspector is not
authorized to make changes in the drawings or specifications nor shall the Inspector’s approval of the Work and methods relieve the Contractor of responsibility for the correction of subsequently discovered defects, or from its obligation to comply with the Contract Documents.

4.3.3 Inspector’s Authority to Reject or Stop Work.

The Inspector shall have the authority to reject Work whenever provisions of the Contract Documents are not being complied with, and Contractor shall instruct its Subcontractors and employees accordingly. In addition, the Inspector may stop any Work that poses a probable risk of harm to persons or property. The Contractor shall instruct its employees, Subcontractors, material and equipment suppliers, etc., accordingly. The absence of any Stop Work order or rejection of any portion of the Work shall not relieve the Contractor from any of its obligations pursuant to the Contract Documents.

4.3.4 Inspector’s Facilities.

Within seven (7) days after notice to proceed, the Contractor shall provide the Inspector with the temporary facilities as required under Division 1 of the Specifications.

4.3.5 Testing Times.

The District will provide inspection and testing at its cost during the normal eight (8) hour day Monday through Friday (except holidays). Work by the Contractor outside of the normal eight (8) hour day shall constitute an authorization from the Contractor to the District to provide inspection and testing as required outside of the normal eight (8) hour day. Contractor shall reimburse District for any additional costs associated with inspection and testing (including re-inspection and re-testing) outside the normal eight-hour day and for any retests caused by the Contractor.

4.4 RESPONSIBILITY FOR ADDITIONAL CHARGES INCURRED BY THE DISTRICT FOR PROFESSIONAL SERVICES

If at any time prior to the completion of the requirements under the Contract Documents, the District is required to provide or secure additional professional services for any reason by any act of the Contractor, the Contractor shall be invoiced by the District for any costs incurred for any such additional services, which costs shall be deducted from the next progress payment. Such invoicing shall be independent from any other District remedies and shall not be considered a waiver of any District rights or remedies. If payments then or thereafter due to the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the District. Additional services shall include, but shall not be limited to, the following:

(a) Services made necessary by the default of the Contractor.

(b) Services made necessary due to the defects or deficiencies in the Work of the Contractor.

(c) Services required by failure of the Contractor to perform according to any provision of the Contract Documents.

(d) Services in connection with evaluating substitutions of products, materials, equipment, Subcontractors’ proposed by the Contractor, and making subsequent revisions to drawings, specifications, and providing other documentation required (except for the situation where the specified item is no longer manufactured or available).
(e) Services for evaluating and processing claims submitted by the Contractor in connection with the Work outside the established Change Order process.

(f) Services required by the failure of the Contractor to prosecute the Work in a timely manner in compliance within the specified time of completion.

(g) Services in conjunction with the testing, adjusting, balancing and start-up of equipment other than the normal amount customarily associated for the type of Work involved.

(h) Services in conjunction with more than one (1) re-review of submittals of shop drawings, product data, samples, etc.

4.5 **DISPUTES**

4.5.1 Decision of Architect.

Disputes between District and Contractor involving money or time, including those alleging an error or omission by the Architect, shall be referred initially to the Architect for action as provided in Paragraph 4.5.2. A decision by the Architect, as provided in Paragraph 4.5.5, shall be required as a condition precedent to proceeding with remedies set forth in Paragraph 4.5.6 as to all such matters arising prior to the date final payment is due, regardless of whether such matters relate to execution and progress of the Work, or the extent to which the Work has been completed. The decision by the Architect in response to a Claim shall not be a condition precedent to the remedies under Paragraph 4.5.2 through 4.5.5 in the event: (1) the position of Architect is vacant; (2) the Architect has not received evidence or has failed to render a decision within agreed time limit; (3) the Architect has failed to take action required under Paragraph 4.6.4 within thirty (30) days after the Claim is made, forty-five (45) days have passed after the Claim has been referred to the Architect; or (4) the Claim relates to a Stop Notice Claim not arising from any extra change order or Construction Change Directive for which approval has not been provided.

4.5.2 Architect’s Review.

The Architect will review Claims and take one or more of the following preliminary actions within ten (10) days of receipt of a Claim: (1) request additional supporting data from the Claimant; (2) submit a schedule to the parties indicating when the Architect expects to take action; (3) reject the Claim in whole or in part, stating reasons for rejection; (4) recommend approval of the Claim; or (5) suggest a compromise. The Architect may also, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim.

4.5.3 Documentation if Resolved.

If a Claim has been resolved, the Architect will prepare or obtain appropriate documentation.

4.5.4 Actions if Not Resolved.

If a Claim has not been resolved and all documentation requested pursuant to Paragraph 4.5.2 has been provided, the party making the Claim shall, within ten (10) days after the Architect’s preliminary response, take one or more of the following actions: (1) modify the initial Claim; (2) notify the Architect that the initial Claim stands; or (3) supplement with additional supporting data.
4.5.5  Architect’s Written Decision.

If a Claim has not been resolved after consideration of the foregoing and of other evidence presented by the parties or requested by the Architect, the Architect will notify the parties in writing that the Architect’s decision will be made within twenty (20) days. Upon expiration of such time period, the Architect will render to the parties its written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both. The Architect may, but is not obligated to, notify the surety and request the surety’s assistance in resolving the controversy.

4.5.6  Continuing Contract Performance.

Pending final resolution of a Claim, including, negotiation, mediation, arbitration, or litigation, the Contractor shall proceed diligently with performance of the Contract, and the District shall continue to make any undisputed payments in accordance with the Contract. If the dispute is not resolved, Contractor agrees it will neither rescind the contract nor stop the progress of the work, but Contractor’s sole remedy shall be to submit such controversy to determination by a court of competent jurisdiction in the county where the project is located, after the project has been completed, and not before. At the District’s sole option, the District may submit individual disputes for binding arbitration and Contractor agrees to the resolution determined for each individual dispute by Arbitrator, including resolution of time and delays. If binding arbitration is utilized for individual disputes, such resolution is full and final as to that particular Claim.

4.5.7  Claims for Concealed Trenches or Excavations Greater Than Four Feet Below the Surface.

When any excavation or trenching extends greater than four feet below the surface or if any condition involving hazardous substances are encountered:

(a)  Immediately upon discovery, The Contractor shall promptly, and before the following conditions are disturbed, notify the District, by telephone and in writing, of the condition except:

1.  If such condition is a hazardous waste condition, and Contractor’s bid includes removal or disposal of hazardous substances. Material that the Contractor believes may be a material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law. In such case, the notice bulletin procedures of Article 7 apply.

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

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.

(b)  The District shall investigate the conditions, and if District finds that the conditions do materially so differ, 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 or construction change directive under the procedures described in the Contract.

(c) In the event that a dispute arises between the District and the Contractor whether the conditions materially differ, 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 which pertain to the resolution of disputes and protests between the contracting parties.

4.5.8 Claims for Extension of Time.

If Contractor and District cannot agree upon an extension of time, whether compensable or not, then Contractor must have first completed the procedures set forth in Paragraph 8.4. Upon completion of the procedures set forth under Paragraph 8.4, Contractor must then comply with the requirements in this Article including those set forth under Paragraph 4.5.9.

4.5.9 Claims Procedures.

4.5.9.1 Procedure applicable to all Claims:

(a) Definition of Claim: A “Claim” means a separate demand by the Contractor for (1) time extension, (2) 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 the Claimant is not otherwise entitled to, or (3) and amount the payment of which is disputed by the District.

(b) Filing Claim is Not Basis To Discontinue Work: The Contractor shall promptly comply with Work under the Contract or Work requested by the District even though a written Claim has been filed. The Contractor and the District shall make good faith efforts to resolve any and all Claims that may arise during the performance of the Work covered by this contract.

(c) Claim Notification: The Contractor shall within seven (7) calendar days after the Claim arises, submit a notification, in writing, with the District stating clearly the basis for the Claim. If the notification is not submitted within seven (7) days after the Claim arises, the Contractor shall be deemed to have waived all right to assert the Claim, and the Claim shall be denied. Claims submitted after the final payment date shall also be considered null and void by the District. All Claims shall be reviewed pursuant to Paragraph 4.5.1, 4.5.2, and 4.5.5. In order to qualify as a Claim, the written notice must state that it is a Claim submitted under this paragraph of these General Conditions.

(d) Formal Claim Appeal Submission: If the Contractor does not concur with the District’s decision regarding the Claim Notification, the Contractor will issue a formal Claim Appeal within fourteen (14) days of receipt of the District’s decision and all detailed information in support of the Claim Appeal within thirty (30) days. All appeals shall be submitted before final payment. If the Claim Appeal is not submitted within fourteen (14) calendar days and detailed information within thirty (30) days,
the Contractor shall be deemed to have waived its right to assert the Claim and the Claim shall be denied. Contractor’s failure to submit any detailed information which is in the possession of Contractor shall render such information inadmissible by Contractor at trial or arbitration.

(e) Appeal Claim Format: The Contractor shall provide all written detailed documentation which supports the Claim, including but not limited to: arguments, justifications, cost, estimates, schedule analysis and detailed documentation. The format of the Claim Appeal shall be as follows:

(1) Cover letter.
(2) Summary of factual basis of Claim and amount of Claim.
(3) Summary of the basis of the Claim, including the specific clause and section under the Contract under which the Claim is made.
(4) Documents relating to the Claim, including:
   a. Specifications
   b. Drawings
   c. Clarifications (RFI’s)
   d. Other relevant information
   e. Analysis of claim merit.
   f. Analysis of claim cost.
   g. For Claims relating to time extensions, an analysis and supporting documentation evidencing any effect upon the critical path.
   h. Certification.
   i. Chronology of events and related correspondence.
   j. Daily reports and logs.

(f) Certification: The Contractor (and subcontractors, if applicable) shall submit with the Claim a certification under penalty of perjury:

(1) That the Contractor has reviewed the Claim and that such Claim is made in good faith;
(2) Supporting data are accurate and complete to the best of the Contractor’s knowledge and belief;
(3) The amount requested accurately reflects the amount of compensation for which the Contractor believes the District is liable.
(4) That the Contractor is familiar with Government Code Sections 12650 et seq. and Penal Code Section 72 and that false Claims can lead to substantial fines and/or imprisonment.

(g) Signature of Certification: If the Contractor is not an individual, the certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor’s affairs.
(h) Mandatory Claim Appeal Procedure: The Contractor’s Claim Appeal shall be denied if it fails to provide the written basis of the Claim and certification as set forth herein.

(i) District May Request Additional Information: Within thirty (30) days of receipt of the Claim Appeal and the information under this Article, the District may request in writing any additional documentation supporting the Claim or documentation relating to defenses to the Claim which the District may assert.

4.5.9.2 Binding Arbitration of Individual Claim Issues. At the District’s sole option, the District may submit individual disputes, or Claims, to binding arbitration and Contractor agrees to the resolution determined for each individual dispute by Arbitrator, including resolution of time and delays. If binding arbitration is utilized, such resolution is a full and final resolution of the particular Claim or dispute. Under no circumstances may the Contractor stop work, rescind its contract or otherwise slow the progress of Work during resolution of individual Claims in binding Arbitration.

4.5.9.3 Resolution of Disputes in Court of Competent Jurisdiction. If Claims are not resolved under the procedure set forth and pursuant to Article 4.5.9.2, such Claim or controversy shall be submitted to a court in the county of competent jurisdiction after the Project has been completed, and not before.

4.5.9.4 Warranties, Guaranties and Obligations. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guaranties and obligations imposed upon Contractor by the General Conditions and amendments thereto; and all of the rights and remedies available to District and Architect thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations by special warranty or guaranty or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

ARTICLE 5

SUBCONTRACTORS

5.1 DEFINITIONS

5.1.1 Subcontractual Relations

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the same obligations and responsibilities, assumed by Contractor pursuant to the Contract Documents. Each subcontract agreement shall preserve and protect the rights of the District and the Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make
available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound. Upon written request of the Subcontractor, the Contractor shall identify to the Subcontractor the terms and conditions of the proposed subcontract agreement, which may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

5.1.2 Subcontractor Licenses.

All subcontractors shall be properly licensed by the California State Licensing Board.

5.1.3 Substitution of Subcontractor

Substitution of Subcontractors shall be permitted only as authorized under Public Contract Code §§ 4107 et. Seq. Any substitutions of Subcontractors shall not result in any increase in the Contract Price or result in the granting of any extension of time for the completion of the Project.

5.1.4 Contingent Assignment of Subcontracts and Other Contracts

Each subcontract and other contract or agreement for any portion of the Work is hereby assigned by the Contractor to the District provided that:

(a) Such assignment is effective only after termination of this contract with the Contractor by the District as provided herein and only for those subcontracts and other contracts and agreements that the District accepts by notifying the Subcontractor or Materialman (as may be applicable) in writing; and

(b) Such assignment is subject to the prior rights of the Surety(ies) obligated under the Payment Bond and Performance Bond.

The Contractor shall include adequate provisions for this contingent assignment of subcontracts and other contracts and agreements in each such document.

ARTICLE 6

CONSTRUCTION BY DISTRICT OR BY SEPARATE CONTRACTORS

6.1 DISTRICT’S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 Separate Contracts.

(a) District reserves the right to let other contracts in connection with this Work. Contractor shall afford other contractors reasonable opportunity for (1) introduction and storage of their materials; (2) access to the Work; and (3) execution of their work. Contractor shall properly connect and coordinate its work with that of other Contractors.

(b) If any part of Contractor’s Work depends on proper execution or results of any other contractor, the Contractor shall inspect and within seven (7) days or less, report to Architect, in writing, any defects in such work that render it unsuitable for
proper execution of Contractor’s work. Contractor will be held accountable for damages to District for that work which it failed to inspect or should have inspected. Contractor’s failure to inspect and report shall constitute its acceptance of other contractors’ work as fit and proper for reception of its work, except as to defects which may develop in other contractors’ work after execution of Contractor’s work.

(c) To ensure proper execution of its subsequent Work, Contractor shall measure and inspect Work already in place and shall at once report to the Architect in writing any discrepancy between executed Work As-Built drawings and the Contract Documents.

(d) Contractor shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by District in prosecution of the Project and the potential impact of such work on Contractor’s schedule.

(e) Nothing herein contained shall be interpreted as granting to Contractor the exclusive occupancy at the site of Project. Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the Project Site. If execution of any contract by the District is likely to cause interference with Contractor’s performance of its contract, District shall decide which contractor shall cease work temporarily and which contractor shall continue, or whether work can be coordinated so that contractors may proceed simultaneously.

(f) District shall not be responsible for any damages suffered or extra costs incurred by Contractor resulting directly or indirectly from award or performance or attempted performance of any other contract or contracts at the Project, or caused by any decision or omission of District respecting the order of precedence in performance of contracts.

CONTRACTOR IS AWARE THAT THIS CONTRACT MAY BE SPLIT INTO SEVERAL PHASES. IF THE CONTRACT IS SPLIT INTO PHASES THEN CONTRACTOR HAS MADE ALLOWANCE FOR ANY DELAYS OR DAMAGES WHICH MAY ARISE FROM COORDINATION WITH CONTRACTORS FOR OTHER PHASES. IF ANY DELAYS SHOULD ARISE FROM ANOTHER CONTRACTOR WORKING ON A DIFFERENT PHASE, CONTRACTOR’S SOLE REMEDY FOR DAMAGES, INCLUDING DELAY DAMAGES, SHALL BE AGAINST THE CONTRACTOR WHO CAUSED SUCH DAMAGE AND NOT THE DISTRICT. CONTRACTOR SHALL PROVIDE ACCESS TO OTHER CONTRACTORS FOR OTHER PHASES AS NECESSARY TO PREVENT DELAYS AND DAMAGES TO OTHER CONTRACTORS WORKING ON OTHER PHASES OF CONSTRUCTION.

6.1.2 District’s Right to Carry Out the Work.

See Paragraph 2.2.

6.1.3 Designation as Contractor.

When separate contracts are awarded to contractors on the Project Site, the term “Contractor” in the Contract Documents in each case shall mean the Contractor who executes each separate District/Contractor Agreement.
6.1.4 Contractor Duties.

The Contractor shall have overall responsibility to reasonably coordinate and schedule Contractor’s activities with the activities of the District’s own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule and Contract Sum deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors, and the District until subsequently revised. Additionally, Contractor shall coordinate with Architect and District inspector to ensure timely and proper progress of work.

6.2 CONSTRUCTIVE OWNERSHIP OF PROJECT SITE AND MATERIAL

Upon commencement of Work, the Contractor becomes the constructive owner of the entire site, improvements, material and equipment on Project site. Contractor must ensure proper safety and storage of all materials and assumes responsibility as if Contractor was the owner of the Project site. All risk of loss or damage shall be borne by Contractor during the Work until the date of Completion. As construction owner, Contractor must carry adequate insurance in case of calamity and is not entitled to rely on the insurance requirements as set forth in this agreement as being adequate coverage in case of calamity.

6.3 DISTRICT’S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors, and the District as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Paragraph 3.12, the District may clean up and allocate the cost among those it deems responsible.

ARTICLE 7

CHANGES IN THE WORK

7.1 CHANGES

7.1.1 No Changes Without Authorization.

There shall be no change whatsoever in the drawings, specifications, or in the Work without an executed Change Order, Construction Change Directive, or order by the Architect for a minor change in the Work 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 approved in writing by Change Order or executed Construction Change Directive. 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 in writing in the Change Order. 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. Notwithstanding anything to the contrary in this Article 7, all Change
Orders shall be prepared and issued by the District and shall become effective when executed by the District’s Governing Board, the Architect, the Contractor, and the DSA.

Should any Change Order result in an increase in the Contract Sum, the cost of such Change Order shall be agreed to, in writing, in advance by Contractor and District and be subject to the monetary limitations set forth in Public Contract Code Section 20659. In the event that Contractor proceeds with any change in Work without first notifying District and obtaining the Architect’s and District’s consent to a Change Order, Contractor waives any claim of additional compensation for such additional work.

CONTRACTOR UNDERSTANDS, ACKNOWLEDGES, AND AGREES THAT THE REASON FOR THIS NOTICE REQUIREMENT 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 SUCH CHANGE IN WORK BECOMES UNNECESSARY.

7.1.2 Architect Authority.

The Architect will have authority to order minor changes in the Work not involving any adjustment in the Contract Sum, or an extension of the Contract Time, or when a change which is inconsistent with the intent of the Contract Documents. Such changes shall be effected by written Change Order and shall be binding on the District and the Contractor. The Contractor shall carry out such written orders promptly.

7.2 CHANGE ORDERS (“CO”)

A CO is a written instrument prepared by the Architect and signed by the District (as authorized by the District’s Governing Board), the Contractor, the Architect, stating their agreement upon all of the following:

(a) A description of a change in the Work;
(b) The amount of the adjustment in the Contract Sum, if any; and
(c) The extent of the adjustment in the Contract Time, if any.

7.3 CONSTRUCTION CHANGE DIRECTIVE

7.3.1 Definition.

A Construction Change Directive is a written order prepared by the Architect and signed by the District and the Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The District may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions within. If applicable, the Contract Sum and Contract Time will be adjusted accordingly. In the case of a Construction Change Directive being issued, Contractor must commence Work immediately or delays from failure to perform Construction Change Directive shall be the responsibility of Contractor. Any dispute as to the sum of Construction Change Directive or timing of payment, shall be resolved pursuant to Paragraph 4.5.
7.3.2 Use to Direct Change

A Construction Change Directive shall be used in the absence of agreement on the terms of a CO. A copy of a proposed form is provided at the end of this Article.

7.4 REQUEST FOR INFORMATION ("RFI")

7.4.1 Definition.

An RFI is a written request prepared by the Contractor requesting the District to provide additional information necessary to clarify or amplify an item which the Contractor believes is not clearly shown or called for in the drawings or specifications, or to address problems which have arisen under field conditions.

7.4.2 Scope.

The RFI shall reference all the applicable Contract Documents including specification section, detail, page numbers, drawing numbers, and sheet numbers, etc. The Contractor shall make suggestions and interpretations of the issue raised by the RFI. An RFI cannot modify the Contract Sum, Contract Time, or the Contract Documents.

7.4.3 Response Time.

The Architect must respond to a RFI within a reasonable time after receiving such request. If the Architect’s response results in a change in the Work, then such change shall be effected by a written CO or Construction Change Directive, if appropriate. If the Architect cannot respond to the RFI within a reasonable time, the Architect shall notify the Contractor, with a copy to the Inspector and the District, of the amount of time that will be required to respond.

7.4.4 Costs Incurred.

The Contractor shall be responsible for any costs incurred for professional services, which shall be deducted from the next progress payment, if an RFI requests an interpretation or decision of a matter where the information sought is equally available to the party making such request. District, at its sole discretion, shall invoice Contractor for all such professional services arising from this Article.

7.5 REQUEST FOR PROPOSAL ("RFP")

7.5.1 Definition.

An RFP 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 on the Contract Sum and the Contract Time.

7.5.2 Scope.

An RFP shall contain adequate information, including any necessary drawings and specifications, to enable Contractor to provide the cost breakdowns required by Paragraph 7.7. The Contractor shall not
be entitled to any Additional Compensation for preparing a response to an RFP, whether ultimately accepted or not.

7.6 CHANGE ORDER REQUEST (“COR”)

7.6.1 Definition.

A COR is a written request prepared by the Contractor requesting that the District and the Architect issue a CO based upon a proposed change called for in an RFP or a claim pursuant to Paragraph 4.5.

7.6.2 Changes in Sum.

A COR shall include breakdowns per Paragraph 7.7 to validate any change in Contract Sum due to proposed change or claim.

7.6.3 Changes in Time.

A COR shall also include any additional 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 Project Schedule as defined in Paragraph 3.8 of the General Contract. If contractor fails to request a time extension in a COR, then the Contractor is thereafter precluded from requesting or claiming a delay.

7.7 COST OF CHANGE ORDERS

7.7.1 Scope.

Within ten (10) days after a request is made for a change that impacts the Contract Sum as defined in Paragraph 9.1, the critical path, or the Contract Time as defined in Paragraph 8.4.2, the Contractor shall provide the District and the Architect, with a written estimate of the effect of the proposed CO upon the Contract Sum and the actual cost of construction, which shall include a complete itemized cost breakdown of all labor and material showing actual quantities, hours, unit prices, and wage rates required for the change, and the effect upon the Contract Time of such CO. Changes may be made by District by an appropriate written CO, or, at the District’s option, such changes shall be implemented immediately upon the Contractor’s receipt of an appropriate written Construction Change Directive.

District may, as provided by law and without affecting the validity of this Agreement, order changes, modification, deletions and extra work by issuance of written Construction Change Directives from time to time during the progress of the Project, contract sum being adjusted accordingly. All such work shall be executed under conditions of the original Agreement except that any extension of time caused thereby shall be adjusted at time of ordering such change. District has discretion to order changes on a “time and material” basis with adjustments to time made after Contractor has justified through documentation the impact on the critical path of the Project.

7.7.2 Determination of Cost.

The amount of the increase or decrease in the Contract Price from a CO, if any, shall be determined in one or more of the following ways as applicable to a specific situation:
(a) Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation. If an agreement cannot be reached within fifteen (15) days after submission and negotiation of Contractor’s proposal, Contractor may submit pursuant to Paragraph 7.7.3. Submission of sums which have no basis in fact 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.);

(b) By unit prices contained in Contractor’s original bid and incorporated in the Project documents or fixed by subsequent agreement between District and Contractor;

(c) Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee. However, in the case of disagreement, Contractor must utilize the procedure under section 7.7.3; or

(d) By cost of material and labor and percentage of overhead and profit. If the value is determined by this method the following requirements shall apply:

1. **Basis for Establishing Costs.**
   
   a. Labor will be the actual cost for wages prevailing locally for each craft or type of workers at the time the extra Work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

   b. Materials shall be at invoice or lowest current price at which such materials are locally available and delivered to the Site in the quantities involved, plus sales tax, freight, and delivery.

   The District reserves the right to approve materials and sources of supply or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the District.

   c. Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of $250 or less.

   Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental agencies or distributors at the time the Work is performed.

   The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.
Necessary loading and transportation costs for equipment used on the extra Work shall be included. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the District than holding it at the Work Site, it shall be returned unless the Contractor elects to keep it at the Work Site at no expense to the District.

All equipment shall be acceptable to the Inspector, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer’s ratings and modifications shall be used to classify equipment, and equipment shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

d. Other Items. The District may authorize other items which may be required on the extra work. Such items include labor, services, material, and equipment which are different in their nature from those required by the Work, and which are of a type not ordinarily available from the Contractor or any of the Subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.

e. Invoices. Vendors’ invoices for material, equipment rental, and other expenditures shall be submitted with the COR. If the request for payment is not substantiated by invoices or other documentation, the District may establish the cost of the item involved at the lowest price which was current at the time of the Daily Report.

f. Overhead. Overhead, including direct and indirect costs, shall be submitted with the COR and include: home office overhead, off-site supervision, CO preparation/negotiation/research, time delays, project interference and disruption, additional guaranty and warranty durations, on-site supervision, additional temporary protection, additional temporary utilities, additional material handling costs, and additional safety equipment costs.

7.7.3 Format for Proposed Cost Change.

The following format shall be used as applicable by the District and the Contractor to communicate proposed additions and deductions to the Contract. A copy of a proposed Construction Change Directive form is provided at the end of this Article.

<table>
<thead>
<tr>
<th>EXTR</th>
<th>CRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Material (attach itemized quantity and unit cost plus sales tax)</td>
</tr>
<tr>
<td>(b)</td>
<td>Labor (attach itemized hours and rates)</td>
</tr>
<tr>
<td>(c)</td>
<td>Equipment (attach invoices)</td>
</tr>
<tr>
<td>(d)</td>
<td>Subtotal</td>
</tr>
<tr>
<td>(e)</td>
<td>If Subcontractor performed Work, add Subcontractor’s overhead and profit to portions performed by Sub-contractor, not to exceed fifteen percent (15%) of item (d).</td>
</tr>
</tbody>
</table>
(f) Liability and Property Damage Insurance, Worker’s Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed as follows: FICA @ 6.2% - with a wage ceiling of $84,900; Medicare @ 1.45% - no wage ceiling; FUTA @ .8% - with a wage ceiling of $7,000; ETT and SUI @ 2.3% - with a wage ceiling of $7,000; Workers’ Compensation @ 5.94%; Liability and Property Damage @ 2.5%. **Total not-to-exceed is 19.19%.** *(Note: Modifications to these percentages will be evaluated and possibly modified only on a case-by-case basis and only after proper proof of alternate percentages are documented and approved in advance. In addition, as wage ceilings are met, those corresponding percentages must drop from the “burden” calculations.)*

(g) Subtotal

(h) General Contractor’s Overhead and Profit: Not to exceed fifteen percent (15%) of Item (g) if Contractor performed the work. No more than five percent (5%) of Item (g) if Subcontractor performed the work. If work was performed by Contractor and Subcontractors, portions performed by Contractor shall not exceed fifteen percent (15%) if Item (g), and portions performed by Subcontractor shall not exceed five percent (5%) of Item (g)

(i) Subtotal

(j) Bond not to exceed one percent (1%) of Item (g)

(k) TOTAL

(l) Time

The undersigned Contractor approves the foregoing Construction Change Directive as to the changes, if any, and the contract price specified for each item and as to the extension of time allowed, if any, for completion of the entire work on account of said Construction Change Directive, and agrees to furnish all labor, materials and service and perform all work necessary to complete any additional work.
specified therein, for the consideration stated herein. It is understood that said Construction Change Directive shall be effective when approved by the Governing Board of the District.

It is expressly understood that the value of such extra Work or changes, as determined by any of the aforementioned methods, expressly includes any and all of the Contractor’s costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages or time extensions not included are deemed waived.

The Contractor expressly acknowledges and agrees that any change in the Work performed shall not be deemed to constitute a delay or other basis for claiming additional compensation based on theories including, but not limited to, acceleration, suspension or disruption to the Project.

7.7.4 Net Deductive Change Orders

All net deductive Change Order(s) must be prepared pursuant to Paragraph 7.7.3. Contractor will be allowed a maximum of 5% total profit and overhead. If subcontractor work is involved, subcontractors shall be entitled to a maximum of 5% profit and overhead on the deducted work. Any deviation from this Article shall not be allowed.

7.7.5 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 omissions in the Work as provided herein.

7.7.6 Accounting Records.

With respect to portions of the Work performed by COs and Construction Change Directives on a time-and-materials, unit-cost, or similar basis, the Contractor shall keep and maintain cost-accounting records satisfactory to the District, 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.

7.7.7 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 Paragraph 4.5 and this Article. 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 CO.

7.7.8 Applicability to Subcontractors.

Any requirements under this Article 7 shall be equally applicable to COs or Construction Change Directives issued to Subcontractors by the Contractor to the same extent required by the Contractor.
7.7.9 Alteration to Change Order Language.

Contractor shall not alter Change Orders or reserve time in Construction Change Directives. Contractor shall execute finalized Change Orders and proceed under Paragraph 7.7.7 and Paragraph 4.5 with proper notice. If Contractor intends to reserve time, without an approved CPM schedule prepared pursuant to Paragraph 3.8 then Contractor may be prosecuted pursuant to the False Claim Act.

ARTICLE 8

TIME

8.1 DEFINITIONS

8.1.1 Contract Time.

Unless otherwise provided, Contract Time is the period of time, in calendar days, including authorized adjustments, allotted in the Contract Documents for Completion of the Work.

8.1.2 Notice to Proceed.

District may give a notice to proceed within three (3) months of the award of the bid by District. Once Contractor has received the notice to proceed, Contractor shall complete the Work in the period of time referenced in the Contract Documents.

In the event that District desires to postpone the giving of the notice to proceed beyond this two-month period, it is expressly understood that with reasonable notice to the Contractor, the giving of the date to proceed may be postponed by District. 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 giving of the notice to proceed.

If the Contractor believes that a postponement will cause a hardship to Contractor, Contractor may terminate the contract with written notice to District within 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 responsible bidder.

8.1.3 Computation of Time.

The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

The Contractor will only be allowed a time extension for unusually severe weather if it results in precipitation or other conditions which in the amount, frequency, or duration is in excess of the norm at the location and time of year in question as established by National Oceanic and Atmospheric Administration (NOAA) weather data. No less than three work days allocated equally across the Contract
Time will be identified as non-working weather days in the contractor’s schedule for the entire contract period of performance. The weather days shall be shown on the schedule and if not used will become float for the Project’s use. A day-for-day extension will only be allowed for those days in excess of the norm. The Contractor is expected to work seven (7) days per week (if necessary, irrespective of inclement weather), to maintain access, and to protect the Work under construction from the effects of inclement weather.

If the weather is unusually severe and is in excess of the NOAA data norm and prevents the Contractor from beginning work at the usual daily starting time, or prevents the Contractor from proceeding with seventy-five (75%) of the normal labor and equipment force towards completion of the day’s current controlling item on the accepted construction schedule for a period of at least five hours, and the crew is dismissed as a result thereof, the Architect will designate such time as unavoidable delay and grant one (1) work-day extension.

8.2 HOURS OF WORK.

8.2.1 Sufficient Forces.

Contractors and Subcontractors shall continuously furnish sufficient forces to ensure the prosecution of the Work in accordance with the Construction Schedule.

8.2.2 Performance During Working Hours.

Work shall be performed during regular working hours as permitted by the District 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.

8.2.3 Costs for After Hours Inspections.

If the Contract Documents require Work to be done outside the Inspector’s regular working hours, the costs of any after hour inspections, shall be borne by the District.

If the District allows the Contractor to do Work outside regular working hours for the Contractor’s convenience, or if required to maintain schedule, the costs of any inspections required outside regular working hours shall be invoiced to the Contractor by the District and deducted from the next Progress Payment.

If the Contractor elects to perform Work outside the Inspector’s regular working hours, costs of any inspections required outside regular working hours shall be invoiced to the Contractor by the District and deducted from the next Progress Payment.

8.3 PROGRESS AND COMPLETION.

8.3.1 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.
8.4 EXTENSIONS OF TIME – LIQUIDATED DAMAGES

8.4.1 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 specified in the Construction Agreement for each calendar day of delay in completion. Any liquidated damages recovered by the District shall not, however, limit the District’s right to separately recover any actual out-of-pocket damages it suffers due to Contractor’s delay. Contractor and his surety shall be liable for the amount thereof pursuant to Government Code section 53069.85.

8.4.2 Excusable Delay.

Contractor shall not be charged for liquidated damages because of any delays in completion of Work which are not the fault or negligence of Contractor or its subcontractors, including acts of God, as defined in Public Contract Code Section 7107, acts of enemy, epidemics and quarantine restrictions. Contractor shall within five (5) calendar days of beginning of any such delay notify District in writing of causes of delay; thereupon District shall ascertain the facts and extent of delay and grant extension of time for completing Work when, in its judgment, the findings of fact justify such an extension. Extensions 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 after proper compliance with Paragraph 3.8 requiring preparation and submission of a properly prepared CPM schedule.

No extended overhead, general conditions costs, impact costs, out-of-sequence costs or any other type of compensation, by any name or characterization, shall be paid to the Contractor for any delay to any activity not designated as a critical path item on the latest approved Project schedule.

The Contractor shall notify the District and Architect in writing of any anticipated delay and its cause, in order that the District and Architect may take immediate steps to prevent, if possible, the occurrence or continuance of delay, and 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.

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, i.e., extensions, for proposed Change Orders, they must be submitted with the proposed Change Order with full justification and documentation. If the Contractor fails to submit justification with the proposed Change Order it waives its right to a time extension at a later date. Such justification must be based on the District accepted 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. The justification must include, but is not limited to, the following information:

(a) The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform these activities within the stated duration.
(b) Logical ties to the District accepted construction schedule for the proposed changes and/or delay showing the activity/activities in the schedule whose start or completion dates are affected by the change and/or delay. (A fragment of any delay of over ten (10) days must be provided.)

The Contractor and District understand and expressly agree that insofar as Public Contract Code Section 7102 may apply to changes in the Work or delays under this contract, the actual delays and damages, if any, and time extensions are intended to, and shall provide, the exclusive and full method of compensation for changes in the Work and construction delays.

8.4.3 Notice by Contractor Required.

The Contractor shall within five (5) calendar days of beginning of any such delay notify the District in writing of causes of delay with justification and supporting documentation. District will then ascertain the facts and extent of the delay and grant an extension of time for completing the Work when, in its judgment, the findings of fact justify such an extension. Extensions of time shall apply only to that portion of the Work affected by the delay and shall not apply to other portions of the Work not so affected. The sole remedy of Contractor for extensions of time under Paragraph 8.4.2 shall be an extension of the Contract Time at no cost to the District.

Claims relating to time extensions shall be made in accordance with applicable provisions of Article 7.

8.4.4 No Additional Compensation for Delays within Contractor’s Control

CONTRACTOR IS AWARE THAT GOVERNMENTAL AGENCIES, SUCH AS 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. CONTRACTOR HAS INCLUDED DELAYS AND DAMAGES WHICH MAY BE CAUSED BY SUCH AGENCIES IN CONTRACTOR’S BID. THUS, CONTRACTOR IS NOT ENTITLED TO MAKE CLAIM UPON THE DISTRICT FOR DAMAGES OR DELAYS ARISING FROM THE DELAYS CAUSED BY SUCH AGENCIES. FURTHERMORE, THE CONTRACTOR HAS SCHEDULED FOR SUCH DELAYS AND IS NOT ENTITLED TO AN EXTENSION OF TIME FOR DELAYS CAUSED BY GOVERNMENTAL AGENCIES WHICH CONTRACTOR MUST OBTAIN APPROVALS FROM AND, THUS, CONTRACTOR IS NOT ENTITLED TO AN EXTENSION OF TIME.

CONTRACTOR SHALL ONLY BE ENTITLED TO COMPENSATION FOR DELAY WHEN THE FOLLOWING CONDITIONS ARE MET: (1) THE DISTRICT IS RESPONSIBLE FOR THE DELAY; (2) THE DELAY IS UNREASONABLE UNDER THE CIRCUMSTANCES INVOLVED; AND (3) THE DELAY WAS NOT WITHIN THE CONTEMPLATION OF DISTRICT AND CONTRACTOR.
ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

The Contract Sum 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.

9.2 COST BREAKDOWN

9.2.1 Required Information.

On forms or software programs (e.g., Microsoft Project, Primavera or Excel) approved by the District, the Contractor shall furnish the following:

(a) Within ten (10) days of the award of the Contract, a detailed breakdown of the Contract Sum (hereinafter “Schedule of Values” or “SOV”) for each Project or Site;

(b) Within ten (10) days of the award of the Contract, a schedule of estimated monthly payment requests due the Contractor showing the values and construction time of the various portions of the Work to be performed by it and by its Subcontractors or material and equipment suppliers containing such supporting evidence as to its correctness as the District may require;

(c) Within ten (10) days of the award of the Contract, the name, address, telephone number, teletypewriter number, California State Contractors License number, classification and monetary value of all Subcontracts for parties furnishing labor, material, or equipment for completion of the Project.

9.2.2 District Approval Required.

The District shall review all submissions received pursuant to Paragraph 9.2.1 in a timely manner. All submissions must be approved by the District before becoming the basis of any payment. Contractor may request to District representation, prior to submission, to submit information required by paragraph 9.2.1 in a spreadsheet (Microsoft Excel) format. Approval of an alternate format is entirely at District’s discretion.

9.3 PROGRESS PAYMENTS

9.3.1 Payments to Contractor.

Within thirty (30) days after approval of the Request for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as certified by Architect and Inspector and verified by Contractor) up to the last day of the previous month, less the aggregate of previous payments. 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 enforcement of each and every provision of this
The District shall have the right subsequently to correct any error made in any estimate for payment.

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.

The SOV items of Work shall include a prorated portion of Contractor’s home office and field office overhead, profit, insurance, (except to the extent expressly identified in a Proposal Item) and/or other financing, as well as General Conditions costs, (e.g., routine time related Site cleanup and maintenance, temporary power and lighting, security, temporary trailer rental, temporary fence rentals, and the like). The SOV shall also not include separate line items to prepare submittals, or other Work items not at the Project Site, unless expressly identified in these Contract Documents as specific exceptions.

Costs for each item of Work at the Project site shall be indicated on a single line that breaks out labor, materials, and equipment for that item of Work, with all items noted in the paragraph above prorated into each line. Unless otherwise allowed, the SOV shall reflect that the District shall only pay for installed items of Work at the Project site. All other costs shall be prorated through all activities and all Phases of the Project so that the sum of all Schedule of Values line items equals the total Contract Sum.

Notwithstanding anything to the contrary stated above, the Contractor may include in its Request for Payment the value of any fabricated structural steel, mail order materials, G.F.R.C. panels and other such custom-made materials prepared specifically for the Project and unique to the Project so long as all of the following requirements are satisfied:

(a) No payment shall be made for materials stored off-site without the written approval of the District to be given or withheld in the District’s sole discretion;

(b) Title to such materials shall be vested in the District as evidenced by documentation satisfactory in form and substance to the District, including, without limitation, recorded financing statements, UCC filings and UCC searches;

(c) With each Contractor Request for Payment, the Contractor shall submit to the District a written list identifying each location where materials are stored off-site (which must be a bonded warehouse) and the value of the materials at each location. The Contractor shall procure insurance satisfactory to the District (in its reasonable discretion) for materials stored off-site in an amount not less than the total value thereof;

(d) The consent of any Surety shall be obtained to the extent required prior to payment for any materials stored off-site;

(e) Representatives of the District shall have the right to make inspections of the storage areas at any time; and

(f) Such materials shall be (1) protected from diversion, destruction, theft and damage to the reasonable satisfaction of the District; (2) specifically marked for use on the Project; and (3) segregated from other materials at the storage facility.
9.3.2 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.

9.3.3 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 any error subsequent to any payment.

9.3.4 Issuance of Certificate of Payment.

The Architect shall, within seven (7) days after receipt of the Contractor’s Application for Payment, either approve such payment or notify the Contractor in writing of the Architect’s reasons for withholding approval in whole or in part as provided in Paragraph 9.6. The review of the Contractor’s Application for Payment by the Architect is based on 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 Architect’s knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to (1) an evaluation of the Work for conformance with the Contract Documents, (2) results of subsequent tests and inspections, (3) minor deviations from the Contract Documents correctable prior to completion, and (4) specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified.

9.4 APPLICATIONS FOR PROGRESS PAYMENTS

9.4.1 Procedure.

9.4.1.1 Application for Progress. On or before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the Architect an itemized Application for Progress Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required, and supported by the following or such portion thereof as Architect requires:

(a) 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;

(b) 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;

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

(d) A certification that the As-Built Drawings and Annotated Specifications are current;
(e) Itemized breakdown of work done for the purpose of requesting partial payment;
(f) An updated construction schedule in conformance with Paragraph 3.8;
(g) The additions to and subtractions from the Contract Sum and Contract Time;
(h) A summary of the retentions held;
(i) Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;
(j) The percentage of completion of the Contractor’s Work by line item; and
(k) An updated Schedule of Values from the preceding Application for Payment.

9.4.2 Prerequisites for Progress Payments.

9.4.2.1 First Payment Request. The following items, if applicable, must be completed before the first payment request will be accepted for processing:

(a) Installation of the Project sign;
(b) Receipt by Architect of submittals;
(c) Installation of field office;
(d) Installation of temporary facilities and fencing;
(e) Submission of documents listed in the Paragraph 9.2 relating to Cost Breakdown;
(f) Contractor’s Construction Schedule (Schedule to be CPM based in conformance with Paragraph 3.8);
(g) Schedule of unit prices;
(h) Submittal Schedule;
(i) Copies of necessary permits;
(j) Copies of authorizations and licenses from governing authorities;
(k) Initial progress report;
(l) Surveyor qualifications;
(m) Written acceptance of District’s survey of rough grading;
(n) List of all subcontractors, with names, license numbers, telephone numbers, and scope of work;
(o) All bonds and insurance endorsements; and
(p) Resumes of General Contractor’s Project Manager and superintendent.

9.4.2.2 All Payment Requests. No payment requests will be processed unless Contractor has submitted copies of the Certified Payroll records for the Work which correlates to the payment request and a proper CPM schedule pursuant to Paragraph 3.8 is submitted.
9.4.2.3 Any payments made to Contractor where criteria set forth in Paragraph 9.4.2.1 or 9.4.2.2 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 and that Contractor agrees that failure to submit such items may constitute a breach of contract by Contractor and may subject Contractor to termination.

9.5 WARRANTY OF TITLE

The Contractor warrants title to all work. The Contractor further warrants that all work is free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work. Failure to keep work free of liens, claims, security interests or encumbrances is grounds to make a claim against Contractor’s payment and performance bond to immediately remedy and defend.

If a lien or stop notice of any nature should at any time be filed against the Work or any District property, by any entity which 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 stop notice to be released or discharged immediately therefrom.

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 stop notice has been so released, discharged, or secured, then 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.

9.6 DECISIONS TO WITHHOLD PAYMENT

9.6.1 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 by Paragraph 9.4 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:

(a) Defective Work not remedied;
(b) Stop Notices served upon the District;
(c) Liquidated damages assessed against the Contractor;
(d) The cost of completion of the Contract if there exists reasonable doubt that the Work can be completed for the unpaid balance of any Contract Sum or by the completion date;
(e) Damage to the District or other contractor;
(f) Unsatisfactory prosecution of the Work by the Contractor;
(g) Failure to store and properly secure materials;
(h) Failure of the Contractor to submit on a timely basis, proper and sufficient documentation required by the Contract Documents, including, without limitation, acceptable monthly progress schedules, shop drawings, submittal schedules, schedule of values, product data and samples, proposed product lists, executed Construction Change Directives, and verified reports;

(i) Failure of the Contractor to maintain As-Built drawings;

(j) Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment;

(k) Unauthorized deviations from the Contract Documents;

(l) Failure of the Contractor to prosecute the Work in a timely manner in compliance with established progress schedules and completion dates.

(m) Failure to properly pay prevailing wages as defined in Labor Code section 1720, et seq.;

(n) Failure to properly maintain or clean up the Site;

(o) Payments to indemnify, defend, or hold harmless the District;

(p) Any payments due to the District including but not limited to payments for failed tests, or utilities changes or permits;

(q) Failure to submit an acceptable schedule in accordance with Paragraph 3.8; or

(r) Failure to pay Subcontractor or suppliers as required by Paragraph 9.8.1.

9.6.2 Reallocation of Withheld Amounts.

District may, in its discretion, apply any withheld amount to payment of outstanding claims or obligations as defined in Paragraphs 9.6.1 and 9.5. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then such amount shall be considered as a payment made under Contract by District to Contractor and District shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of such funds disbursed on behalf of Contractor.

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 ten (10) calendar days 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 which is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract price (of at least 150% of the estimated reasonable value of the nonconforming work) shall be made therefor.

9.6.3 Payment After Cure.

When the grounds for declining approval are removed, 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.
9.7 **NONCONFORMING WORK**

Contractor shall promptly remove from premises all Work identified by District as failing to conform to the Contract whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract without additional expense to District and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

If Contractor does not remove such Work which has been identified by District as failing to conform to the Contract Documents within a reasonable time, fixed by written notice, District may remove it and may store the material at Contractor’s expense. If Contractor does not pay expenses of such removal within ten (10) calendar days’ time thereafter, District may, upon ten (10) calendar days’ written notice, sell such materials at auction or at private sale and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by Contractor.

9.8 **SUBCONTRACTOR PAYMENTS**

9.8.1 **Payments to Subcontractors.**

No later than ten (10) 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 Sub-subcontractors in a similar manner.

9.8.2 **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.

9.8.3 **Payment Not Constituting Approval or Acceptance.**

An approved Request for Payment, a progress payment, or partial or entire use or occupancy of the Project by the District shall not constitute acceptance of Work not in accordance with the Contract Documents.

9.8.4 **Joint Checks.**

District shall have the right, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and 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, any obligation from the District to such Subcontractor, or rights in such Subcontractor against the District.

9.9 **PROJECT AS-BUILT DOCUMENTS**

This section includes administrative and procedural requirements for Project As-Built Documents, including but not limited to the following where applicable:
9.9.1 As-Built Drawings
9.9.2 As-Built Specifications
9.9.3 As-Built Product Data
9.9.4 As-Built MEP & Structural coordination documents
9.9.5 Project As-Built Documents include, but are not limited to, the following:
   9.9.5.1 Marked-up copies of Drawings
   9.9.5.2 Marked up copy of the Project Specifications
   9.9.5.3 Marked-up copies of Shop Drawings
   9.9.5.4 Newly prepared Drawings and Specifications
   9.9.5.5 Marked-up Product Data submittals
   9.9.5.6 Field records, such as photographs, for variable and concealed conditions
   9.9.5.7 Record information for Work that is only schematically shown
   9.9.5.8 Maintenance forms for equipment

Contractor shall dedicate one complete full size set of the Contract Drawings and one complete Project Manual for use in recording as-built conditions.

Contractor shall submit to District in hard copy one original and two copies of all Project As-Built Documents. In addition, one electronic copy in electronic media format shall be submitted to District. District reserves the right to require resubmittal in accordance with these General Conditions if the documents are inaccurate or incomplete, or otherwise fail to meet the requirements of these Contract Documents.

9.9.6 Project As-Built

Mark-up Procedure: During the construction period, maintain a complete, current set of full size blackline prints of Contract Drawings and Shop Drawings for Project As-Built Documents purposes. Label each document (on first sheet or format page) "As-Built" in 2-inch high printed letters. Keep all As-Built documents current.

A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not conceal any Work until required record information has been recorded.

Contractor shall mark As-Built drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to:

9.9.6.1 Dimensional changes to the Contract Drawings (horizontal and/or vertical)
9.9.6.2 Revisions or any modification to details shown on the Contract Drawings

9.9.6.3 Depths of various elements of foundations in relation to main floor level or survey datum.

9.9.6.4 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.

9.9.6.5 Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.

9.9.6.6 Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations and similar items

9.9.6.7 Final, actual numbering of each electrical circuit

9.9.6.8 Revisions to routing of piping and conduits

9.9.6.9 Revisions to electrical circuitry

9.9.6.10 Actual equipment locations

9.9.6.11 Duct size and routing

9.9.6.12 Changes made by Change Order, CCD, ASI, or any other directive

9.9.6.13 Details not on original Contract Drawings

Contractor shall mark completely and accurately As-Built Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.

Contractor shall mark As-Built Drawing sets with red, erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.

Contractor shall be responsible for Mark-up: Where feasible, the individual or entity who obtained As-Built Drawing data, whether the individual or entity is the installer, Subcontractor or similar entity, is required to prepare the mark-up on As-Built Drawings. Contractor shall prepare As-Built Drawings: Immediately prior to inspection for Certification of Substantial Completion of the Work, review completed marked-up As-Built Drawings with District, Project Inspector, Construction Manager, and Architect to ensure accuracy of information. Once accuracy of information is confirmed, prepare and submit a full set of As-Built Contract Drawings and Shop Drawings.

Incorporate changes and additional information previously marked on print sets. Delete, redraw, and/or add details and notations where applicable. Identify and date each Drawing; include the printed designation “PROJECT AS-BUILT DRAWING” and the date prepared in a prominent location on each Drawing.

Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into
manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets and submit to District.

9.9.7 Project As-Built Specification

Contractor shall, during the construction period, maintain one copy of the Project Specifications, including all addenda and all other modifications issued for Project As-Built Documents purposes.

Contractor shall mark the Project As-Built specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and/or modifications issued. Note related Project As-Built Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and Construction Change Directive Work, and information on concealed installation that would be difficult to identify, measure, and record later.

9.9.8 Project As-Built Product Data

Contractor shall, during the construction period, maintain one copy of each Project As-Built Product Data submittal for "Project As-Built Document" purposes.

Contractor shall arrange Project As-Built Product Data by Specification Section number, and provide names, addresses, fax numbers, emails addresses, and telephone number of Subcontractors and suppliers. Information to be provided includes:

9.9.8.1 Trade Names
9.9.8.2 Model or type numbers
9.9.8.3 Assembly diagrams
9.9.8.4 Operating instructions
9.9.8.5 Cleaning instructions
9.9.8.6 Maintenance instructions
9.9.8.7 Recommended spare parts
9.9.8.8 Product data

9.9.9 Miscellaneous Project As-Built Submittals

Refer to other Specification Sections for miscellaneous record keeping requirements and submittals. Immediately prior to Substantial Completion of the Work complete miscellaneous records and place in good order, properly identified, ready for use and reference. Submit to the District for District's records, in Adobe PDF format.

9.9.10 Electronic Media Format

Electronic Media Format: Electronic media format for all Project As-Built Documents shall be Adobe PDF, with chapter markers and/or bookmarks inserted in place of the equivalent hard copy section tabs. Electronic copy shall include all tables, charts, drawings, codes and all other matters reflected in hard copies. Electronic media files shall be delivered on a unique CD-ROM or flash drive.
9.10 COMPLETION OF THE WORK

9.10.1 Contract Closeout Submittals include, but are not limited to:

9.10.1.1 Electronic Media of All Project As-Built Documents described in Article 9.9.10 above.
9.10.1.2 Record Samples
9.10.1.3 Field records for variable and concealed conditions
9.10.1.4 Operating and maintenance manuals and data
9.10.1.5 Warranties, guaranties, and bonds
9.10.1.6 Warranty Tags
9.10.1.7 Spare Parts Data
9.10.1.8 Service and maintenance contracts
9.10.1.9 Certified and approved fire inspection documents, when required

9.10.2 Initial Punch List and Inspection

When Contractor considers Work to be Substantially Complete, submit written notice to District’s Representative requesting an Initial Inspection and listing items remaining to be completed or corrected listed by room number and item number (hereinafter “Initial Punch List”). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct items on the list without waiting for District review of the Initial Punch List and inspection of the Work. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The Contractor shall not submit a notice requesting an Initial Inspection unless the Work is Substantially Complete.

9.10.2.1 Before calling for final inspection, Contractor shall determine that the following Work has been performed:

a. The Work has been completed.
b. All life safety items are completed and in working order.
c. Mechanical and electrical Work complete, fixtures in place, connected and ready for tryout and test.
d. Electrical circuits scheduled in panels and disconnect switches labeled.
e. Painting and special finishes complete.
f. Doors complete with hardware, cleaned of protective film relieved of sticking or binding and in working order.
g. Tops and bottoms of doors sealed.
h. Floors waxed and polished as specified.
i. Broken glass replaced and glass cleaned.
j. Grounds cleared of Contractor’s equipment, raked clean of debris, and
trash removed from Site.

k. Work cleaned, free of stains, scratches, and other foreign matter, replacement of damaged and broken material.

l. Finished and decorative work shall have marks, dirt and superfluous labels removed.

m. Final cleanup.

9.10.2.2 Furnish a letter to District stating that a responsible representative of District [give name and position] has been instructed in working characteristics of mechanical and electrical equipment.

Should District’s Representatives determine that Work is not Substantially Complete, the Architect or Construction Manager will promptly notify Contractor in writing, listing Work that must be completed prior to Substantial Completion. Any inspection list that is submitted to the District that does not result in a District determination of Substantial Completion will not be considered an accepted Initial Punch List. If the Work or Phase of Work is determined to not be Substantially Complete, Contractor shall complete all Work as directed prior to requesting an additional Initial Inspection by the District to determine Substantial Completion per this Specification Section.

Upon receipt of the Contractor’s Initial Punch List, and not before, the Architect, Construction Manager, and Inspector will make an Initial Inspection to determine whether the Work, or Phase of Work, is Substantially Complete.

9.10.2.3 All fire and life safety items, manufactured units, equipment and systems that require startup must have been started, run, tested, and operational for periods prescribed by the Contract Documents before a request for Initial Inspection is accepted by the District.

9.10.2.4 If additional Initial Inspections are required to review Initial Punch List items due to incompleteness of the Work by Contractor, Contractor will reimburse District for all costs associated with these inspections if additional services fees by District consultants are required. The costs of such District additional service fees will be deducted from the Contract Sum by Change Order.

9.10.3 Substantial Completion

When District determines that the Work is Substantially Complete, District will issue a Certificate of Substantial Completion, accompanied by Final Punch List of items to be completed or corrected as verified and/or appended by Architect and District.

When the Work is Substantially Complete, the District will file a Notice of Completion.

9.10.3.1 Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work unless otherwise provided in the Notice of Completion.

9.10.3.2 The Notice of Completion shall be submitted to the Contractor for their written acceptance of responsibilities assigned to them in such Notice prior to District filing the Notice of Completion for purposes of initiating the release of Retention for the Work or Phase of Work.
9.10.3.3 The District shall withhold from Contractor payment the value of remaining Work, Work to be corrected, incomplete Work, and an amount identified for Punch List Work, and as otherwise identified in Public Contract Code.

The Contractor shall complete the items listed in the Final Punch List within ten (10) working days of the Certificate of Substantial Completion. The Contractor shall execute the Work such that the District can occupy the Work within seven (7) calendar days of the date of the Certificate of Substantial Completion.

9.10.4 Final Inspection

When Contractor considers the items listed in the Final Punch List to be complete the Contractor shall submit written notice to District’s Representative requesting a Final Inspection.

Operations and Maintenance Manuals and Warranty and Guaranty documents. At least ten (10) days prior to final inspection, three (3) copies of complete operations and maintenance manuals, repair parts lists, service instructions for all electrical and mechanical equipment, and equipment warranties shall be submitted. All installation, operating, and maintenance information and drawings shall be bound in 8½” x 11” binders. Provide a table of contents in front and all items shall be indexed with tabs. Each manual shall also contain a list of subcontractors, with their addresses and the names of persons to contact in cases of emergency. Identifying labels shall provide names of manufactures, their addresses, ratings, and capacities of equipment and machinery. Additional requirements for Operations and Maintenance manuals may be found in other Specifications and Sections of the Contract Documents.

Upon receipt of the Contractor’s request for Final Inspection, and not before, the Contractor, Architect, and Construction Manager, shall meet to go over the Contract Documents to identify the administrative requirements for contract close-out.

9.10.4.1 The Construction Manager will prepare a list of requirements remaining for administrative close-out and shall provide the list to the Contractor. This list may be general in nature, and shall not serve to relieve the Contractor from any of the administrative requirements of the Contract.

9.10.4.2 The Contractor shall complete all items on the administrative close-out list within twenty-one (21) days

Subsequent to the meeting to identify administrative close-out requirements, Architect, Construction Manager, Campus Representatives, and Inspector will inspect the Work to determine whether the Work identified on the Final Punch List is complete.

If additional Final Inspections are required to review the Final Punch List items due to incompleteness of the Work by Contractor, Contractor will reimburse District for all costs associated with these inspections if additional services fees by District consultants are required. The costs of such District additional service fees will be deducted from the Contract Sum by Change Order.

When the Architect determines that all final punch list items have been completed, a final Project Inspection Report will be issued. Any outstanding administrative close-out requirements will be identified and a value for withholding from Progress Payment or Final Payment will be assigned.
The Project Inspector (IOR), the Construction Manager, and the Contractor shall, at all times, be together during all inspections. The Contractor shall give 24-hour notice to the District for such inspections.

9.10.5 Final Completion

Final Completion occurs when all Work meets all requirements of the Contract Documents. When Contractor considers all Work complete and all close-out requirements have been performed, submitted, and accepted, submit written certification to District that:

9.10.5.1 Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.

9.10.5.2 Except for Contractor maintenance and Deferred or Seasonal Testing, after Final Acceptance, all Work has been completed in accordance with Contract Documents and deficiencies listed with any Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of Architect, Project Inspector (IOR), Construction Manager, and District Representatives and are operative.

Should District determine that the Work is incomplete or defective or that administrative requirements have not been completed:

9.10.5.3 District’s Representative promptly will so notify Contractor, in writing, listing the incomplete or defective items.

9.10.5.4 Contractor shall promptly remedy all incomplete and/or defective Work and notify the District when it is ready for re-inspection. District’s Representatives will then re-inspect the Work. If deficiencies previously noted are found not to be corrected, Contractor shall pay all District costs for the re-inspection.

9.10.5.5 When District determines that all Work and requirements are complete under the Contract Documents, District or Construction Manager will request Contractor to make a request for Final Payment.

9.11 PARTIAL OCCUPANCY OR USE

9.11.1 District’s Rights.

The District may occupy or use any completed or partially completed portion of the Work at any stage. The District and the Contractor shall agree in writing to the responsibilities assigned to each of them 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. If District and Contractor cannot agree as to responsibilities such disagreement shall be resolved pursuant to Paragraph 4.5.1. When the Contractor considers a portion complete, the Contractor shall prepare and submit a Punch List to the District as provided under Paragraph 9.9.1.
9.11.2 Inspection Prior to Occupancy or Use.

Immediately prior to such 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.

9.11.3 No Waiver.

Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of the Work not complying with the requirements of the Contract Documents.

9.12 COMPLETION AND FINAL PAYMENT

9.12.1 Final Inspection.

Contractor shall comply with all Punch List and Inspection procedures under Paragraph 9.10

Upon receipt and approval of such final Application for Payment as required in Article 9.10.5.5 and elsewhere, the Architect shall issue a final Certificate of Payment stating that to the best of its knowledge, information, and belief, and on the basis of its observations, inspections, and all other data accumulated or received by the Architect in connection with the Work, such Work has been completed in accordance with the Contract Documents. The District shall thereupon inspect such Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete (which, 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 payment from the District, pay the amounts due Subcontractors.

9.12.2 Retainage.

The retainage, less any amounts disputed by the District or which the District has the right to withhold Pursuant to Paragraph 9.6, shall be paid after approval of the District by the Architect’s Certificate of Payment, after the satisfaction of the conditions set forth in Article 9, and after thirty-five (35) days after the acceptance of the Work and recording of the Notice of Completion by District. No interest shall be paid on any retainage, 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 § 22300.

9.12.3 Procedures for Application for Final Payment.

9.12.3.1 Prerequisites for Final Payment. The following conditions must be fulfilled prior to Final Payment:

(a) A full and final waiver or release of all Stop Notices in connection with the Work shall be submitted by Contractor, including a release of Stop Notice in recordable form, together with (to the extent permitted by law) a copy of the full and final release of all Stop Notice rights.
(b) The Contractor shall have made all corrections to the Work which 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.

(c) 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.

(d) Contractor must have completed all requirements set forth in Paragraph 9.9.1.2.

(e) Architect shall have issued a Final Certificate of Payment.

(f) The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents.

(g) The Contractor shall have completed final clean up as required by Paragraph 3.12.

9.13  SUBSTITUTION OF SECURITIES

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1  SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 Contractor Responsibility.

The Contractor is constructive owner of Project site. The 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 protection of all materials delivered and work performed until completion and final acceptance by the District. All work shall be solely at the Contractor’s risk, with the exception of damage to the work caused by “acts of God” as defined in Public Contract Code Section 7105(b)(2).

Contractor shall take, and require subcontractor to take, all necessary precautions for safety of workers on the Work 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. In addition to meeting all requirements of OSHA, Cal-OSHA, state, and local codes, Contractor shall furnish, erect and properly maintain at all times, as directed by District or Architect or required by conditions and progress of work, all necessary safety devices, safeguards, construction canopies, signs, audible devices for protection of the blind, safety rails, belts and 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. Contractor shall designate a responsible member of its organization on the Work, 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. The name and position of person so designated shall be reported to District by Contractor. 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, such violation shall be corrected promptly.

The Contractor and Subcontractors shall continuously protect the Work, the District’s property, and the property of others, from damage, injury, or loss arising in connection with operations under the Contract Documents. The Contractor and Subcontractors, at their own expense, shall make good any such damage, injury, or loss, except such as may be solely due to, or caused by, agents or employees of the District.

10.1.2 Subcontractor Responsibility.

Contractor shall require that Subcontractors participate in, and enforce, the safety and loss prevention programs established by the Contractor for the Project, which will cover all Work performed by the Contractor and its Subcontractors. Each Subcontractor shall designate a responsible member of its organization whose duties shall include loss and accident prevention, and who shall have the responsibility and full authority to enforce the program. This person shall attend meetings with the representatives of the various Subcontractors employed to ensure that all employees understand and comply with the programs.

10.1.3 Cooperation.

All Subcontractors and material or equipment suppliers, shall cooperate fully with Contractor, the District, and all insurance carriers and loss prevention engineers.

10.1.4 Accident Reports.

Subcontractors shall immediately, within two (2) days, report in writing to the Contractor all accidents whatsoever arising out of, or in connection with, the performance of the Work, whether on or off the Site, which caused death, personal injury, or property damage, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported within four (4) days by telephone or messenger. Contractor shall thereafter immediately, within two (2) days, report the facts in writing to the District and the Architect giving full details of the accident.

10.1.5 First-Aid Supplies at Site.

The Contractor will provide and maintain at the Site first-aid supplies which complies with the current Occupational Safety and Health Regulations.

10.1.6 Material Safety Data Sheets and Compliance with Proposition 65.

(a) Contractor is required to have material safety data sheets available in a readily accessible place at the job 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 properly label any substance brought
into the job site, and require 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.

Contractor is required to comply with the provisions of California Health and Safety Code section 25249, et seq., which requires the posting and giving of notice to persons who may be exposed to any chemical known to the State of California to cause cancer. The Contractor agrees to familiarize itself with the provisions of this section, and to comply fully with its requirements.

10.1.7 Non-Utilization of Asbestos Material.

NO ASBESTOS OR ASBESTOS-CONTAINING PRODUCTS SHALL BE USED IN THIS CONSTRUCTION OR IN ANY TOOLS, DEVICES, CLOTHING, OR EQUIPMENT USED TO EFFECT THIS CONSTRUCTION.

Asbestos and/or asbestos-containing products shall be defined as all items containing, but not limited to, chrysotile, amosite, anthophyllite, tremolite, and antinolite.

Any or all material containing greater than one-tenth of one percent (>0.1%) asbestos shall be defined as asbestos-containing material.

All Work or materials found to contain asbestos or Work or material installed with asbestos-containing equipment will be immediately rejected and this Work will be removed at no additional cost to the District.

Decontamination and removal of Work found to contain asbestos or Work installed with asbestos-containing equipment shall be done only under supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency.

The asbestos removal contractor shall be an EPA accredited contractor qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant, who shall have sole discretion and final determination in this matter.

The asbestos consultant shall be chosen and approved by the District, who shall have sole discretion and final determination in this matter.

The Work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

Interface of Work under this Contract with work containing asbestos shall be executed by the Contractor at his risk and at his discretion, with full knowledge of the currently accepted standards, hazards, risks, and liabilities associated with asbestos work and asbestos-containing products. By execution of this Contract, the Contractor acknowledges the above and agrees to hold harmless District and its assigns for all asbestos liability which may be associated with this work and agrees to instruct his employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
10.2 **SAFETY OF PERSONS AND PROPERTY**

10.2.1 The Contractor.

The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:

(a) Employees on the Work and other persons who may be affected thereby;
(b) The Work, material, and equipment to be incorporated therein, whether in storage on or off the Site, under the care, custody, or control of the Contractor or the Contractor’s Subcontractors or Sub-subcontractors; and
(c) Other property at the Site or adjacent thereto such as trees, shrubs, lawns, walks, pavement, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

Contractor is constructive owner of Project site as more fully discussed in Paragraph 6.2.

10.2.2 Contractor Notices.

The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on the safety of persons or property or their protection from damage, injury, or loss.

10.2.3 Safety Barriers and Safeguards.

The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.

10.2.4 Use or Storage of Hazardous Material.

When use or storage of explosives, other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. The Contractor shall notify the District any time that explosives or hazardous materials are expected to be stored on Site. Location of storage shall be coordinated with the District and local fire authorities.

10.2.5 Protection of Work.

The Contractor and Subcontractors shall continuously protect the Work, the District’s property, and the property of others, from damage, injury, or loss arising in connection with operations under the Contract Documents. The Contractor and Subcontractors, at their own expense, shall make good any such damage, injury, or loss, except such as may be solely due to, or caused by, agents or employees of the District.

The Contractor, at Contractor’s expense, will remove all mud, water, or other elements as may be required for the proper protection and prosecution of its Work.
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. All permits, licenses, or inspection fees required for such repair Work shall be obtained and paid for by Contractor.

10.2.6 Requirements for Existing Sites.

Contractor shall (unless waived by the District in writing):

(a) When performing construction on existing sites, become informed and take into specific account the maturity of the students on the Site; and perform Work which may interfere with campus routine before or after campus hours, enclose working area with a substantial barricade, and arrange Work to cause a minimum amount of inconvenience and danger to students and faculty in their regular campus activities. The Contractor shall comply with specifications and directives of the District regarding the timing of certain construction activities in order to avoid unnecessary interference with the campus’ functions.

(b) Provide substantial barricades around any shrubs or trees indicated to be preserved.

(c) Deliver materials to building area over route designated by Architect.

(d) Take preventive measures to eliminate objectionable dust, noise, or other disturbances.

(e) Confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits or directions of Architect; and not interfere with the Work or unreasonably encumber premises or overload any structure with materials; and enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking and require that all workers comply with all regulations while on the Project site.

(f) Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved land surveyor or civil engineer and all maps and records required therefrom shall be filed with county and local authorities, at no cost to the District. All filing and plan check fees shall be paid by Contractor.

(g) Provide District on request with Contractor’s written safety program and safety plan for each site.

10.2.7 Shoring and Structural Loading.

The Contractor shall not impose structural loading upon any part of the Work under construction or upon existing construction on or adjacent to the Site in excess of safe limits, or loading such as to result in damage to the structural, architectural, mechanical, electrical, or other components of the Work. The design of all temporary construction equipment and appliances used in construction of the Work and not a permanent part thereof, including, without limitation, hoisting equipment, cribbing, shoring, and
temporary bracing of structural steel, is the sole responsibility of the Contractor. All such items shall conform with the requirements of governing codes and all laws, ordinances, rules, regulations, and orders of all authorities having jurisdiction. The Contractor shall take special precautions, such as shoring of masonry walls and temporary tie bracing of structural steel work, to prevent possible wind damage during construction of the Work. The installation of such bracing or shoring shall not damage the Work in place or the Work installed by others. Any damage which does occur shall be promptly repaired by the Contractor at no cost to the District.

10.2.8 Conformance Within Established Limits.

The Contractor and Subcontractors shall confine their construction equipment, the storage of materials, and the operations of workers to the limits indicated by laws, ordinances, permits, and the limits established by the District or the Contractor, and shall not unreasonably encumber the premises with construction equipment or materials.

10.2.9 Subcontractor Enforcement of Rules.

Subcontractors shall enforce the District’s and the Contractor’s instructions, laws, and regulations regarding signs, advertisements, fires, smoking, the presence of liquor, and the presence of firearms by any person at the Site.

10.2.10 Site Access.

The Contractor and the Subcontractors shall use only those ingress and egress routes designated by the District, observe the boundaries of the Site designated by the District, park only in those areas designated by the District, which areas may be on or off the Site, and comply with any parking control program established by the District, such as furnishing license plate information and placing identifying stickers on vehicles.

10.3 EMERGENCIES

10.3.1 Emergency Action.

In an emergency affecting the safety of persons or property, the Contractor shall take any action necessary, at the Contractor’s discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 7.

10.3.2 Accident Reports.

The Contractor shall promptly report in writing to the District all accidents arising out of or in connection with the Work, which caused death, personal injury, or property damage, giving full details and statements of any witnesses in conformance with Article 10.1.4. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported in accordance with Paragraph 10.1.4, immediately by telephone or messenger to the District.
10.4 HAZARDOUS MATERIALS

10.4.1 Discovery of Hazardous Materials.

In the event the Contractor encounters or suspects the presence on the job site of material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), or any other material defined as being hazardous by § 25249.5 of the California Health and Safety Code, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the District and the Architect in writing, whether or not such material was generated by the Contractor or the District. The Work in the affected area shall not thereafter be resumed, except by written agreement of the District and the Contractor, if in fact the material is asbestos, polychlorinated biphenyl (PCB), or other hazardous material, and has not been rendered harmless. The Work in the affected area shall be resumed only in the absence of asbestos, polychlorinated biphenyl (PCB), or other hazardous material, or when it has been rendered harmless by written agreement of the District and the Contractor.

If hazardous materials are encountered, they shall be handled in accordance with applicable local, state and federal regulation which may include: (1) CCR Title 8, Division 4, Chapter 4, Sections 5163 through 5167 and 5192 (Hazardous Waste Operations and Emergency Response); (2) CCR Title 22, Division 4.5, Chapters 10 through 13 and 18 (Environmental Health Standards for Management of Hazardous Waste); and (3) CCR Title 23, Division 3, Chapter 15 (Discharges of Hazardous Waste to Land).

Should the discovery of contaminants cause delay to Contractor's operation, extension of Contract Time will be granted by District in accordance with these General Conditions. Contractor may not be entitled to damages or additional payment due to such delays. District may, if it believes appropriate in its sole discretion, grant an extension of Contract Time.

The Contractor shall take all measures to avoid and/or mitigate delays due to Hazardous Materials/Waste finds such as; avoiding the area of the find and proceeding with other work on the project; developing “work around” plans; and documenting his best efforts to avoid and/or mitigate delays.

10.4.2 Hazardous Material Work Limitations.

In the event that the presence of hazardous materials is suspected or discovered on the Site (except in cases where asbestos and other hazardous material work in the Contractor’s responsibility), the District shall retain an independent testing laboratory to determine the nature of the material encountered and whether corrective measures or remedial action is required. The Contractor shall not be required pursuant to Article 7 to perform without consent any Work in the affected area of the Site relating to asbestos, polychlorinated biphenyl (PCB), or other hazardous material, until any known or suspected hazardous material has been removed, or rendered harmless, or determined to be harmless by District, as certified by an independent testing laboratory and approved by the appropriate government agency.

10.4.3 Indemnification by Contractor for Hazardous Material Caused by Contractor.

In the event the hazardous materials on the Project Site is caused by the Contractor, the Contractor shall pay for all costs of testing and remediation, if any, and shall compensate the District for any additional costs incurred as a result of Contractor’s generation of hazardous material on the Project.
Site. In addition, the Contractor shall defend, indemnify and hold harmless District and its agents, officers, and employees from and against any and all claims, damages, losses, costs and expenses incurred in connection with, arising out of, or relating to, the presence of hazardous material on the Project Site.

10.4.4 Terms of Hazardous Material Provision.

The terms of this Hazardous Material provision shall survive the completion of the Work and/or any termination of this Contract.

ARTICLE 11

INSURANCE AND BONDS

11.1 Not used

11.2 Not used

11.3 Not used

11.4 Not used

11.5 OTHER INSURANCE

The Contractor shall provide all other insurance required to be maintained under applicable laws, ordinances, rules, and regulations.

11.6 PROOF OF INSURANCE

The Contractor shall not commence Work nor shall it allow any Subcontractor to commence Work under this Contract until all required insurance and certificates have been obtained and delivered in duplicate to the District for approval subject to the following requirements:

(a) Certificates and insurance policies shall include the following clause:

“This policy shall not be non-renewed, canceled, or reduced in required limits of liability or amounts of insurance until notice has been mailed to the District. Date of cancellation or reduction may not be less than thirty (30) days after the date of mailing notice.”

(b) Certificates of insurance shall state in particular those insured, the extent of insurance, location and operation to which the insurance applies, the expiration date, and cancellation and reduction notices.

(c) Certificates of insurance shall clearly state that the District and the Architect are named as additional insureds under the policy described and that such insurance policy shall be primary to any insurance or self-insurance maintained by District.

(d) The Contractor and its Subcontractors shall produce a certified copy of any insurance policy required under this Section upon written request of the District.
11.7 **COMPLIANCE**

In the event of the failure of any contractor to furnish and maintain any insurance required by this Article 11, or in Section 00600, Construction Agreement, the Contractor shall be in default under the Contract. Compliance by Contractor with the requirement to carry insurance and furnish certificates or policies evidencing the same shall not relieve the Contractor from liability assumed under any provision of the Contract Documents, including, without limitation, the obligation to defend and indemnify the District and the Architect.

11.8 **WAIVER OF SUBROGATION**

Contractor waives (to the extent permitted by law) any right to recover against the District for damages to the Work, any part thereof, or any and all claims arising by reason of any of the foregoing, but only to the extent that such damages and/or claims are covered by property insurance and only to the extent of such coverage (which shall exclude deductible amounts) by insurance actually carried by the District.

The provisions of this section are intended to restrict each party to recovery against insurance carriers only to the extent of such coverage and waive fully and for the benefit of each, any rights and/or claims which might give rise to a right of subrogation in any insurance carrier. The District and the Contractor shall each obtain in all policies of insurance carried by either of them, a waiver by the insurance companies thereunder of all rights of recovery by way of subrogation for any damages or claims covered by the insurance.

**ARTICLE 12**

**UNCOVERING AND CORRECTION OF WORK**

12.1 **UNCOVERING OF WORK**

12.1.1 Uncovering Work for Required Inspections.

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 Inspector or the Architect, be uncovered for the Inspector’s or the Architect’s observation and be replaced at the Contractor’s expense without change in the Contract Sum or Time.

12.1.2 Costs for Inspections not Required.

If a portion of the Work has been covered which the Inspector or the Architect has not specifically requested to observe prior to its being covered, the Inspector or the Architect may request to see such Work, and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncover and replacement shall, by appropriate Change Order, be charged to the District. If such Work is not in accordance with Contract Documents, the Contractor shall pay such costs unless the condition was caused by the District or a separate contractor, in which event the District shall be responsible for payment of such costs to the Contractor.
12.2 CORRECTION OF WORK

12.2.1 Correction of Rejected Work.

The Contractor shall promptly correct the Work rejected by the Inspector or the District upon recommendation of the Architect 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.

12.2.2 One-Year Warranty or Guaranty Corrections.

If, within one (1) years after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties and guaranties established under this Contract, or by the terms of an applicable special warranty or guaranty 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 unless the District has previously given the Contractor a written acceptance of such condition. This period of one (1) years shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation under this Paragraph 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

12.2.3 District’s Rights if Contractor Fails to Correct.

If the Contractor fails to correct nonconforming Work within a reasonable time, the District may correct it, pursuant to Article 9.

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW AND REGULATIONS

The Contract shall be governed by the law of the place where the Project is located.

13.1.1 Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Proposals, except as may be otherwise specifically stated in the Contract Documents.

13.1.2 No change order shall be considered for any change in any applicable federal, state or local code or regulation if similar language existed in an alternate applicable regulation in force at the time of opening of Bids.

13.1.3 Contractor shall not allow design or construction of any conditions wherein the finished Work will not comply with current applicable codes. No change order shall be considered by District for the Work correction of any Work not complying with code.
13.1.4 This section shall cover 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.

13.1.5 Code, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules and regulations are not furnished to Contractor because Contractor is assumed to be and shall be familiar with these requirements, including readily available access to these requirements. The listing of applicable codes, laws, and regulations for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor’s responsibility for complying with all applicable laws, regulations or ordinances having application to the Work. Where conflict among the requirements or with these Specifications occurs, the most stringent requirements shall be used with no change in Contract Sum or Contract Time.

13.1.6 Contractor shall conform to all applicable federal, state, and local codes, laws, ordinances, rules and regulations, whether or not referenced in the Contract Documents.

13.1.7 Precedence:

13.1.7.1 Where specified requirements differ from the requirements of applicable codes, ordinances and standards, the more stringent requirements shall take precedence.

13.1.7.2 Where Contract Documents require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, Contract Documents shall take precedence so long as such increase is legal.

13.1.7.3 Where no requirements are identified on Contract Documents, comply with all requirements of applicable codes, ordinances and standards of governing authorities have jurisdiction.

13.1.7.4 If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to District for a decision before proceeding.

13.2 SUCCESSORS AND ASSIGNS

The District and the Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.
13.3 **WRITTEN NOTICE**

In the absence of specific notice requirements in the Contract Documents, written notice shall be deemed to have been duly served if delivered in person to the individual, member of the firm or entity, or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

13.4 **RIGHTS AND REMEDIES**

13.4.1 **Duties and Obligations Cumulative.**

Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

13.4.2 **No Waiver.**

No action or failure to act by the Inspector, the District, or the Architect shall constitute a waiver of a right or duty afforded them under the Contract Documents, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

13.5 **TESTS AND INSPECTIONS**

13.5.1 **Compliance.**

Tests, inspections, and approvals of portions of the Work required by the Contract Documents will comply with Title 24, and with all other laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction.

13.5.2 **Independent Testing Laboratory.**

The District will select and pay an independent testing laboratory to conduct all tests and inspections required by regulatory agencies. Selection of the materials required to be tested shall be made by the laboratory, and not by the Contractor. All costs for all other tests shall be included in the Bid Price and shall be paid for by the Contractor. **The Contractor will be responsible to reimburse the District for the cost differential (e.g., travel expenses, subsistence expenses, higher hourly rates, premium time for overtime hours, swing shifts or any time outside of normal work day hours), if any, for inspection and testing services required by regulatory agencies incurred outside of a fifty (50) mile radius from the Project Site, or if the Contractor requests inspection and testing services outside normal work day hours (eight hours/day) Monday through Friday, which are typically between 7:00 am and 3:30 pm. The District will provide the Contractor with the invoice and deduct the cost differential from the next Progress Payment. The District shall also pay for geotechnical compaction testing services by the Geotechnical Engineer of Record. (Adden. #2)**
13.5.3 Contractor Responsibilities

13.5.3.1 Make samples available to the Independent Testing Laboratory. Samples shall be selected by laboratory personnel. Allow proper time for selecting samples, and making tests or considerations.

13.5.3.2 Cooperate with laboratory personnel, and provide access to work and to manufacturer’s facilities.

13.5.3.3 Provide incidental labor and facilities to provide access to work to be tested, to obtain and handle samples as selected by laboratory personnel at the site or at source of products to be tested, to facilitate tests and inspections, and for storage and curing of test samples.

13.5.3.4 Schedule all tests and inspections with the testing and inspections firm and to notify Construction Manager and Project Inspector a minimum of 3 working days prior to expected time for operations requiring inspection and testing services. Do not allow work to be covered prior to inspection and testing.

13.5.3.5 Cooperate fully with the testing laboratory’s personnel and with special inspectors in inspection any part of the construction and in taking any samples of materials required to be tested. Provide access to the work. The Contractor’s personnel shall furnish and cut or prepare all samples in the presence of either the testing laboratory personnel or the special inspectors and secure the witness’s initial on each sample prepared.

13.5.3.6 Notify the testing laboratory to pick up the initialed samples the same day the samples were prepared. Alert the testing laboratory 3 working days in advance as to the times and location of the required sampling, tests and inspections so as to not delay the work of the project, and make sure that the required sampling, tests inspections are promptly completed.

13.5.4 Contractor Paid Test/Inspection Reports not required by regulatory agencies:

13.5.4.1 Reports will comply with Section 4-335(d), Part 1, Title 24, CCR.

13.5.4.2 Include every test and inspection made regardless of whether such tests and inspections indicate that the material and procedures are satisfactory or unsatisfactory.

13.5.4.3 Include records of special sampling operations as required.

13.5.4.4 Indicate that materials were sampled and tested in accordance with requirements of CCR regulations and Construction Documents.

13.5.4.5 Indicate specified design strength of materials such as masonry, concrete and steel.

13.5.4.6 State whether or not materials and procedures comply with requirements of the Construction Documents.

13.5.4.7 Submit copies of reports to District, Architect, Project Inspector, Structural Engineer, Civil Engineer, Soils Engineer and Contractor within 14 days of tests. Submit copies of reports of non-complying materials and procedures immediately.
13.5.5 Advance Notice to Inspector.

The Contractor shall notify the Inspector a sufficient time in advance of its readiness for required observation or inspection so that the Inspector may arrange for same, but no less than 2 work days. The Contractor shall notify the Inspector a sufficient time in advance, but no less than 2 work days, 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 Inspector may arrange for the testing of the material at the source of supply.

13.5.6 Testing Off-Site.

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 Inspector that such testing and inspection will not be required, shall not be incorporated in the Work.

13.5.7 Additional Testing or Inspection.

If the Inspector, the Architect, the District, or public authority having jurisdiction determines that portions of the Work require additional testing, inspection, or approval not included under Paragraph 13.5.1, the Inspector will, upon written authorization from the District, make arrangements for such additional testing, inspection, or approval. The District shall bear such costs except as provided in Paragraph 13.5.4.

13.5.8 Costs for Retesting.

If such procedures for testing, inspection, or approval under Paragraphs 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs arising from such failure, including those of re-testing, re-inspection, or re-approval, including, but not limited to, compensation for the Architect's services and expenses. Any such costs shall be paid by the District, invoiced to the Contractor, and deducted from the next Progress Payment.

13.5.9 Retesting Covered Work.

Re-examination of previously tested and inspected work may be ordered by the District, Architect, or by the Project Inspector. The Contractor shall uncover such work if retesting is ordered. If work is found in accordance with Contract Documents, the District will pay costs of uncovering, removing, retesting and replacing. If work is found not in accordance with Contract Documents, the District will deduct the cost of retesting from the Contract Sum by Change Order and the Contractor will bear the costs of uncovering, removing and replacing work.

13.5.10 Costs for Premature Test.

In the event the Contractor requests any test or inspection for the Project and is not completely ready for the inspection, the Contractor shall be invoiced by the District for all costs and expenses resulting from that testing or inspection, including, but not limited to, the Inspector's and Architect's fees and expenses, and the amount of the invoice of shall be deducted from the next Progress Payment.
13.6 TRENCH EXCAVATION

13.6.1 Trenches Greater Than Five Feet.

Pursuant to Labor Code § 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, submit to the District or a registered civil or structural engineer employed by the District or Architect, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches. Said detailed plan shall be prepared by a California licensed civil or structural engineer employed by the Contractor.

13.6.2 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 in writing by the District or by the person to whom authority to accept has been delegated by the District.

13.6.3 No Tort Liability of District.

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

13.6.4 No Excavation Without Permits.

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

13.7 WAGE RATES, TRAVEL, AND SUBSISTENCE

13.7.1 Wage Rates.

Pursuant to the provisions of Article 2 (commencing at § 1720), Chapter 1, Part 7, Division 2, of the Labor Code, the District has obtained 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 works project is to be performed for each craft, classification, or type of worker needed for this Project from the Director of the Department of Industrial Relations (“Director”). These rates are on file at the administrative office of the DISTRICT and are also available from the Director of the Department of Industrial Relations. Copies will be made available to any interested party on request. The Contractor shall post a copy of such wage rates at appropriate, conspicuous, weatherproof points at the Site.

Any worker employed to perform work on the Project, but such work is not covered by any classification listed in the published general prevailing wage rate determinations or per diem wages determined by the Director of the Department of Industrial Relations, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to the employment of such person in such classification.
13.7.2 Holiday and Overtime Pay.

Holiday and overtime work, when permitted by law, shall be paid for at the rate set forth in the prevailing wage rate determinations issued by the Director of the Department of Industrial Relations or at least one and one-half (1½) times the specified basic rate of per diem wages, plus employer payments, unless otherwise specified in the contract documents or authorized by law.

13.7.3 Wage Rates Not Affected by Subcontracts.

The Contractor shall pay and shall cause to be paid each worker engaged in the execution of the Work on the Project not less than the general prevailing rate of per diem wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such workers.

13.7.4 Per Diem Wages.

The Contractor shall pay and shall cause to be paid to each worker needed to execute the Work on the Project per diem wages including, but not limited to, employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided for in Labor Code §1773.1.

13.7.5 Forfeiture and Payments.

Pursuant to Labor Code §1775 and the District’s Labor Compliance Program, the Contractor shall forfeit to the District, not more than Fifty Dollars ($50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing wages rates as determined by the Director of the Department of Industrial Relations, for the work or craft in which the worker is employed for any Work done under the Agreement by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commissioner and shall be based on consideration of: (1) whether the Contractor or Subcontractor’s failure to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily correct upon being brought to the attention of the Contractor or Subcontractor; and (2) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations. Further details regarding the enforcement of paying prevailing wage rates, reporting violations, withholding contract payments, forfeitures and hearing to review withholding of contract payments are set forth in the District’s Labor Compliance Program.

13.8 RECORDS OF WAGES PAID

13.8.1 Payroll Records.

(a) Pursuant to §1776 of the Labor Code, each Contractor and Subcontractor shall keep an accurate payroll record showing the name, address, social security number, work classification and 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 in connection with the Project.

(b) All payroll records shall be certified and submitted to the District with each application for payment, but shall not be submitted less than once per month. All payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:
(1) A certified copy of an employee’s payroll record shall be made available for inspection or furnished to the employee or their authorized representative on request.

(2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of District, the Division of Labor Standards Enforcement or the Division of Apprenticeship Standards of the Department of Industrial Relations.

(3) A certified copy of all payroll records shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Paragraph (2) above, the requesting party shall, prior to being provided the records, reimburse the costs, according to law for the preparation by the Contractor, Subcontractor(s), and the entity through which the request was made. The public shall not be given access to such records at the principal office of the Contractor.

(c) The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the Division of Labor Standards Enforcement.

(d) The Contractor or Subcontractor(s) shall file a certified copy of all payroll records with the entity that requested such records within 10 calendar days after receipt of a written request.

(e) Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual’s name, address and social security number. The name and address of the Contractor awarded the Contract or the Subcontractor(s) performing the Contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (Section 175a of Title 29 of the United States Code) shall be marked or obliterated only to prevent disclosure of an individual’s name and social security number.

(f) The Contractor shall inform the District of the location of all payroll records, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.

(g) The Contractor or Subcontractor(s) shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting payroll records. In the event that the Contractor or Subcontractor(s) fails to comply within the 10-day period, the Contractor or Subcontractor(s) shall, as a penalty to the District, forfeit Twenty-Five Dollars ($25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of
Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

Responsibility for compliance with this Article and the District’s Labor Compliance Program shall rest upon the Contractor.

13.8.2 Withholding of Contract Payments & Penalties.

The District may withhold or delay contract payments to the Contractor and/or any Subcontractor if:

(a) The required prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations is not paid to all workers employed on the Project; or

(b) The Contractor or Subcontractor(s) fail to submit all required certified payroll records with each application for payment, but not less than once per month; or

(c) The Contractor or Subcontractor(s) submit incomplete or inadequate payroll records; or

(d) The Contractor or Subcontractor(s) fail to comply with the Labor Code requirements concerning apprentices; or

(e) The Contractor or Subcontractor(s) fail to comply with the District’s Labor Compliance Program; or

(f) The Contractor or Subcontractor(s) fail to comply with any applicable state laws governing labor on public works projects.

Any withholding of contract payments and penalties are set forth in the District’s Labor Compliance Program.

13.9 APPRENTICES

13.9.1 Apprentice Wages and Definitions.

All apprentices employed by the Contractor to perform services under the Contract shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which he or she is employed, and as determined by the Director of the Department of Industrial Relations, and shall be employed only at the Work of the craft or trade to which he or she is registered. Only apprentices, as defined in §3077 of the Labor Code, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprenticeship agreements under Chapter 4 (commencing with §3070) of Division 3, are eligible to be employed under this Contract. The employment and training of each apprentice shall be in accordance with the apprenticeship standards and apprentice agreements under which he or she is training, or in accordance with the rules and regulations of the California Apprenticeship Council.

13.9.2 Employment of Apprentices.

Contractor agrees to comply with the requirements of Labor Code §1777.5. The Contractor awarded the Project, or any Subcontractor under him or her, when performing any of the Work under the
Contract or subcontract, employs workers in any apprenticeable craft or trade, the Contractor and Subcontractor shall employ apprentices in the ratio set forth in Labor Code §1777.5. The Contractor or any Subcontractor must apply to any apprenticeship program in the craft or trade that can provide apprentices to the Project site for a certificate approving the Contractor or Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or Subcontractor. The Contractor or Subcontractor covered by an apprenticeship program’s standards shall not be required to submit any additional application in order to include additional public works contracts under that program. “Apprenticeable craft or trade” as used in this Article means a craft or trade determined as an apprenticeable occupation in accordance with the rules and regulations prescribed by the California Apprenticeship Council. The ratio of work performed by apprentices to journeyman employed in a particular craft or trade on the Project shall be in accordance with Labor Code §1777.5.

13.9.3 Submission of Contract Information.

Prior to commencing work on the Project, the Contractor and Subcontractors shall submit contract award information to the applicable apprenticeship program(s) that can supply apprentices to the Project and make the request for the dispatch of apprentices in accordance with the Labor Code. The information submitted shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the District. Within 60 days after concluding work on the Project, the Contractor and Subcontractors shall submit to the District, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the Project.

13.9.4 Apprentice Fund.

The Contractor or any Subcontractor under him or her, who, in performing any of the Work under the Contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the Director determines is the prevailing amount of apprenticeship training contributions in the area of the Project. The Contractor and Subcontractors may take as a credit for payments to the California Apprenticeship Council any amounts paid by the Contractor or Subcontractor to an approved apprenticeship program that can supply apprentices to the Project. The Contractor and Subcontractors may add the amount of the contributions in computing his or her bid for the Contract.

13.9.5 Prime Contractor Compliance.

The responsibility of compliance with Article 13 and §1777.5 of the Labor Code for all apprenticeable occupations is with the Prime Contractor. Any Contractor or Subcontractor that knowingly violates the provisions of this Article or Labor Code §1777.5 shall be subject to the penalties set forth in Labor Code §1777.7 and the District’s Labor Compliance Program.
13.10 **ASSIGNMENT OF ANTITRUST CLAIMS**

13.10.1 Application.

Pursuant to Government Code § 4551, in entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act, (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 [commencing with § 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from the purchase of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties. If the District receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Chapter 11 (commencing with § 4550) of Division 5 of Title 1 of the Government Code, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

13.10.2 Assignment of Claim.

Upon demand in writing by the assignor, the District shall, within one (1) year from such demand, reassign the cause of action assigned pursuant to this Article if the assignor has been or may have been injured by the violation of law for which the cause of action arose and the District has not been injured thereby or the District declines to file a court action for the cause of action.

13.11 **STATE AUDIT**

Pursuant to and in accordance with the provisions of Government Code § 10532, or any amendments thereto, all books, records, and files of the District, the Contractor, or any Subcontractor connected with the performance of this Contract involving the expenditure of state funds in excess of Ten Thousand Dollars ($10,000.00), including, but not limited to, the administration thereof, shall be subject to the examination and audit of the Office of the Auditor General of the State of California for a period of three (3) years after final payment is made under this Contract. Contractor shall preserve and cause to be preserved such books, records, and files for the audit period.

13.12 **Not Used**

(a)

13.13 **INDUSTRY STANDARDS**

13.13.1 Applicability of Standards.

Unless the Contract Documents specify more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
13.13.2 Publication Dates.

Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

13.13.3 Minimum Quantity or Quality Levels.

The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

13.13.4 Copies of Standards.

Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not contained within the Contract Documents. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.

13.13.5 Abbreviations and Acronyms for Industry Organizations.

Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

13.14 PRODUCTS

13.14.1 All products are to be new and not previously incorporated into or used in any other project or facility. Products salvaged or recycled from other projects are not considered new products and are not permitted.

13.14.2 The term product, as used in the Contract Documents, includes materials, equipment, systems, and like terms of similar intent.

13.14.3 Products include materials, machinery, components, equipment, fixtures and systems forming the Work and purchased for incorporation into the Work.

13.14.4 Do not reuse materials and/or equipment removed from existing premises except as specifically permitted by the Contract Documents.

13.14.5 Provide interchangeable components of the same manufacturer, for similar components.

13.14.6 Named products are items identified in the Contract Documents by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
13.14.7 TRANSPORTATION AND HANDLING

13.14.7.1 Transport and handle products in accordance with manufacturer’s instructions.

13.14.7.2 Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

13.14.8 SHIPPING REQUIREMENTS

13.14.8.1 Preparation for Shipment: All equipment shall be suitably packaged to facilitate handling and to protect against damage during transit and storage. All equipment shall be protected from exposure to the elements and shall be kept dry at all times.

13.14.8.2 Painted and coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. Painted and coated surfaces which are damaged prior to acceptance of equipment shall be repainted to the satisfaction of District at the expense of Contractor.

13.14.9 PRODUCT DELIVERY, STORAGE, AND HANDLING

13.14.9.1 Store products only in staging area per provisions of the Contract Documents.

13.14.9.2 Handle, store, and protect products in accordance with manufacturer’s instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.

13.14.9.3 For exterior storage of fabricated products, place on appropriate supports, above ground.

13.14.9.4 Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

13.14.9.5 Deliver, store and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer’s written instructions.

13.14.9.6 Contractor shall comply with the following without limitation:

(a) Contractor shall bear the responsibility for delivery of equipment, spare parts, special tools, and materials to the Site and shall comply with the requirements specified herein and provide required information concerning the shipment and delivery of the materials specified in the Contract Documents.

(b) Electrical equipment and all equipment with antifriction or sleeve bearings shall be stored in weather-tight structures maintained at a temperature above 60 degree Fahrenheit. Electrical equipment controls and insulation shall be protected against moisture and water damage. All space heaters furnished in or with equipment shall be connected and operated continuously or according to manufacturer’s requirements.

(c) Equipment and materials shall not have any pitting, rust, decay, or other deleterious effects of storage when installed in the Work.
(d) Store products to allow for inspection, measurement, and/or counting of units.
(e) Store materials in a manner that will not endanger adjacent Work.
(f) Store products that are subject to damage by the elements, under cover in a weather-tight enclosure above ground, with ventilation adequate to prevent condensation.
(g) Store cementitious products and materials on elevated platforms.
(h) Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

ARTICLE 14

TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR FOR CAUSE

14.1.1 Grounds for Termination.

The Contractor may terminate the Contract if the Work is stopped for a period of thirty (30) consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons performing portions of the Work for whom the Contractor is contractually responsible, for only the following reasons:

(a) Issuance of an order of a court or other public authority having jurisdiction; or
(b) An act of government, such as a declaration of national emergency.

14.1.2 Notice of Termination.

If one of the above reasons exists, the Contractor may, upon written notice of seven (7) additional days to the District, terminate the Contract and recover from the District payment for Work executed and for reasonable costs verified by the Architect with respect to materials, equipment, tools, construction equipment, and machinery, including reasonable overhead, profit, and damages.

14.2 TERMINATION BY THE DISTRICT FOR CAUSE

14.2.1 Grounds for Termination.

The District may terminate the Contractor and/or this Contract for the following reasons:

(a) Persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
(b) Persistently or repeatedly is absent, without excuse, from the job site;
(c) Fails to make payment to Subcontractors, suppliers, materialmen, etc.;
(d) Persistently disregards laws, ordinances, rules, regulations, or orders of a public authority having jurisdiction; or
(e) Becomes bankrupt or insolvent, including the filing of a general assignment for the benefit of creditors; or

(e) Otherwise is in substantial breach of a provision of the Contract Documents.

14.2.2 Notification of Termination.

When any of the above reasons exist, the District may, without prejudice to any other rights or remedies of the District and after giving the Contractor and the Contractor’s surety, if any, written notice of seven (7) days, except in the event of an emergency or critical path delay to the schedule in which case the District may give written notice of forty-eight (48) hours, terminate the Contract and may, subject to any prior rights of the surety:

(a) Take possession of the Project and of all material, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

(b) Accept assignment of Subcontracts. Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to takeover completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept; and

(c) Complete the Work by any reasonable method the District may deem expedient, including contracting with a replacement contractor or contractors.

14.2.3 Payments Withheld.

If the District terminates the Contract for one of the reasons stated in Paragraph 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is complete. All costs associated with the termination and completion of the Project shall be the responsibility of the Contractor and/or its surety.

14.2.4 Payments Upon Completion.

If the unpaid balance of the Contract Sum exceeds costs of completing the Work, including compensation for professional services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the District. The amount to be paid to the Contractor, or District, as the case may be, shall be certified by the Architect upon application. This payment obligation shall survive completion of the Contract.

14.3 TERMINATION OF CONTRACT BY DISTRICT (CONTRACTOR NOT AT FAULT)

14.3.1 Termination for Convenience.

District may terminate the Contract upon fifteen (15) calendar days of written notice to the Contractor and use any reasonable method the District deems expedient to complete the project, including contracting with replacement contractor or contractors, if it is found that reasons beyond the control of either the District or Contractor make it impossible or against the District’s interest to complete the work. In such a case, the Contractor shall have no claims against the District except: (1) the actual cost for labor, materials, and services performed which may be documented through timesheets, invoices, receipts, or otherwise, and (2) ten percent (10%) profit and overhead, and (3) five percent (5%)
termination cost of the total of items (1) and (2). Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to takeover completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept.

14.3.2 Non-Appropriation of Funds/ Insufficient Funds.

In the event that sufficient funds are not appropriated to complete the Project or the DISTRICT determines that sufficient funds are not available to complete the Project, DISTRICT may terminate or suspend the completion of the Project at any time by giving written notice to the Contractor. In the event that the DISTRICT exercises this option, the DISTRICT shall pay for any and all work and materials completed or delivered onto the site for which value is received, and the value of any and all work then in progress and orders actually placed which cannot be canceled up to the date of notice of termination. The value of work and materials paid for shall include a factor of fifteen percent (15%) for the Contractor’s overhead and profit and there shall be no other costs or expenses paid to Contractor. All work, materials and orders paid for pursuant to this provision shall become the property of the DISTRICT. DISTRICT may, without cause, order Contractor in writing to suspend, delay or interrupt the Project in whole or in part for such period of time as DISTRICT may determine. Adjustment shall be made for increases in the cost of performance of the Agreement caused by suspense, delay or interruption.

14.4 REMEDIES OTHER THAN TERMINATION

If a default occurs, the District may, without prejudice to any other right or remedy, including, without limitation, its right to terminate the Contract pursuant to Article 14.2, do any of the following:

(a) Permit the Contractor to continue under this Contract, but make good such deficiencies or complete the Contract by whatever method the District may deem expedient, and the cost and expense thereof shall be deducted from the Contract Price or paid by the Contractor to the District on demand;

(b) If the workmanship performed by the Contractor is faulty or defective materials are provided, erected or installed, then the District may order the Contractor to remove the faulty workmanship or defective materials and to replace the same with work or materials that conform to the Contract Documents, in which event the Contractor, at its sole costs and expense, shall proceed in accordance with the District’s order and complete the same within the time period given by the District in its notice to the Contractor; or

(c) Initiate procedures to declare the Contractor a non-responsible bidder for a period of two to five years thereafter.

All amounts expended by the District in connection with the exercise of its rights hereunder shall accrue interest from the date expended until paid to the District at the maximum legal rate. The District may retain or withhold any such amounts from the Contract Price. If the Contractor is ordered to replace any faulty workmanship or defective materials pursuant to Paragraph (b) above, the Contractor shall replace the same with new work or materials approved by the Architect and the District, and, at its own cost, shall repair or replace, in a manner and to the extent the Architect and the District shall direct, all work or material that is damaged, injured or destroyed by the removal of said faulty workmanship or defective material, or by the replacement of the same with acceptable work or materials. In no event shall anything in this Paragraph be deemed to constitute a waiver by the District of any other rights or
remedies that it may have at law or in equity, it being acknowledged and agreed by the Contractor that the remedies set forth in this Paragraph are in addition to, and not in lieu of, any other rights or remedies that the District may have at law or in equity.

END OF SECTION 00700
CONTRA COSTA COMMUNITY COLLEGE DISTRICT

500 Court Street, Martinez, CA 94553

SUBSTITUTION REQUEST FORM

RFS #: Date: 
DSA Application #: 
Campus: Contra Costa College 
Project No., Name: 

Contractor Name: 
Contract #: 

Contractor pursuant to General Conditions submits the proposed items. If the District accepts such items as described, the undersigned may furnish such item with all necessary labor, materials, equipment and incidentals to perform and complete the Work.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>SPECIFIED ITEM OR DRAWING</th>
<th>SPECIFICATION SECTION</th>
<th>PROPOSED SUBSTITUTION (and name of Subcontractor if different)</th>
</tr>
</thead>
</table>

CERTIFICATION

Under penalty of perjury under the Laws of California, I certify that the proposed substitution will be readily available, perform adequately the functions and achieve the results called for by the design concept, be similar in substance to that specified, and be suit to the same use as that specified in Contract Documents.

Contractor: 
(Please print name of company) Name and Title (print/type) Contractor Authorized Representative Date

A. Does the substitution affect dimensions shown on Drawings?

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

C. What effect does the substitution have on other trades?

D. Will substitution cause change to Project Schedule, or to critical delivery dates? Add? Shorten?

E. Differences between proposed substitution and specified item?

F. What is the Cost Differential including all mark-ups?

G. Are Manufacturer’s guarantees for the proposed item the same as for item specified? Explain differences.

H. The undersigned accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution.

I. The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

A/E Response: District Representative Response:

- Accepted
- Not Accepted
- Accepted As Noted
- Received Too Late

By:________ Date:________ By:________ Date:________
SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 WORK DESCRIPTIONS WITHOUT FORCE
A. All general descriptions and/or general summaries of the work noted in this section, or elsewhere within the Contract Documents, are without force and effect on the Contract Work described and indicated in detail the Contract Documents. These general descriptions and summaries are for general reference and descriptive purposes only and in no way offer the complete and concise description of all the Work required by the Contract Documents.

1.3 WORK COVERED BY CONTRACT DOCUMENTS
A. See Section 00600 CONSTRUCTION AGREEMENT, Article 2, SCOPE OF WORK for the work covered by the Contract Documents.

1.4 CONTRACTS
A. Perform the work under a single, fixed-price lump sum contract.

1.5 WORK SEQUENCE
A. During construction operations, various adjoining areas will be occupied and their functions maintained. Temporary construction separations such as walls for sound and dust control, as well as pathway barricades, signage and clearly marked temporary pedestrian path of travel detours will be required and provided by the Contractor.
B. Scheduling of Contractor's use of the areas and times involved shall be determined in cooperation with the District. Notify the District a minimum of 10-days prior to commencement of work.
C. Construction activities shall be performed between the hours of 7AM and 5PM, Monday through Friday, unless otherwise required. No Work shall be performed outside the above hours without prior written authorization from the District Representative.

1.6 ADDITIONAL WORK SCHEDULE REQUIREMENTS: See Section 01140, Work Restrictions.

1.7 CAMPUS HOLIDAYS
A. The College is closed with no classes held on the following holidays: Labor Day; Native American Day; Veteran’s Day; Thanksgiving; Winter Recess; Martin Luther King Day; President’s Day; Spring Recess. The Contractor may work on these days with prior approval by the District.
1.8 USE OF PREMISES
   A. Contractor shall only use the premises for work, storage, staging areas, and vehicular parking as designated in the Contract Documents.

1.9 EXISTING AREA CONDITION SURVEY
   A. Prior to commencement of work, jointly survey the adjacent areas of the project site with the District and the Architect, noting and recording existing damage such as cracks, sags, and other damage on the site plan. Provide copy of the marked-up site plan to the District for their records. Contractor shall confirm the condition of the existing SWPPP work, temporary fencing and temporary lighting.
   B. This record shall serve as a basis for determination of subsequent damage to these items due to settlement, movement, demolition, or Contractor’s operations.
   C. Existing damage observed shall be marked and the official record of existing damage shall be signed by the parties making the survey.
   D. Cracks, sags, and damage to the area and other items not noted in the original survey but subsequently observed shall be reported immediately to the District.
   E. Contractor shall take photographs or video recordings and submit these to the District for review of adequacy and approval in order to comply with this requirement.

1.10 PROTECTION OF EXISTING STRUCTURES AND UTILITIES
   A. The Drawings may not show all existing water, gas, electrical, and hot water lines, and other items known or suspected to exist in the area of the work.
   B. Contractor shall locate these installations before proceeding with demolition or other operations which may cause damage, maintain them in service where appropriate, and repair damage caused by the performance of the Work, at no increase in the Contract Sum.
   C. In addition to notification, if a structure or utility is damaged, take appropriate action as specified in the General Conditions.

1.11 USE AND OCCUPANCY OF WORK PRIOR TO ACCEPTANCE BY DISTRICT
   A. The District may use and occupy the building before formal acceptance under the following conditions:
      1. A Certificate of Substantial Completion shall be prepared and executed as provided in the Contract Documents. The Certificate of Substantial Completion shall be accompanied by a written endorsement of the Contractor's insurance carrier and surety permitting occupancy by the District during the remaining period of the work.
      2. Occupancy by the District shall not be construed as being an acceptance of that part of the Work occupied.
      3. The Contractor will not be held responsible for damage to the occupied part of the Work resulting from the District’s occupancy.
      4. Occupancy by the District shall not be deemed to constitute a waiver of existing claims the District or Contractor may have against each other.
5. Comply with Warranties/Guaranties, and Contract Closeout Procedures for the Work included in Section 00700, General Conditions.

6. The District will pay for utility costs associated with occupancy during construction.

1.12 PROTECTION OF EXISTING IMPROVEMENTS

A. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing improvements indicated to remain in place.

B. Protect improvements on adjoining properties as well as those on the District’s property.

C. Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line.

D. Restore any improvements damaged by this work to their original condition as acceptable to the District or other parties or authorities having jurisdiction.

1.13 HAZARDOUS MATERIALS

A. Comply with all requirements included in other sections of Contract Documents.

1.14 MISCELLANEOUS PROVISIONS

A. Items shown, described or scheduled to be salvaged will remain the property of the District.

B. Rain Delays: Since the contract work will start on site during the rainy season, the Contract duration noted in Section 00600 Construction Agreement is based on the Contractor encountering 30 work days of rain or delays due to rain (e.g., muddy conditions). The Contractor shall include 30 work days in their original Microsoft Project Schedule just prior to the Substantial Completion milestone. In the event the Project is delayed at the site by rain or rain impacts beyond the 30 work days, the Contractor will be entitled to a non-compensable time extension.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 01010
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SECTION 01030
ALTERNATES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in
this document, and provisions in the General Conditions and other Division 1 Specification
Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS
A. SECTION 00200 – INSTRUCTIONS TO BIDDERS

B. SECTION 00300 – BID PROPOSAL FORM

C. SECTION 00700 – GENERAL CONDITIONS

D. SECTION 01010 – SUMMARY OF WORK

E. SECTION 01311 – PROJECT MANAGEMENT AND COORDINATION

F. If listed below in Part 2, also see Divisions 2 through 32 Sections and the Drawings for
additional Alternates requirements as applicable.

1.3 SUMMARY
A. This Section includes administrative and procedural requirements governing Alternates. Each
Alternate is identified by number and describes the basic changes to be made in the Work. A
list of Alternates is included in Part 2 of this Section.

1.4 DEFINITIONS
A. Alternate, as used herein, is a dollar amount proposed by Bidders and stated on the Bid
Proposal form for Work defined in the Contract Documents that the District may elect to add to
or deduct from the Base Bid, as the case may be, if an Alternate or Alternates, are accepted by
the District.

1.5 REQUIREMENTS
A. Alternate pricing quoted on the Bid Proposal Form will be reviewed by the District, and
accepted or rejected at District’s sole option. Any accepted Alternate(s) will be identified in the
Construction Agreement, or shall be executed by Change Order.

B. See Section 00300, Bid Proposal Form, Paragraph 1.G for the bid award process.

C. All Alternates are either “additive” or “deductive” or “no change” to the Lump Sum Base Bid.
The Contractor shall quote the amount for each Alternate in the space provided on the Bid
Proposal Form.

D. Failure to either quote an Alternate amount or the insertion of the words “no bid,” “none” or
words of similar import, may be considered as not completing the Bid Proposal Form and may
constitute disqualification of the entire bid at District’s sole discretion. Bidders may insert a
zero-dollar amount ($0.00) in the Alternate price line of the Bid Proposal Form if the Bidder
proposes to perform the Work of the Alternate with no additional change to the Contract Sum.
E. The Base Bid and the Alternates are exclusive in their scope of Work. There is no overlap between or among the Base Bid and the Alternates.

F. The cost of any item of work shall be included only once, in the Base Bid or in the Alternates.

G. Each Alternate is intended to cover all of the Work required for a complete, finished job.

1. Alternate Work includes all miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of the Alternate, but necessary to complete the Alternate Work according to the Contract Documents.

1.6 PROCEDURES

A. Modify or adjust affected adjacent Work as necessary to completely integrate Work of each accepted Alternate into the Project.

B. Notification: Immediately following Notice to Proceed, Contractor shall notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. The District reserves the right to reinstate Alternates at any time within 90 calendar days after the Notice to Proceed without any increase or decrease in Contract Price (beyond the amount of the Alternates(s) listed in Section 00300, Part 3), or any increase in Contract Time.

D. Execute accepted Alternate(s) under the same conditions as other Work of this Contract.

PART 2 - PRODUCTS

2.1 DESCRIPTION OF ADDITIVE ALTERNATES

A. Alternates are listed in Part 3 of the Bid Proposal Form, if any, and hence are identified below.

NONE.

PART 3 - EXECUTION

3.1 GENERAL

A. Execute accepted alternates under the same conditions as other Work of this Contract.

B. Coordination: Modify or adjust affected Work as required to completely and fully integrate that Work into the Project.

END OF SECTION 01030
SECTION 01050
FIELD ENGINEERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUBMITTALS
A. Contractor shall submit name and address of Surveyor and Professional Engineer to District for approval prior to their work on the Project.
B. On request of District and Architect, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
C. At completion of the Work, Contractor shall submit a certificate signed by a licensed engineer or surveyor certifying that all elevations and locations of improvements are in conformance with Contract Documents.

1.3 REQUIREMENTS
A. Contractor shall provide and pay for field engineering services by an engineer licensed in the State of California, required for the Project, including, without limitation:
   1. Survey work required in execution of the Project.
   2. Civil or other professional engineering services specified, or required to execute Contractor’s construction methods.

1.4 QUALIFICATIONS OF SURVEYOR OR ENGINEERS
A. Contractor shall only use a qualified licensed engineer or registered land surveyor, approved by the District, of the discipline required for specific service on Project, licensed in the State of California.
B. Submit evidence of Engineer’s errors and omissions insurance coverage to District, in the form of a current Insurance Certificate.

1.5 SURVEY REFERENCE POINTS
A. Existing basic horizontal and vertical control points for the project are those designated on the Drawings.
B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition, Contractor shall:
   1. Make no changes or relocation without prior written notice to District and Architect.
   2. Report to District and Architect when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
3. Require surveyor to replace project control points based on original survey control that may be lost or destroyed.

4. Contractor to locate and protect existing survey control and reference points.

5. Control datum for survey is that indicated on Drawings.

6. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.

7. Promptly report to Architect, District, and Project Inspector the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

8. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice.

1.6 PROJECT RECORD DOCUMENTS

A. Maintain complete, accurate log of control and survey work as it progresses. Indicate dimensions, locations, angles, and elevations of construction and Site Work.

B. Submit Record Documents as required under provisions of these Contract Documents.

1.7 EXAMINATION

A. Verify locations of survey control points prior to starting Work. Promptly notify District and Architect of any discrepancies discovered.

1.8 SURVEY REQUIREMENTS

A. Provide field engineering services. Utilize recognized engineering survey practices.

B. Establish a minimum of two permanent bench marks on Site, referenced to established control points. Record locations, with horizontal and vertical data, on Project Record documents.

C. Establish lines and levels, locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, and ground floor elevations.

D. Periodically verify layouts by same means.

PART 2 – PRODUCTS - Not Used

PART 3 – EXECUTION

3.1 Contractor is responsible for meeting all applicable codes, OSHA, and other safety and shoring requirements.

3.2 Contractor is responsible for any re-surveying required by correction of nonconforming work with no additional cost to the District or its representatives.

END OF SECTION 01050
PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY OF WORK RESTRICTION REQUIREMENTS

A. Prior to the start of Work, Contractor shall familiarize itself with the Work Restrictions as they relate to all Work required by the Contract Documents.

B. Temporary Work Activity Plan shall include:

1. The Increment 0 Contractor has installed temporary fencing, temporary lighting and the required SWPPP. The Increment 1 Contractor shall be responsible for assuming responsibility for the maintenance of all temporary facilities installed through the Final Completion date of the Increment 1 Contract. The Increment 1 Contractor shall acknowledge in writing the condition of said facilities prior to starting work on site and will be responsible for any required changes to the in-place temporary facilities to perform the work required within the scope of work of Increment 1.

C. Not used.

D. Contractor shall perform and complete all Temporary Work Activities to ensure the following:

1. The continuous and uninterrupted use of all occupied areas or areas within buildings that require 24/7 utility services, including but not limited to the applicable power, data, telephone, waterline, fire alarm system, fire sprinkler system mechanical, HVAC, gas, storm, sewage, plumbing, and electrical systems serving these areas.

2. Protection of students, staff, faculty and personnel in occupied areas and surrounding and adjacent areas from the hazards and dust associated with construction.

3. The work areas, roads, parking lots, and streets are to be kept clear, clean, and free of loose debris, construction materials and partially installed work which would create a safety hazard or interfere with subcontractor and personnel duties and traffic. The Contractor shall sweep the areas clean at the end of each work day and make every effort to keep dust and noise to a minimum at all times.

4. Prior to starting work, the Contractor shall provide a proposed schedule of temporary interruptions or shutdown of any utility or electrical/mechanical systems to the District Representatives. The Contractor shall provide written request five (5) working days prior to the desired time for the proposed interruption(s). Work shall be performed at times other than the Campus’s normal hours of operation, or as directed by the District’s Representative. Temporary interruptions shall be completed prior to the start of the next business day at the Campus to maintain continuous and uninterrupted use of Campus facilities and utility systems.
1.3 SUMMARY OF WORK RESTRICTIONS

A. General: All Temporary Work Activities must be completed within the timelines, work shift times, and the scheduled time period as required by the Contract Documents. Comply with the following:

1. The Temporary Work Activity Plan shall be approved by the District prior to any Work starting on the Project Site.

2. Contractor shall have all temporary fencing, signage, ADA compliant pathways and other temporary measures described in Paragraph 1.2 above installed, operational and accepted by the District prior to starting the Work on site.

B. Time Related Work Restrictions within the Contract Time

1. Although the Contract Time is a total of 189 calendar days between the Notice to Proceed and Substantial Completion, as articulated in Section 00600, Construction Agreement, Work by the Contractor is restricted and limited to specific time periods at specific locations during this contract duration as follows:

   1.1 Commencement of Work on the Project Site: The Contractor cannot and shall not start any Work on the project site until Monday, February 4, 2019, unless the District provides written approval. The time between the Notice to Proceed and commencing Work on the project site shall be used for completing all off-site requirements (e.g. transmittal of all required submittals; submittal and approval of the CPM schedule; etc.)

   1.2 See the Section 1010, Summary of Work for related requirements to include for the impacts of rain on this project.

   1.3 Saturday Work after February 4, 2019: Contractor shall include in its bid working on four Saturdays. Work on said Saturdays is reserved for either noisy activities that will be impactful to college activities and critical path and near critical path activities shown on the Contractor’s approved CPM schedule. Near critical path activities is defined for the purposes of this section as Work having less than 5 work days of total float.

   1.4 Sunday Work: Work on Sunday is not allowed, unless otherwise approved by the District.

   1.5 College Finals Week: The Contractor shall not work during Finals Week (5 work days) that results in the generation of noise that will disturb students taking finals. The Contractor shall submit to the District for approval the activities the Contractor may want to perform during finals week. Unless otherwise approved by the District/College, said work cannot be performed during this week.

2. The Contractor is responsible for its own means and methods to comply with these work restrictions, and to submit its schedule in accordance with Section 00700, Article 3.8.

C. Other Project Requirements and Restrictions

1. The Contractor’s staging area for trailers, construction vehicles, construction equipment and materials is restricted within the temporary construction fencing of the project site. Contractor shall not block the fire access lane at any time within the project site or utilize for parking, staging or locating trailers. Contractor must allow fire department access into the project site at all times. The Contractor will be provided an additional six (6) parking spaces,
if needed, outside of this area, but within 200 yards from the area enclosed by the temporary construction fencing. Contractor is responsible for obtaining parking passes from the Campus Police Services. Additional parking may be made available near Parking Lot 16, if needed.

2. Due to the one lane vehicular road north of the buildings to be demolished, the Contractor is cautioned not to attempt to drive the wrong way on this road. Violators will be ticketed by the Campus Police Services.

3. Truck traffic, material deliveries and equipment deliveries on this one-way road to the project site shall be closely monitored and controlled by the Contractor to avoid any delays to other vehicles using this road by faculty and students. The Contractor shall include delivery milestones in its Project CPM Schedule, and provide written notice at least two (2) work days to the District and to the Police Services for all deliveries. Any material or equipment deliveries that could potentially delay traffic on this one-way road will have to be delivered after normal business hours, unless otherwise approved by the District. Contractor truck deliveries that stop traffic on this road or other roads on Campus could be subjected to being ticketed by the Campus Police Services.

4. Truck Hauling Routes. Obtain City of San Pablo approval for preferred construction traffic routing over public streets and/or other construction truck access and egress from public streets to the Site. Contractor shall avoid routing trucks through residential areas. Prohibit mobilization and demobilization of heavy construction equipment and trucks on residential streets. No construction truck access or egress is permitted on Mills Avenue.

PART 2 - PRODUCTS

2.1 MATERIALS
   A. All labor, equipment, materials, and all other requirements shall be provided and will be the sole responsibility of the Contractor for execution of entire work described in this specification section.

PART 3 - EXECUTION

3.1 MEANS AND METHODS OF CONSTRUCTION
   A. Contractor to provide and shall be responsible for any and all means and methods that will be constructed, implemented and/or maintained on the site for all work described above.

END OF SECTION 01140
SECTION 01311
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY
   A. This Section specifies the administrative requirements and includes descriptions of required project coordination for the work including, but not limited to, the following:
      1. Coordination
      2. Coordination of Contract Closeout

1.3 COORDINATION
   A. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of Work, with provisions for accommodating items to be installed later and for accommodating items to be installed by other District contractors.
   B. Resolve differences or disputes concerning coordination, interference, or extent of Work of the various Sections of the Specifications.
   C. Coordinate completion and cleanup of Work of separate Sections in preparation for Substantial Completion.
   D. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.
   E. Cooperate with District and District suppliers and/or contractors during move-in and occupancy of the completed Work.
   F. Contractor shall coordinate construction operations and means and method of construction included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
      1. Coordinate structural, mechanical, and electrical elements prior to installation. All penetrations of structural elements must first receive approval of Architect and District pursuant to the submittal process described in Section 00700, General Conditions. Rerouting of ductwork, piping, or conduit and resulting changes to other work caused by failure to coordinate beforehand is the responsibility of the Contractor and shall not be considered justification for either additional cost or time.
      2. Schedule construction operations in sequence required to obtain the best constructed results where installation of one part of the Work depends on installation of other components, before or after its own installation.
3. Coordinate installation of different components with other contractors or other trades to ensure maximum and appropriate accessibility for required maintenance, service, and repair. Where availability of space is limited, coordinate installation of different components to ensure maximum and appropriate performance and accessibility for required maintenance, service, operations, and repair of all components, and building systems.

4. Make adequate provisions to accommodate items scheduled for later installation.

5. The manner in which the Specifications are divided into Divisions and Sections is not intended to indicate division of work between trades nor indicate trade union or jurisdictional agreements.
   a. Assign and subcontract construction activities, and employ workers in a manner that will not risk jurisdictional disputes that could result in conflicts, delays, claims, or losses.

1.4 ADMINISTRATIVE COORDINATION

A. Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work.

B. Project Documents Management and Exchange
   1. The Contractor, District, IOR, and Architect shall mutually utilize an internet based system for the exchange and tracking of Project documents. The system to be utilized for this Project is EADOC, by Bentley Systems, Inc.
   2. The District will provide training for and access to the EADOC system for key Project team members, and will also pay the system usage fees.
   3. To the maximum extent feasible, document exchange between and among the Contractor, District, IOR, and Engineer shall occur electronically via the EADOC system. Such documents include, but are not limited to:
      a. Product data and other submittals
      b. ASI's, Field Directives, and similar documents
      c. RFI's
      d. Payment applications
      e. Change Orders
      f. Schedules
      g. Correspondence
      h. Other documents and deliverables as required by the Contract Documents.
   4. All Project documents entered into the EADOC system will be stored remotely at a secure Bentley Systems, Inc. location.
   5. EADOC demonstration videos and screenshots can be found at the following link: http://eadocsoftware.com/demo/.
1.5 COORDINATION OF THE WORK

A. Coordinate use of project space and sequence of installation of mechanical, electrical, structural, and other Work which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently for maximum and appropriate accessibility for other installations, for maintenance, service, operations, and for repairs.

B. Contractor shall use large scale drawings, if their preparation is required as part of Work of these specifications, together with shop drawings if applicable and layout drawings of other affected sections of these specifications to check, to coordinate, and to integrate the Work of various sections to prevent interferences.

C. Perform and complete checking and coordination before commencing construction in the affected areas.

D. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of plumbing, fixtures, electrical fixtures, and fixtures and outlets with finish elements.

1.6 CONSERVATION

A. Contractor shall coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections of the Specifications for disposition of salvaged materials that are designated as District’s property.

1.7 MEANS AND METHODS

A. Contractor is solely responsible for construction means, methods, techniques, sequences, and procedures for performing all Work.

1.8 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. Contractor shall provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include specific or dedicated personnel required for coordination of operations with other contractors.

1.9 COORDINATION WITH WORK BY DISTRICT

A. Coordinate service connections for District furnished and District installed equipment. Verify that service connections are correct sizes and in required locations.

B. Coordinate support and anchorage for equipment furnished and installed by the District. Provide blocking and backing as shown or directed to facilitate installation of equipment by others.
1.10 PERIODIC VERIFIED REPORTS

A. The Contractor shall complete and submit the Final Verified Report required by DSA when applicable. In addition to other conditions precedent to Final Payment, the Contractor's completion and submission of the Final Verified Report is an express condition precedent to the District's obligation to make the Final Payment. In addition to completion and submission of the Final Verified Report, as a material obligation under the Contract Documents, the Contractor shall comply all DSA requests for reports or other data relating to the Work, the status thereof or conformity of the Work to the Contract Documents.

PART 2 - PRODUCTS

1.11 EADOC Construction Management Software

A. The District is using EADOC Construction Management Software for the management of this project. The system is a web-based user-interface that is accessible by typical web-browsers. The Contractor and its subcontractors are required to use this system for communication with the District. The District will provide the Contractor limited web-based training prior to the start of the Project.

PART 3 - EXECUTION - Not Used.

END OF SECTION 01311
SECTION 01312
PROJECT MEETINGS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. This Section specifies administrative requirements and provides descriptions of the required project meetings for the Work and all phases of the Project. These meetings include, but not limited to, the following:
   1. Preconstruction Conference
   2. Schedule Review Meetings
   3. Weekly Project Progress Meetings
   4. Construction Schedule and Application for Payment Meetings
   5. Special Meetings

1.3 PRECONSTRUCTION CONFERENCE

A. District will schedule and conduct the Preconstruction Conference at a time and place to be determined.

B. Contractor and all major subcontractors, as requested by the District, shall attend the Preconstruction Conference.

C. Meeting agenda will include, but is not limited to, discussion of the following items:
   1. Construction Schedules
   2. Personnel and vehicle permit procedures
   3. Use of premises
   4. Location of Contractor’s On-Site facilities
   5. Security
   6. Housekeeping
   7. Submittal and RFI procedures
   8. Inspection and testing procedures, on-Site and off-Site
   9. Utility shutdown procedures
   10. Control and reference point survey procedures
   11. Injury and Illness Prevention Program
   12. Schedule of Values
13. Schedule of Submittals
14. Project Directory
15. Emergency Contact List

1.4 SCHEDULE OF VALUES & CONSTRUCTION SCHEDULE MEETING

A. See Section 00700, Contract General Conditions, for requirements. Meetings will be held as requested by the District, or as required by the District.

1.5 SHOP DRAWINGS & SUBMITTALS SCHEDULE MEETING

A. See Section 00700, Contract General Conditions, for specific requirements. Meetings will be held as requested by the District, or as required by the District.

1.6 WEEKLY PROGRESS MEETINGS

A. Weekly Progress Meetings will be scheduled throughout duration of Work at a time acceptable to the District. Weekly Progress Meetings will be held weekly unless otherwise directed by District.
   1. Meetings shall be held at Construction Manager’s on-site office, unless otherwise directed by the District.
   2. The District’s Construction Manager will prepare an agenda, if needed.
   3. The District or Designer will record meeting notes of the Weekly Progress Meetings. Within 3 working days after the meeting, the District or Designer will distribute minutes to attendees via e-mail, and to those affected by decisions made at the meeting. Attendees can either submit comments or additions to the minutes within 3 working days. The minutes will constitute a final documentation of the results of meeting.

B. Weekly Progress Meetings shall be attended by the Contractor’s project manager, project engineer, and job superintendent, District Construction Manager, Designer, the Inspector of Record, and others as appropriate to agenda topics for each meeting.

C. Agenda will contain the following items, as appropriate:
   1. Review, revise as necessary, and approve previous meeting minutes
   2. Review Work progress since last meeting
   3. Status of Construction Schedule, delivery schedules, adjustments
   4. Submittal, RFI, and Change Order status
   5. Review of the Contractor’s safety program activities and results, including report on any serious injury and/or damage accidents
   6. Review of non-conforming Work (if any)
   7. Other items relating to or affecting progress of Work
1.7 Special Meetings

A. District may call special meetings by notifying the desired participants. Special meetings may be held without advance notice in emergency situations.

B. At any time during the progress of Work, District shall have authority to require Contractor to attend a meeting with any or all of the subcontractors engaged in the Work, or in other work, and notice of such meeting shall be duly observed and complied with by Contractor.

C. Contractor shall schedule and conduct its own periodic coordination meetings as necessary to discharge coordination responsibilities.

D. Contractor shall give District 5 work days written notice of its coordination meetings. Contractors shall maintain and distribute minutes of coordination meetings to District. Attendees shall have 3 work days to submit comments or additions to minutes. Minutes will constitute final documentation of results of coordination meetings.

1.8 GUARANTEES/WARRANTIES, BONDS, AND SERVICE & MAINTENANCE CONTRACTS REVIEW MEETING

A. The Contractor shall conduct special meeting 30 calendar days prior to the Contract Substantial Completion date to review the list of all warranties and other documentation required to close out this project. Contractor shall bring to the meeting the comprehensive list of all documents required for review. The District and the AOR will attend this meeting with the Contractor. Contractor shall prepared and distribute minutes of the meeting.

PART 2 - PART 2 – PRODUCTS - Not Used

PART 3 - PART 3 – EXECUTION - Not Used

END OF SECTION 01312
SECTION 01340
ADMINISTRATIVE FORMS & LOGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. This section specifies the information and format requirements for administrative forms and logs.

1.3 ADMINISTRATIVE FORMS & LOGS

A. The Contractor shall use District provided administrative forms for the Work. Administrative forms and logs include, but are not limited to, the following:
   1. Transmittal Form
   2. Submittal Transmittal Form
   3. Request for Information Form
   4. Substitution Request Form (form available at end of Section 00700, General Conditions)
   5. 3-Week Projected Construction Schedule Form
   6. 3-Week Testing & Inspection Schedule Form
   7. Proposed Change Order Form*
   8. Change Order Form*
   9. Request for Information Log Form
  10. Submittal Log Form
  11. Proposed Change Order Log Form
  12. Change Order Log Form
  13. Contractor’s Proposal for Contract Modification Form* (includes sample numbers to demonstrate calculations only)
  14. Contractor Production Report
  15. Construction Directive Form

B. Forms generated by project management software may be substituted if substitution forms contain essentially the same information as shown in these contract documents. Allowance for the use of substitute forms is at the sole discretion of the District, and shall be requested and approved before use of the substitute form. Forms marked with an asterisk (*) may NOT be substituted under any condition.

C. Microsoft Excel files of these forms are available for Contractor use from the District.
1.4 FORMS INCORPORATED BY REFERENCE

A. Forms available from the California Department of General Services, Division of the State Architect, http://www.dgs.ca.gov/dsa/Forms.aspx, related to administration, construction, testing, and inspection of public work school facilities are hereby incorporated by reference into these Contract Documents.

1.5 CONTRACTOR RESPONSIBILITIES

A. Nothing in this Section, including but not limited to, the above forms and log forms shall be construed to limit, relieve, or release Contractor from liability to District for any damages sustained as a result of inaccurate or incorrect information supplied by the Contractor.

PART 2 – PRODUCTS - Not Used.

PART 3 – EXECUTION - Not Used.

END OF SECTION 01340
SECTION 01400
QUALITY CONTROL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY
   A. This Section includes Administrative and Procedural Requirements for Quality Control and Quality Assurance Services includes, but not limited to, the followings:
      1. Quality assurance and control of installation.
      2. References.
      3. Inspection and testing laboratory services
      4. Manufacturers’ field services and reports
      5. Field sample
      6. DSA Project Inspector
      7. Inspection by the Division of the State Architect
      8. Conflicts

1.3 QUALITY ASSURANCE/CONTROL OF INSTALLATION
   A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions and workmanship, to produce Work of specified quality.
   B. Comply fully with manufacturers' written instructions, including each step in sequence.
   C. When manufacturers' instructions conflict with Contract Documents, request clarification from District’s Representative before proceeding.
   D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
   E. All Work shall be performed by persons qualified to produce workmanship of specified quality.
   F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
   G. Contractor's Line of Authority: Contractor shall provide one person who shall be both knowledgeable and responsible for all work to be performed on the Project at all times during normal work hours. In Contractor’s absence, Contractor’s appointed representative shall be responsible for all directions given him and said directions shall be binding as if given to the Contractor. Contractor’s representative shall be responsible to coordinate all Work to be performed on the Project.
H. Shop and field work shall be performed only by mechanics skilled and experienced in the fabrication and installation of the work involved. All work on this Project shall be done in accordance with the best practices of the various trades involved and in accordance with the Contract Documents, approved shop drawings and these specifications.

I. All work shall be erected and installed plumb, level, square and true and in proper alignment and relationship to the work of other trades. All finished work shall be free from defects. The District’s Representatives reserve the right to reject any materials and workmanship that are not considered to be of the highest standards of the trades involved. Any such inferior material or workmanship shall be removed and replaced at no additional cost or time impact to the District.

J. The specifications and recommendations of the manufacturer whose materials are used shall be strictly adhered to during the application or installation of materials. Manufacturer’s specifications, installation instructions, and testing and startup directions shall be available for inspection on Site.

K. Any additional work beyond that specified or illustrated in the Contract Documents, or any modification thereto, that is necessary to obtain the guarantees specified in the Contract Documents shall be provided by the Contractor without any additional cost or time impact to the District.

1.4 REFERENCES

A. Conform to reference standards in force on the most recent date of issue of the approved Contract Documents.

B. When specified reference standards conflict with Contract Documents, request clarification from District’s Representative before proceeding.

C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

D. The Contractor shall be responsible for being current and knowledgeable for all building codes involved for all trades under his direction.

E. Provide all work and materials in full in accordance with the latest applicable Rules and Regulations of the California Code of Regulations Title 24 Building Code Standards, the State Fire Marshal, Safety Orders of the Division of Industrial Safety, and any other applicable laws or regulations. Nothing in these plans or specifications is to be construed to permit Work not conforming to these Codes.

F. American Society for Testing and Materials (ASTM):

   1. 29 CFR 1910, Subpart A, Section 1910.7: Definitions and Requirements for a National Recognized Testing Laboratory.

H. NIST: National Institute of Standards and Technology.

I. Furnish all material and labor required to comply with these Rules and Regulations without any additional cost to District.
1.5 MANUFACTURERS’ FIELD SERVICES AND REPORTS
   A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, testing, adjusting, and balancing of equipment as applicable, and to provide instructions when necessary.
   B. Provide four (4) sets of Manufacturer’s Field Representative report to District and Architect for review within 5 days of field observation.
   C. Manufacturer’s Field Service: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections.

1.6 FIELD SAMPLES
   A. Install field samples at the site for District and Architect review as required by individual Specifications Sections.
   B. Samples accepted by the Architect in writing represent the quality level required for the Work.
   C. Where a field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Architect.

1.7 PROJECT INSPECTOR
   A. District will employ a Project Inspector in accordance with the regulations of the DSA and subject to the provision of Part 1, Title 24, CCR. Project Inspector’s authority, rights and duties shall be as set forth in Section 4-342, Part 1, Title, 24, CCR.

1.8 INSPECTION BY THE DIVISION OF THE STATE ARCHITECT
   A. Work will be monitored and observed through periodic site visits by the Division of the State Architect Field Inspector according to Section 4-334, Part 1, Title 24, CCR.

1.9 CONFLICTS
   A. Contractor shall comply with rules of documents interpretation as indicated in Contract General Conditions including, but not limited to the following items:
      1. Contract Documents take precedence over statutory requirements or standard when requiring materials of higher quality or performance, or larger sizes or capacity, or greater protection, safety or quantity than required by said codes or standards.
      2. This shall not operate to allow deviations from code requirements, prior approvals and other provisions as specified.
      3. Modifications to published statutory requirements currently adopted or enforced by regulating agencies having jurisdiction shall take precedence over said published requirements.
   B. Conflicts within Contract Documents and/or between Project Manual (including specifications) Drawings, Addenda: The more stringent requirement shall govern.
C. Subcontractor, supplier, and installer work may be called for in any section of the Contract Documents; Project Manual Specifications, Drawings and Addenda. Work by any one discipline is not limited to any specification section of the Project Manual, Drawings, Addenda, and Contract Documents shall be bid in total and not in parts.

D. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding. Contractor shall, within (15) working days, notify the Architect in writing for the context of requirements.

E. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Contractor shall, within (15) working days, notify any uncertainties to the Architect and District for a decision before proceeding.

1.10 QUALITY CONTROL, GENERAL

A. District will provide inspections, tests, and similar quality control services required performed by the Division of the State Architect. All other tests are Contractor’s responsibility.

1. District will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

3. See Section 00700, Contact General Conditions, Article 13.5 for additional requirements.

1.11 QUALITY CONTROL: LABORATORY, TESTS, AND REPORTING REQUIREMENTS

A. Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation.

1. The laboratory’s scope of accreditation must include the appropriate ASTM standards (E 329, C 1077, D 3666, D 3740, A 880, E 543) listed in the technical sections of the specifications.

B. Laboratories engaged in Hazardous Materials Testing shall meet the requirements of OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the Corporate Office.

C. Laboratory Accreditation Authorities: Laboratory Accreditation Authorities include the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology at: http://ts.nist.gov/ts/htdocs/210/214/214.htm The American Association of State Highway
and Transportation Officials (AASHTO) program at http://www.transportation.org/aashto/home.nsf/frontpage , International Accreditation Services, Inc. (IAS) at http://www.iasonline.org, the American Association for Laboratory Accreditation (A2LA) program at http://www.a2la.org/.

D. Capability Check: The District retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this Contract.

E. Test Results: Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item test or analyzed conforms or fails to conform to specified requirements.

1. If the item fails to conform, notify the District immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable.

2. Test results must be signed by a testing laboratory representative authorized to sign certified test reports.

3. Furnish the signed reports, certifications, and other documentation to the District via the QC Manager.

4. Furnish the signed reports, certifications, and a summary report of field tests at the end of each month to the District. Attach a copy of the summary report to the last daily Contractor Quality Control Report of each month.

1.12 NOTIFICATION ON NON-COMPLIANCE

A. The District will notify the Contractor of any detected non-compliance with the Contract. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the District may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time for excess costs or damages by the Contractor.

PART 2 - PRODUCTS - Not Used.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work constitutes acceptance of existing conditions by the Contractor.

B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Verify utility services are available, of correct characteristics, and in correct locations.
3.2 TEST AND INSPECTION LOG
A. Prepare a record of tests and inspections. Include the following:
   1. Date test or inspection was conducted.
   2. Description of the Work tested or inspected.
   3. Date test or inspection results were transmitted to Architect.
   4. Identification of testing agency or special Inspector conducting test or inspection.
B. Maintain test and inspection log at project site. Post changes and modifications as they occur. Provide access at the Project site to the District and Architect, during normal working hours, to Contractor generated test and inspection logs.

3.3 PREPARATION
A. Clean substrate surfaces prior to applying next material or substance.
B. Seal cracks or openings of substrate prior to applying next material or substance.
C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.4 PREPARATION AND PROTECTION
A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
B. Protect construction exposed by or for quality-control service activities.
C. Repair and protection are Contractor’s responsibility, regardless of the assignment of responsibility for quality-control services.
SECTION 01415
MITIGATION MONITORING REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. This Mitigation Monitoring and Reporting Program (MMRP) was formulated based on the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the Contra Costa College Improvement Implementation Project. This MMRP is in compliance with Section 1509 of the CEQA Guidelines, which requires that the Lead Agency “adopt a program for monitoring or reporting of the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.” The MMRP lists mitigation measures recommended in the IS/MND and identifies mitigation monitoring requirements.

B. The District has attempted to insert these MMRP requirements into the various other Specification Sections that are related to the nature of each mitigation measure. This Section is included to provide a consolidated location for all of the CEQA requirements. Where measures are found in any of the Contract Documents that conflict with these measures, the more stringent measure shall apply.

1. Table 1 presents the mitigation measures identified for the Project. Each mitigation measure is numbered according to the topical section to which it pertains in the IS/MND. As an example, Mitigation measure AIR-1 is the first mitigation measure identified in the IS/MND for the Project.

   a. Elements of the MMRP which have been stricken out do not apply to this project.

   b. The first column of Table 1 identifies the mitigation measure from the IS/MND.

   c. The second column, entitled “Action and Implementation Timing,” describes each mitigation measure.

   d. The third column, “Party Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measures are implemented.

   e. The fourth column “Action by Monitor,” outlines the steps for monitoring the action identified in the mitigation measure.

   f. The fifth column entitled “Monitoring Timing,” states the time the monitor must ensure that the mitigation measure has been implemented.

   g. The last column will be used by the District to ensure that individual mitigation measures have been monitored.
### Table 1: Mitigation Monitoring and Reporting Program for Contra Costa College

<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
<th>Party Responsible for Implementing Mitigation</th>
<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
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<tbody>
<tr>
<td><strong>III. AIR QUALITY</strong></td>
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| AIR-1: Consistent with guidance from the BAAQMD, the District shall require contractors to include emissions control measures in construction specifications for the project. The District shall review the final construction specifications to verify that the requirements have been included prior to beginning grading and excavating activities for the project. The District shall verify via field inspection at least twice during construction that the measures are being implemented. The following actions are required:  
- Idling time of diesel powered construction equipment shall be limited to 2 minutes;  
- Alternative powered construction equipment (i.e., CNG, biodiesel, electric) shall be utilized when feasible;  
- Add-on control devices shall be used such as diesel oxidation catalysts or particulate filters;  
- Project construction shall be phased; and  
- Operating hours of heavy duty equipment shall be minimized. | Implement the emission control measures listed in Mitigation Measure AIR-1 during construction | Contra Costa Community College District and construction contractor | Contra Costa Community College District | 1. Review final construction specifications to ensure all requirements listed in Mitigation Measure AIR-1 are included  
2. Visit project site at least twice to verify that emission control measures are being implemented | 1. Before grading begins  
2. During project construction | Name:  
Date: |
<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
<th>Party Responsible for Implementing Mitigation</th>
<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
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</table>
| AIR-2: AIR-2: Consistent with the guidance from the BAAQMD, the District shall include dust control measures in construction contracts and specifications for the project. The District shall verify via field inspection at least twice during construction of each project that the measures are being implemented. The following controls shall be implemented at all construction sites: | Implement the dust control measures listed in Mitigation Measure AIR-2 during construction | Contra Costa Community College District and construction contractor | Contra Costa Community College District | 1. Review final construction specifications to ensure all requirements listed in Mitigation Measure AIR-2 are included | 1. Before grading begins | Name:  
Date: |

- Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers to control dust;  
- Cover all trucks hauling soil, land, and other loose materials or require all trucks to maintain at least two feet of freeboard;  
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, inactive construction areas, and staging areas at construction sites;  
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts to water quality;  
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
<table>
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<tr>
<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
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<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
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<tbody>
<tr>
<td>AIR-2 Continued</td>
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<td>• Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.);</td>
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<td>• Install base rock at entryways for all existing trucks, and wash off the tires or tracks of all trucks and equipment in designated areas before leaving the site;</td>
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<td>• Limit traffic speeds on unpaved roads to 15 mph;</td>
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<td>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways;</td>
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<td>• Replant vegetation in disturbed areas as quickly as possible; and</td>
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<td>• Suspend excavation and grading activity when sustained wind speeds exceed 25 mph. Sustained wind speed shall be determined by averaging observed values over a two-minute period. Wind monitoring by the construction manager shall be required at all times during excavation and grading activities.</td>
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<tr>
<td>AIR-3a: Implement Mitigation Measure AIR-1.</td>
<td>See Mitigation Measure AIR-1</td>
<td>See Mitigation Measure AIR-1</td>
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<td>AIR-3b: Implement Mitigation Measure AIR-2.</td>
<td>See Mitigation Measure AIR-2</td>
<td>See Mitigation Measure AIR-2</td>
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### BIOLOGICAL RESOURCES

<table>
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<tr>
<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
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<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIO-1</strong>: Prior to construction, the District shall prepare and submit a Notification of Lake or Streambed Alteration application package (Form FG2023) to the California Department of Fish and Game (CDFG) for working within the riparian corridor of the Rheem Creek tributary. The application shall include a Riparian Restoration Plan prepared by a qualified restoration ecologist for any vegetation removal within the riparian corridor. This plan shall be reviewed and approved by the District. The amount of riparian vegetation trimmed, removed, or disturbed shall be kept to a minimum.</td>
<td>Submit a Notification of Lake or Streambed Alteration application package prior to construction of bridges</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that Notification of Lake or Streambed Alteration application package is submitted to California Department of Fish and Game</td>
<td>Prior to construction</td>
<td>Name: Date:</td>
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<tr>
<td><strong>BIO-2a</strong>: To determine the extent of Corps jurisdiction at the proposed bridge locations, a qualified wetland scientist shall delineate waters of the U.S. in areas where bridges would be constructed using Corps methodology. The delineation shall be verified by the Corps.</td>
<td>Delineate waters of the U.S. in areas where bridges would be constructed using Corps methodology prior to construction of bridges</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Submit the delineation to the Corps for verification</td>
<td>Prior to construction</td>
<td>Name: Date:</td>
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<td><strong>BIO-2 Continued</strong></td>
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<td><strong>BIO-2b</strong>: The District shall obtain the appropriate federal and State permits for any construction activities and/or structures located below the OHWM of Rheem Creek and/or its tributary. Assuming that the total area impacted would be less than 0.5 acre (21,780 square feet), construction of the pedestrian bridges would likely qualify for authorization under Nationwide Permit (NWP) 14 (Linear Transportation Projects), which regulates “activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the U.S…”</td>
<td>Obtain the appropriate federal and State permits for any construction activities located below OHWM of Rheem Creek prior to construction</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that appropriate federal and State permits are received</td>
<td>Prior to construction</td>
<td>Name: Date:</td>
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<tr>
<td>Recommended Mitigation Measures</td>
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| BIO-3: If feasible, all vegetation removal shall be conducted during the non-breeding season (i.e., August 1 to February 28) to avoid direct impacts to nesting birds. If such work is scheduled during the breeding season, a qualified ornithologist shall conduct a pre-construction survey to determine if any birds are nesting in the vegetation to be removed. The pre-construction survey shall be conducted within 15 days prior to the start of work from March though May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through July. If active nests are found during the survey, the biologist shall determine an appropriately sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the biologist in consultation with the CDFG, and shall be based on the nesting species, its sensitivity to disturbance, and the expected types of disturbance. | Restrict vegetation removal activities to the period from August 1 to February 28. If not possible, have a qualified ornithologist create a buffer around nests in which no work shall be allowed until the young have successfully fledged prior to construction | Contra Costa Community College District | Contra Costa Community College District | Verify that construction is not taking place during breeding season, or ensure a proper buffer is created for nesting birds | Prior to construction | Name:  
Date: |

V. CULTURAL RESOURCES
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<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
<th>Party Responsible for Implementing Mitigation</th>
<th>Party Responsible for Monitoring</th>
<th>Action by Monitor</th>
<th>Monitoring Timing</th>
<th>Verification of Compliance Name/Date</th>
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</table>
| **CULT-1**: The Contra Costa Community College District shall inform its contractor(s) of the sensitivity of the project area for archaeological resources by including the following directive in contract documents: “If prehistoric or historical archaeological deposits are discovered during project activities, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Project personnel should not collect or move any archaeological materials or human remains and associated materials. Archaeological resources can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, basalt, or quartzite toolmaking debris; bone tools; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash and charcoal, shellfish remains, faunal bones, and cultural materials); and stone-milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains. Historical materials can include wood, stone, concrete, or adobe footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, metal, and other refuse.” The Contra Costa Community College District shall verify that the language has been included in the contract documents. | 1. Include the directive described in Mitigation Measure CULT-1 in contract documents | 1. Contra Costa Community College District | 1. Contra Costa Community College District | 1. Verify that the appropriate language has been incorporated in contract documents | 1. Before grading begins | **Name:**  
**Date:** |
<p>| <strong>CULT-1 Continued</strong> | 2. Evaluate any archaeological resources discovered during project construction as described in CULT-1 and submit report of findings to the District and the NWIC | | | 2. Visit project site and verify that measures are being implemented and that any reports are submitted to the NWIC | 2. During project construction | |</p>
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<th><strong>Recommended Mitigation Measures</strong></th>
<th><strong>Action and Implementation Timing</strong></th>
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<td>Adverse effects to archaeological deposits should be avoided by project activities. If such deposits cannot be avoided, they shall be evaluated for their California Register of Historical Resources eligibility to determine if such deposits qualify as &quot;historical resources&quot; under CEQA (CCR Section 15064.5(c)(1)). If the deposit is not eligible, a determination shall be made as to whether it qualifies as a &quot;unique archaeological resource&quot; under CEQA. If the deposit is neither a historical nor unique archaeological resource, avoidance is not necessary. If the deposit is eligible to the California Register, or is a unique archaeological resource, it will need to be avoided by adverse effects or such effects must be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits; recording the resource; preparation of a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate. Upon completion of the assessment, the archaeologist shall prepare a report documenting the assessment methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the Contra Costa Community College District and the Northwest Information Center.</td>
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**Recommended Mitigation Measures**

CULT-2: A qualified paleontologist shall monitor initial project ground-disturbing activities. The paleontologist can then determine whether further monitoring, periodic site reviews, or no further monitoring is appropriate. Paleontological monitoring shall include inspection of mechanically exposed, paleontologically sensitive geological formations underlying the project site. Samples of matrix shall be collected for processing, sorting, and microscopic examination to determine if microfossils are present within exposed geological formations. If paleontological resources are discovered during project activities, all work within 25 feet of the discovery shall be redirected until the paleontological monitor has assessed the situation and made recommendations regarding their treatment. It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. Paleontological resources are considered significant if they possess the possibility of providing new information regarding past life forms, paleoecology, stratigraphy, and geological formation processes. If the resources are not significant, avoidance is not necessary. If the resources are significant, they must be avoided by adverse effects, or such effects must be mitigated. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, a technical data recovery report, and accessioning the fossil material and technical report to a paleontological repository. Public educational outreach may also be appropriate.

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<th>Recommended Mitigation Measures</th>
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</table>
| CULT-2: A qualified paleontologist shall monitor initial project ground-disturbing activities. The paleontologist can then determine whether further monitoring, periodic site reviews, or no further monitoring is appropriate. Paleontological monitoring shall include inspection of mechanically exposed, paleontologically sensitive geological formations underlying the project site. Samples of matrix shall be collected for processing, sorting, and microscopic examination to determine if microfossils are present within exposed geological formations. If paleontological resources are discovered during project activities, all work within 25 feet of the discovery shall be redirected until the paleontological monitor has assessed the situation and made recommendations regarding their treatment. It is recommended that adverse effects to paleontological resources be avoided by project activities. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. Paleontological resources are considered significant if they possess the possibility of providing new information regarding past life forms, paleoecology, stratigraphy, and geological formation processes. If the resources are not significant, avoidance is not necessary. If the resources are significant, they must be avoided by adverse effects, or such effects must be mitigated. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, a technical data recovery report, and accessioning the fossil material and technical report to a paleontological repository. Public educational outreach may also be appropriate. | 1. Have a paleontologist monitor project ground-disturbing activities prior to construction  
2. Evaluate any paleontological resources discovered during project construction as described in CULT-2 and submit report of findings to the District and a paleontological repository | 1. Contra Costa Community College District  
2. Construction contractor | 1. Contra Costa Community College District | 1. Verify that the appropriate language has been incorporated in contract documents  
2. Visit project site and verify that measures are being implemented and that any reports are submitted to a paleontological repository | 1. Before grading begins  
2. During project construction | Name:  
Date: |
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<th>Recommended Mitigation Measures</th>
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<td><strong>CULT-2 Continued</strong></td>
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<td>Upon completion of the paleontological monitoring, a report of findings with an appended, itemized inventory of specimens—as appropriate—should be prepared and submitted to an appropriate repository, such as the University of California Museum of Paleontology.</td>
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| **CULT-3: If human remains are encountered,** these remains shall be treated in accordance with Health and Safety Code Section 7050.5. The Contra Costa College District shall inform its contractor(s) of the cultural sensitivity of the project area for human remains by including the following directive in contract documents: “If human remains are encountered during project activities, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.” | 1. Include the directive described in Mitigation Measure CULT-3 in contract documents | 1. Contra Costa Community College District | 1. Contra Costa Community College District | 1. Verify that the appropriate language has been incorporated in contract documents | 1. Before grading begins
| 2. Stop work within 25 feet of human remains discovered during project construction; prepare and submit report of findings to the District and NWIC. | 2. Construction contractor | 2. Contra Costa Community College District | | 2. Visit project site and verify that measures are being implemented and that any reports are submitted to NWIC | 2. During project construction |

Name: Date:
### VI. GEOLOGY AND SOILS

**GEO-1a:** Prior to construction, a subsurface fault investigation shall be performed by a Certified Engineering Geologist or Geotechnical Engineer to identify potentially active fault traces within the footprint of proposed structures intended for human occupancy and 50 feet beyond. All future structures used or intended for supporting or sheltering humans for more than 2,000 person-hours per year shall be setback at least 50 feet from active faults, unless it is proven that there are no active branches of that fault in accordance with Section 3603 (d) of Appendix B of Special Report 42. In no case shall a structure for human habitation be constructed so as to cross the trace of an active fault. CCCCD Facilities staff and the Division of the State Architect (DSA) shall review the findings and recommendations of the subsurface fault investigation and verify that the project design has implemented appropriate setbacks from faults based on those findings prior to DSA project approval.

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<td>The Contra Costa Community College District shall verify that the language has been included in the contract documents. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report shall be submitted to the Contra Costa Community College District and the Northwest Information Center.</td>
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| GEO-1b: The design of project improvements, including sidewalks, parking lots, and subsurface utilities, shall consider the potentially active and active fault traces and incorporate measures to ensure that potential damage due to rupture is minimized; utility (electricity, natural gas, telecommunications, water, sewer) crossings at potentially active and active fault traces shall be engineered with flexible connections or an equally effective alternate engineered solution so as to minimize damage from seismic activity and in accordance with the recommendations of subsection F of Appendix C of Special Publication 42. CCCCDD Facilities staff and the DSA shall review and approve the design of project improvements and utilities prior to DSA project approval. | Consider the potentially active and active fault traces and incorporate measures to ensure damage due to rupture is minimized prior to construction | Contra Costa Community College District | Contra Costa Community College District | Verify with DSA that design measures minimize potential damage from rupture | Prior to construction | Name:  
Date:  |
| GEO-2: Prior to construction, a geotechnical investigation shall be performed by a Certified Engineering Geologist or Geotechnical Engineer to identify potential liquefiable sediments southwest of and adjacent to Rheem Creek. If liquefiable sediments are identified at the project site, the District shall implement appropriate grading, drainage, and foundation design elements recommended by a Certified Engineering Geologist or Geotechnical Engineer and approved by the DSA to reduce the potential impact from liquefaction. | Perform a geotechnical investigation to identify potential liquefiable sediments by Rheem Creek | Contra Costa Community College District | Contra Costa Community College District | Verify that geotechnical investigation is completed | Prior to construction | Name:  
Date:  |
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<th>Recommended Mitigation Measures</th>
<th>Action and Implementation Timing</th>
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| GEO-3: A geotechnical investigation shall be performed by a Certified Engineering Geologist or Geotechnical Engineer to evaluate slope stability along the hillside portion of the project site. If slopes susceptible to seismic failure are identified at the project site, the District shall implement appropriate slope grading, drainage, and reinforcements as recommended by a Certified Engineering Geologist or Geotechnical Engineer and approved by the DSA to reduce the potential impact from slope failure. | Perform a geotechnical investigation to evaluate slope stability along the hillside portion of the project site | Contra Costa Community College District | Contra Costa Community College District | Verify that geotechnical investigation is completed | Prior to construction | Name:  
Date: |
| GEO-4: Implement Mitigation Measure HYD-1. | | | | | | |
| GEO-5: Prior to construction, a geotechnical investigation shall be performed by a Certified Engineering Geologist or Geotechnical Engineer and the resulting report shall include evaluation of dynamic compaction potential at the project site. If soils susceptible to dynamic compaction are present the project site, the District shall implement proper grading and compaction measures as recommended in the final report and approved by the DSA to reduce the potential impacts from dynamic compaction to a less-than-significant level. | Perform a geotechnical investigation to identify the dynamic compaction potential at the project site | Contra Costa Community College District | Contra Costa Community College District | Verify that geotechnical investigation was completed | Prior to construction | Name:  
Date: |
| GEO-6a: The District shall incorporate all recommendations of a final site-specific design-level geotechnical investigation as prepared by a Certified Engineering Geologist or Geotechnical Engineer into all development plans submitted for the project, including recommendations for grading, placement of fill materials, pretreatment of expansive soils, and avoidance of settlement and/or differential settlement of infrastructure and buildings. | Incorporate recommendations from geotechnical investigations into development plans | Contra Costa Community College District | Contra Costa Community College District | Verify that recommendations from geotechnical investigations are incorporated into all development plans | Prior to construction | Name:  
Date: |
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<tr>
<td>GEO-6b: The District shall incorporate all recommendations of a final site-specific design-level geotechnical investigation as prepared by a Certified Engineering Geologist or Geotechnical Engineer into all development plans submitted for the project, including recommendations to protect iron, steel, metal and concrete from deterioration caused by contact with corrosive soils.</td>
<td>Incorporate recommendations from geotechnical investigations into development plans</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that recommendations from geotechnical investigations are incorporated into all development plans</td>
<td>Prior to construction</td>
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**VII. HAZARDS AND HAZARDOUS MATERIALS**

**HAZ-1a**: Prior to demolition of structures on the site, a comprehensive lead-based paint survey shall be conducted. If any lead-based paint is identified, it shall be removed from the site in accordance with all applicable regulations, including Occupational Safety and Health Administration (OSHA) guidelines. The District shall verify that the survey has been conducted before beginning demolition of the buildings.

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<tr>
<td>Complete a lead-based paint survey as described in Mitigation Measure HAZ-1a</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that the survey has been conducted</td>
<td>Before demolition begins</td>
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**HAZ-1b**: Prior to demolition of structures on the site, a complete Asbestos Hazard Emergency Response Act-Level Pre-Demolition Asbestos Survey shall be conducted. If asbestos is identified, a licensed asbestos abatement contractor shall be retained to abate identified asbestos-containing material in accordance with all applicable regulations. The District shall verify that the survey has been conducted before beginning demolition of the buildings.

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<tr>
<td>Complete an asbestos survey as described in Mitigation Measure HAZ-1b</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that the survey has been conducted</td>
<td>Before demolition begins</td>
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### VIII. HYDROLOGY AND WATER QUALITY

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<th>Recommended Mitigation Measures</th>
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<td><strong>HYD-1</strong>: As a condition of approval of the project plans, the District shall prepare a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce potential impacts to surface water quality through the construction and operational periods of the project including all on- and off-site improvements. The SWPPP shall be submitted for approval to the Facilities Division of the CCCCD and Division of the State Architect prior to issuance of project approvals. The SWPPP shall be maintained on-site and made available to Water Board staff upon request. The SWPPP shall include specific and detailed BMPs designed to mitigate construction-related and operational period pollutants. <strong>Construction Period</strong>: At a minimum, BMPs shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP shall specify properly designed centralized storage areas that keep these materials out of the rain. An important component of the stormwater quality protection effort is the knowledge of the site supervisors and workers. To educate on-site personnel and maintain awareness of the importance of stormwater quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP.</td>
<td>Facilities Division of the District shall prepare and the Division of the State Architect shall approve a SWPPP that includes requirements listed in HYD-1</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that the SWPPP has been prepared</td>
<td>Before construction begins</td>
<td>Name: Date:</td>
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<td>Recommended Mitigation Measures</td>
<td>Action and Implementation Timing</td>
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<td>The SWPPP shall include operational-period BMPs that would result in treatment of an appropriate percentage of the runoff from the project including all on- and off-site improvements. The SWPPP shall include as many LID BMPs as feasible. CCCCD Facilities staff and the Division of the State Architect shall review and approve the SWPPP, including operational period BMPs, prior to approval of the project plans.</td>
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<td>HYD-2: Implement Mitigation Measure HYD-1</td>
<td>See Mitigation Measure HYD-1.</td>
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<td>HYD-3: During design development and prior to construction of the bridges, a qualified engineering professional shall design the foundations and support structures for the proposed prefabricated pedestrian bridge(s) in such a way as to span the creek(s) from outside the ‘top-of-bank’ points of the stream banks, or: A Location Hydraulic Study (LHS) shall be prepared showing that any appurtenance structures required for the bridges will not exacerbate flooding up or downstream of the project site, result in bank or bottom scour, or accelerate bank erosion and result in degradation of water quality from creek damage.</td>
<td>Prepare a Location Hydraulic Study during project design</td>
<td>Contra Costa Community College District</td>
<td>Contra Costa Community College District</td>
<td>Verify that the Location Hydraulic Study has been prepared and the results considered in the project design</td>
<td>Before construction begins</td>
<td>Name: Date:</td>
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<td>HYD-4: Implement Mitigation Measure HYD-1</td>
<td>See Mitigation Measure HYD-1.</td>
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<td><strong>XI. NOISE</strong></td>
<td><strong>Recommended Mitigation Measures</strong></td>
<td><strong>Action and Implementation Timing</strong></td>
<td><strong>Party Responsible for Implementing Mitigation</strong></td>
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| NOISE-1: The project shall implement the following noise reduction measures:  
- The District shall coordinate with the CCC campus administration and the construction contractor to schedule loud construction activities to less sensitive time periods.  
- All heavy construction equipment used on the project site shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers that are in good condition. | Implement the noise-reducing measures described in Mitigation Measure NOISE-1 | Construction contractor | Contra Costa Community College District | Visit project site and verify that noise control measures are being implemented | During project construction | | |
| NOISE-2: Implement Mitigation Measure NOISE-1. | See Mitigation Measure NOISE-1. | | | | | | |
PART 2 – PRODUCTS - Not Used.

PART 3 – EXECUTION - Not Used.

END OF SECTION 01415
SECTION 01416
SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY
A. In Compliance with CEQA requirements, the District conducted an Initial Study to ascertain if the project may have an effect on the environment. The Initial Study identified potential impacts on the environment. However, all potential impacts of the proposed Project can be avoided or reduced to a less-than-significant level by implementation of the following mitigation measures. Contractor shall conform with the following mitigation measures, including but not limited to, the following:
   1. Noise Control
   2. Dust Control
   3. Traffic Control
   4. Spill Prevention, Control and Countermeasures
   5. Tree Protection
   6. Migratory Bird Protection
   7. Cultural Resources Protection
B. In no case shall the restrictions identified in this Section limit the Contractor’s responsibility for compliance with all Federal, state, and local safety ordinances and regulations.

1.3 NOISE CONTROL
A. The intent of this Section is to minimize construction noise within construction areas, lay-down areas, and communities adjacent to the construction site. To this end, the Contractor and all subcontractors, suppliers, and vendors, are required to comply with all applicable noise regulations, specification requirements, and the noise level limits specified herein.
B. The Contractor shall use equipment with efficient noise-suppression devices and employ other noise abatement measures such as enclosures and barriers necessary for the protection of the public, as necessary.
C. The Contractor shall schedule and conduct operations in a manner that will minimize, to the greatest extent feasible, the disturbance to the public in areas adjacent to the Work and to occupants of buildings in the vicinity of the Work.
D. Noise Control Measures. Contractor shall implement the following noise-control measures to reduce and control noise generated from construction, demolition, and construction related activities:
   1. Restrict noise-producing construction activities to between 7:00 a.m. and 7:00 p.m. on weekdays. If construction is scheduled for Saturdays or Sundays to avoid disrupting college operations, restrict noise-producing construction activities to between 9:00 a.m.
and 5:00 p.m. Construction on Sundays shall be avoided, if possible, and there will be no construction on public holidays without prior written request submitted to and written approval returned by the District, at its sole discretion. A decision by the District to deny Sunday or holiday work shall not be deemed to cause a delay in the Contract Time. When activities must occur outside the hours specified above, conform with notification requirements of this Section and utilize local barriers around equipment and other noise attenuating devices if necessary to limit noise to acceptable levels.

2. Comply with all City of San Pablo requirements regarding both allowable hours of Work and noise level limitations.

3. All construction equipment shall have appropriate mufflers, intake silencers, and other required noise-control features, shall be properly maintained and in compliance with State standards.

4. Vehicles and other gas or diesel powered equipment shall be prohibited from unnecessary warming up, idling, and engine revving.

5. Impact tools shall utilize “quiet technology” to minimize noise.

E. Secure written permission from Construction Manager at least three (3) working days prior to using noisy and vibratory equipment, such as jackhammers, concrete saws, impact tools, and high frequency electrical equipment. Cooperate with District if the use of noisy equipment becomes objectionable to college employees and/or students.

F. The work must be conducted so that nearby residents and college operations in surrounding facilities and classrooms will not be disturbed at any time during any phase of the Work including, but not limited to, the following requirements:

1. Do not use loud vocal or mechanical signals. Use of outside speakers, loud radios and similar devices are prohibited.

2. Work shall be performed in a manner to prevent nuisance conditions such as noise which exhibits a specific audible frequency or tone (e.g., backup alarms, poorly maintained equipment, brake squeal, etc.) or impact noise (e.g., jackhammers, hoe rams). The District will make any final interpretation concerning whether or not nuisance noise conditions exist. Only the District representatives and specifically designated College representatives have the authority to stop the Work until nuisance noise conditions are resolved, without additional Contract Time or compensation for the Contractor.

1.4 DUST CONTROL

A. Contractor shall implement dust control measures to protect air quality during construction to control dust emissions generated during construction, implement the following Bay Area Air Quality Management District (BAAQMD) measures for construction emissions of particulate matter over 10 microns in size (PM10).

1.5 TRAFFIC CONTROL

A. Contractor shall implement traffic control to minimize the effects of construction traffic on the campus and surrounding residential areas, as appropriate.

B. Contractor shall notify the District, Designer, Construction Manager, Project Inspector, Campus Police Department, city and county agencies, as applicable, a minimum of two (2) working days in advance of performing work which necessitates closing or interfering with traffic on public
throughfares, parking areas, driveways and walks. Obtain written permission prior to effecting such closures and interruptions. All see Section 01140, Work Restrictions, for this project.

1.6 SPILL PREVENTION, CONTROL AND COUNTERMEASURES

A. Contractor shall implement Spill Prevention, Control and Countermeasures to minimize the potential for and effects from spills of hazardous, toxic or petroleum substances during construction and demolition activities.

B. The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that includes any of the following:
   1. Violates applicable water quality standards.
   2. Causes a film or sheen on or discoloration of the water surface or adjoining shoreline.
   3. Causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

C. If a spill is reportable, notify the District’s Representative and take action to contact appropriate safety and clean-up crews.
   1. A written description of reportable releases must be submitted to the District’s Representative and to the San Francisco Bay Regional Water Quality Control Board (RWQCB). This submittal must contain a description of the spill, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred and a description of the steps taken to prevent and control future releases. Document the releases on a spill report form.
   2. If a reportable spill has occurred and results determine that project activities have adversely affected surface water or groundwater quality, the District will engage a registered environmental assessor at Contractor’s expense for a detailed analysis to identify the likely cause of contamination. This analysis will conform to American Society for Testing and Materials (ASTM) standards and will include recommendations for reducing or eliminating the source or mechanisms of contamination.
   3. Based on this analysis, the Contractor shall select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions. These measures will be subject to approval by the District.

1.7 TREE PROTECTION

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

B. **Root Protection:** No storage of materials or equipment will be allowed within the Dripline. Whenever possible, excavation shall be on a radial line, diverging from the tree trunk. For items of Work delayed materially beyond Date of Substantial Completion, provide update submittal within 14 Days after acceptance, listing date of acceptance as start of warranty period.

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

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

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

1.8 **MIGRATORY BIRD PROTECTION**

A. If applicable, conduct vegetation and tree removal outside of the migratory bird nesting season. The typical nesting season for migratory birds in this part of California is March 1st through July 31.

B. If vegetation and tree removal must take place during the nesting season, these activities shall be preceded by a survey for nesting migratory birds by the District’s qualified ornithologist. If bird nests are discovered in the trees or on the buildings, they shall not be removed while the nest(s) are active.

1.9 **CULTURAL RESOURCES PROTECTION**

A. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations or human bones or paleontological resources are discovered inadvertently during ground-disturbing activities, Contractor shall avoid any further disturbance of the materials and immediately discontinue earthwork within 100 feet of the find. Contractor shall notify District’s Representative immediately upon encountering cultural resources. Contractor shall be prepared to move on to another location or phase of work, allowing sufficient time for District’s Representative to evaluate the nature and significance of the find and implement appropriate management procedures.

B. In the event that prehistoric human remains are encountered, further excavation or disturbance of the site shall cease immediately, pursuant to Health and Safety Code 7050.5. Contractor shall notify District’s Representative immediately upon encountering human remains. Contractor shall move on to another location or phase of Work to allow proper assessment of the situation.
C. If human remains of Native American origin are discovered during project construction, it will be necessary to comply with State laws relating to the disposition of Native American burials, which fall under the jurisdiction of the NAHC (Public Resources Code (PRC) Section 5097. Consequently, if any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent human remains:

1. Until the Contra Costa County Coroner has been informed and has determined that no investigation of the cause of death is required;

2. If the remains are of Native American origin;
   a. The descendants of the deceased Native American(s) have made a recommendation to the landowner or the person responsible for the excavation work regarding means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98 or
   b. The NAHC has been unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the NAHC.

PART 2 – PRODUCTS - Not Used.

PART 3 – EXECUTION - Not Used.

END OF SECTION 01416
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SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this section without limitation.

1.2 REQUIRED TEMPORARY FACILITIES AND CONTROLS
A. Contractor shall provide and maintain all temporary facilities, utilities, and controls as required to perform the Work and as required herein. Materials, installation, and maintenance of temporary utilities and facilities shall be in compliance with all applicable local and State regulatory requirements. Remove temporary utilities and facilities, including associated materials and equipment, when no longer required. Restore and recondition existing facilities used during construction and areas of the Site, roads, driveways, parking lots, landscaping, and any other existing improvements either damaged or disturbed by the installation of temporary facilities or utilities to their original condition. Remove and properly dispose of debris resulting from removal and reconditioning operations.

B. Contractor shall furnish and install requirements for temporary utilities, facilities, security, and protection, which include but are not limited to the following:

1. Temporary Electric Power and Lighting
   a. The District will make available existing electric power sources in its distribution system to facilitate the Contractor’s completion of the Work. However, the installation and removal of all temporary distributions of power to these existing facilities throughout the Site shall be the sole responsibility of the Contractor without adjustment to the Contract Sum or the Contract Time. The Contract Sum shall not be adjusted on account of any disruption, reduction or elimination of electrical power service to the Site, unless the same is caused by the District’s non-payment of undisputed utility charges for such electrical power service. Contractor shall provide power outlets for construction operations, with branch wiring and distribution boxes located as required to complete the Work.
   b. Contractor shall provide and maintain electrical power at the Site for construction purposes, for temporary facilities and trailers, and for any other site offices or trailers required by the Contract Documents. Contractor shall provide all necessary wiring and appurtenances for connection to District’s system. Connect to District power at location(s) as directed by District.
   c. Contractor shall provide and maintain distribution of temporary electrical power and lighting to the Work, and for use by the Project Inspector and District Project Manager where applicable.
   d. Contractor shall provide temporary power main service disconnect and over current protection at convenient locations and as required by governing codes.
e. The Contractor shall be responsible for providing temporary facilities as required to deliver power service from the point of connection to the point(s) of intended use.

f. Contractor shall verify characteristics of District power available for temporary service use and provide all transformers and/or other equipment necessary to modify District power for temporary use by the Contractor. Contractor shall pay all costs associated with any necessary modifications to District power for temporary use on the Work.

g. The Contractor shall provide, install, and maintain temporary electrical lighting wherever necessary to provide illumination for the proper performance and/or observation of the Work.

2. Temporary Communications/Telephone

a. Contractor is not required to provide a field office on the project site but shall provide a full-time superintendent on site at all times work, by the Contractor or its subcontractors, is occurring at the project site. The Contractor’s Superintendent shall have a cell phone in their possession any time this person is at the project site. The cell phone shall have voicemail capability. Also, see Section 01311, Project Management and Coordination, Article 1.11A regarding the requirement for the Contractor to use the District’s EADOC Construction Management Software.

b. Not Used.

c. Not used.

d. Not Used.

e. Not Used.

f. Not Used.

3. Temporary Water

a. The District will furnish and pay for water during the course of the work to the extent water is available on the Site. The Contractor shall be responsible for providing all temporary facilities required to deliver District water from the point of connection to point of intended use on the Project.

b. Contractor shall be allowed to utilize water from the District for domestic use only. Water shall not be provided nor used for dust control, street cleaning, cleaning tools, soil compaction, or vehicle washing. Water used for such purposes shall be provided by the Contractor at its expense.

c. Contractor shall provide and maintain necessary temporary water supply connections, pipes, hoses, nozzles, and fittings required. Before final acceptance, all temporary water supply components installed by Contractor shall be removed in a manner approved by District’s Representative.

d. Unnecessary waste of water will not be permitted. Special hydrant wrenches shall be used for opening and closing fire hydrants, in no case shall pipe wrenches be used for this purpose. Contractor shall obtain written approval and pay all required fees of governing agencies having jurisdiction (e.g., EBMUD and Contra Costa County Fire Protection District (CCCFPD)) prior to using any fire hydrant water on or off Contra Costa Community College District property.
e. Contractor shall provide and use backflow preventers on water lines at point of connection to any District water supply. Backflow preventers shall comply with requirements of California Uniform Plumbing Code. The installation and removal of all temporary backflow preventers on the Site shall be the sole responsibility of the Contractor without any adjustment to either the Contract Sum or the Contract Time. Before final acceptance, all temporary connections and piping installed by Contractor shall be removed in a manner approved by District’s Representative.

f. Contractor shall provide and make potable water available for human consumption. Contractor shall provide and maintain suitable quality water service required for construction operations.

4. **Temporary Fences**

   a. Temporary Fencing: Contractor shall maintain the existing temporary fencing and modify it as necessary to perform the scope of work of this Contract.

   b. Contractor shall provide padlocks used for securing all gates. Padlocks shall be designed to prohibit cutting of shackle. Contractor shall coordinate keying strategy with District and the Contra Costa County Fire Protection District.

   c. Contractor shall be responsible for locking gates and shall be secured with minimum 3/8-inch-thick, 30 grade coil chain, minimum 5/16-inch cable. Gates shall be kept closed and locked at all times when not in use.

   d. All existing fences affected by the Work shall be maintained by Contractor until Final Completion of Project. Fences which interfere with construction operations shall not be relocated or dismantled until District gives written permission to do so, and the timing of fence relocation or dismantling has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed.

   e. Contractor will be responsible for maintaining security by limiting number of keys and restricting distribution to authorized personnel.

   f. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft and similar violation of security.

   g. Contractor shall provide secure lockup for stored materials and equipment which are of value or attractive for theft.

   h. Contractor shall be responsible for project security for materials, tools, equipment, supplies and completed and partially completed Work.

   i. On completion of the Work across any tract of land, Contractor shall restore all fences to their original or to a better condition, and to their original locations.

   j. **Lease Period:** Contractor shall assume responsibility of the existing lease, but note the Increment 0 Contractor has paid the cost of the fencing for the duration of this project. Any damage to the temporary fencing caused by Contractor shall be repaired to the satisfaction of the fencing company prior to the Increment 2 Contractor assuming responsibility. The Contractor shall assign the lease agreement to the District in the event the Increment 2 Contractor has not yet been hired by the District at the time of Final Completion of Increment 1.
5. **Temporary Protection of Public and Private Property**
   
a. Contractor shall protect, shore, brace, support and maintain all existing underground utilities including but not limited to the following: all pipes, conduits, drains and other underground construction uncovered or otherwise affected by construction operations.
   
b. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences and other surfaces structures affected by construction operations, together with all sod and shrubs in yards, planting areas, and medians, shall be restored to their original condition, wherever affected by construction operations. All replacements shall be made with new materials.
   
c. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or workers to or from the Work, Site or any part thereof, whether by Contractor or Subcontractors. Contractor shall be solely responsible without adjustment of the Contract Sum or the Contract Time to make satisfactory and acceptable arrangements with the District, or the agency or authority having jurisdiction over the damaged property, concerning its repair or replacement or payment of costs incurred in connection with the damage.
   
d. All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

6. **Temporary Sanitary Facilities**
   
a. Contractor shall provide and maintain temporary sanitary toilets for use of all workers throughout the course of the Work. At a minimum, sanitary facilities shall be located at the trailer site, Contractor staging area(s) and adjacent to Work areas.
   
b. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the Project, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least (1) toilet will be furnished for each (15) persons. Contractor shall enforce the use of such sanitary facilities by all personnel at the Site.
   
c. Contractor shall comply with all minimum requirements of the Contra Costa Health Department or other public agency having jurisdiction.
   
d. Maintain temporary facilities in a sanitary condition at all times during the Project.
   
e. Contractor will keep sanitary facilities free from graffiti.
   
f. Use of toilet facilities in the Work under construction shall not be permitted.
   
g. Contractor is not permitted to use existing Campus toilet facilities.
   
h. All Portable toilets shall be located within fenced areas of the Project Site
   
i. Contractor shall be responsible for providing access to the temporary toilet facilities.
7. **Temporary Barriers and Enclosures**
   a. Contractor shall provide barriers to prevent unauthorized entry to construction areas to allow for District’s use of the Site, and to protect existing facilities and adjacent improvements from damage during construction operations.
   b. Contractor shall provide barricades as required by the Contract Documents, governing agencies, and/or field conditions to protect public access pathways to existing buildings scheduled to remain open during any Phase of the Work.
   c. Contractor shall protect vehicular traffic, stored materials, Site, and existing structures from damage.
   d. Contractor shall provide and maintain temporary enclosures to prevent public entry to any construction area, and to protect all persons using other existing buildings and portions of the Site and/or Premises. Contractor shall maintain safe access to all existing facilities to remain in operation during any phase of the Work.

8. **Temporary Pollution Control**
   a. Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and other substances resulting from construction activities. No sanitary wastes shall be permitted to enter any drain or watercourses other than sanitary sewers. No sediment, debris or other substance shall be permitted to enter sanitary sewers without authorization of the receiving sanitary sewer service and all possible Best Management Practices (BMPs) shall be taken to prevent such materials from entering any drain to watercourse. Rate of discharge for storm water may be not increased by the Project during or following construction.
   b. In the event that dewatering of excavations is required, Contractor shall obtain the necessary approval and permits for discharge of the dewatering effluent from the local jurisdiction. Contractor shall be responsible for assuring that water quality of such discharge meets the appropriate permit requirements prior to any discharge.
   c. Contractor shall comply with the District’s Storm Water Pollution Prevention Plan, which is applicable for this Project.

9. **Construction Aids**
   a. Contractor shall furnish, install, maintain and operate all construction aids as required for the performance of the Work. Such construction aids include, but are not limited to, elevators and hoists, cranes, temporary enclosures, swing staging, scaffolding, and temporary stairs.

10. **Erosion Control**
    a. Contractor shall comply with the District Storm Water Pollution Prevention Plan for this Project.
    b. Contractor shall prevent soil erosion on the Site and adjacent property resulting from its construction activities to the maximum extent practical, including implementation of Best Management practices. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation or other operations that will disturb the natural protection.
c. Work shall be scheduled to expose areas subject to erosion for the shortest possible time and natural vegetation shall be preserved to the greatest extent practicable. Temporary storage, temporary construction buildings and temporary Field office buildings shall be located, and construction traffic routed to minimize erosion. Contractor shall provide temporary fast-growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.

11. Vehicular and Pedestrian Traffic Controls
   a. The Campus is an active site, with vehicular and pedestrian traffic occurring at all times of the day and all days of the week. Contractors shall coordinate with District’s Representative concerning vehicular traffic associated with the construction to minimize disruption to campus operations. Delivery trucks and large equipment shall enter the Contractors access gate and shall use the route mutually agreed upon between District and Contractor. Contractor shall provide signage directing construction and delivery traffic to this gate. Contractor shall provide information regarding sign types, size, material, text and locations to be reviewed and approved by the District Representative, and the Campus prior to installation. See Article 12 below for additional requirements, and Section 01140, Work Restrictions for additional requirements for vehicular access, traffic control and related restrictions and requirements.

   b. Contractor shall keep all required Fire District (CCCFPD) and emergency vehicle access paths free from obstruction at all times during the Project. See Drawing A1.1 for the location of the existing fire lane. The Contra Costa County Fire Protection District requires unobstructed access along this road at all times and will require keys to the Contractor’s temporary fence gates. The Contractor will not be allowed to park vehicles along the fire lane, nor be allowed to store any materials or equipment that obstructs the path of travel by the Fire District (CCCFPD), unless approved in writing by both the Fire District and the District.

   c. Northeast Entrance to Construction Site. The Northeast Entrance to the construction site is anticipated to be heavily traveled by pedestrian traffic (students and faculty) and Contractor truck traffic. Consequently, Contractor shall include automatic flashing safety warning signs on both sides of the northeast gate, pedestrian crosswalk striping and signage to provide a safe path of travel on the asphalt to and from the AA Building from the upper campus area along the existing road. Contractor shall also provide a flag person, at all times, truck traffic is entering or existing the Northeast Entrance. Contractor shall provide a plan for review and approval by the District. Contractor shall anticipate, and include in their bid, curb cuts, regrading driveways and walkways in some areas to accommodate pedestrian and vehicular traffic, including Contractor’s ingress and egress to the project site.

12. Temporary Signage
   a. Sign must be reviewed and approved by the District and the Campus prior to installation. Contractor shall use an experienced sign company to produce all temporary signs. Install signs where indicated in Contract Documents, and/or as required by the District. Unauthorized signs are not permitted.
b. Contractor shall provide temporary directional way-finding signs around the Project site to guide faculty, students, and visitors to safely navigate around construction activities at the Project site and to warn faculty, students, and visitors of potential safety hazards. Contractor shall provide an additional 5 wayfinding signs on metal posts to match existing at the Project Site, or on fencing or other structures as approved by the District. A sample way-finding sign is attached at the end of this section that provides basic dimensions, materials, backgrounds and related information. However, final proposed signs by Contractor shall be reviewed and approved by the District and Campus prior to fabrication and installation.

c. In addition too way-finding signs, additional safety sign types shall include, but not be limited to: Danger/Construction Area/No Trespassing; Caution/Demolition Work in Progress; Do Not Enter/Authorized Personnel Only; Warning/Hard Hat Required Beyond this Point; Eye Protection Required Beyond this Point; Danger/Flammable Materials/ No Smoking Within 25 Feet; Danger/Keep Gate Closed; Caution/Laser Operation in Use; Caution/Overhead Work in Progress; Power Actuated Tools in Use; All Visitors Report to Job Trailer; Eye Wash Station; Authorized Access Only; Danger/No Trespassing; Caution/Construction Traffic; Caution/Pedestrian Traffic; Building Closed, and Contractor Deliveries. All signs shall be in both English and Spanish; and shall be in a quantity required and applicable as approved by the District for Increment 1. A sample safety sign type is attached at the end of this section for general guidance, but final proposed signs by Contractor shall be reviewed and approved by the District and Campus prior to fabrication and installation.

d. Contractor shall maintain and touch-up signs, so they are legible at all times.

13. **Temporary Heat and Ventilation**

   a. Provide temporary heat as required to maintain adequate environmental conditions to facilitate progress of the work, to meet specified minimum environmental conditions for the Work and to protect materials and finishes from damage due to improper temperature and humidity conditions.

   b. Portable heaters shall be standard units complete with controls, appropriate safety features, and bear testing lab approval markings.

   c. Provide adequate forced ventilation of enclosed areas as required for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors and gases.

   d. HVAC Equipment: Unless District authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

      i) Use of gasoline-burning space heater, open-flame heater or salamander-type heating units is prohibited.

      ii) Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction and marked for intended use.
14. Temporary Lighting
   a. In addition to maintaining existing exterior light poles and lighting during the construction duration, the Contractor shall maintain in good condition the existing temporary LED lighting installed approximately every eight feet along the temporary fencing on 2”x4” wood posts secured to the temporary fencing adjacent to pedestrian paths of travel on the west, east, and south sides of the project site, plus along the northeast main entrance. Contractor shall replace any lighting that may burn out or damaged by Contractor during the contract duration.

PART 2 – PRODUCTS

2.1 MATERIALS - Not used

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL
   A. Locate Contractor facilities where they will serve Project adequately and result in minimum interference with performance of Work. Relocate and modify facilities as required by progress of the Work during entire project including all phases of project.
   B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
   C. Contractor shall verify and coordinate all relocation of facilities with the District Construction Manager.

3.2 OPERATION, TERMINATION AND REMOVAL
   A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
   B. Maintenance: Maintain facilities in good operating condition until removal.
      1. Where appropriate, maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
   C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion and acceptance by the District.
   D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use a permanent facility or no later than Final Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
      1. Materials and facilities that constitute temporary facilities are property of Contractor. District reserves the right to take possession of Project Identification signs, if any, at no cost to the District.
2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs and sidewalks at temporary entrances, as required by authorities having jurisdiction.

3. Clean and renovate permanent facilities used during construction period prior to Final Completion.

END OF SECTION 01500
SECTION 01505
CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. The District has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

B. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

1.3 WASTE MANAGEMENT GOALS FOR THE PROJECT

A. The District has established that this Project shall minimize the creation of construction and demolition waste, and shall divert a minimum of 75% of Project generated waste from landfills. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination, shall be minimized. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized. Both recycled and waste need to be logged and documented by volume and weight.

B. Diversion Goals: A minimum 75% of total Project waste shall be diverted from landfill. The following waste categories, at a minimum, shall be diverted from landfill. These materials include, but not limited to:

1. Landscape and land clearing debris (green wood materials)
2. Asphalt pavement
3. Gravel and aggregate products
4. Concrete
5. Masonry scrap and rubble (brick, concrete, masonry, stone)
6. Metals (ferrous and nonferrous)
7. Clean wood (dimensional lumber, sheet goods, millwork, scrap, pallets)
8. Plastics (films, containers, PVC products, polyethylene products)
9. Asphalt/Bituminous roofing
10. Insulation Materials
11. Glass (un-tempered)
12. Door and window assemblies
13. Carpet and carpet pad
14. Fibrous acoustic materials
15. Ceiling Tiles
16. Plumbing fixtures and equipment
17. Mechanical equipment
18. Lighting fixtures and electrical components
19. Cardboard packing and packaging
20. Furniture
21. Sheet Rock
22. Electronic Waste
23. Universal Waste
24. Paper

1.4 REFERENCES AND RESOURCES

A. This information is provided for Contractor’s convenience only, and the District does not warrant its accuracy. County specific information is available on the Contra Costa County Waste Reduction and Recycling web page at http://www.co.contra-cost.ca.us/depart/cd/recycle/index.html. Additional information may also be found at the County conservation web page at http://www.cccounty.us/index.aspx?NID=285. Refer to the Contra Costa County Builder’s Guide to Reuse & Recycling and the Contra Costa County Recycling Guide.

B. The following sources provided for references:
   1. BuildingGreen.com
   2. California Department of Resources Recycling and Recovery (also known as CalRecycle)
   3. Office of Land and Emergency Management (OLEM)

1.5 QUALITY ASSURANCE:

A. Regulatory Requirements. Comply with applicable requirements of the State of California, local ordinances and regulations concerning management of construction, clearing, and inert materials.

B. Disposal Site, Recyclers and Waste Materials Processors. Use only facilities properly permitted by the State of California, and/or by local authorities where applicable.

1.6 WASTE DIVERSION DOCUMENTATION

A. Provide the District with delivery receipts for the recovered materials and waste materials sent to the permitted recycling facilities, processing facilities, or landfill with the following information on a form to be approved by the District:
   1. Name of firm accepting the recovered materials or waste materials
   2. Specify type of facility (e.g. retail facility, recycler, processor, Class III landfill, MRF)
   3. Location of the facility
   4. Type of materials
   5. Net weights (or volume) of each type of material
   6. Date of delivery

B. Application for Progress Payments: Contractor shall submit with each Application for Progress Payment a Summary of the project waste generated. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The District
and its representatives shall not be responsible for delaying Progress Payments. With each Application for Payment, submit required Progress Documentation, including.

1. manifest,
2. weight tickets,
3. receipts,
4. and invoices specifically identifying the project and waste material.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 STORAGE AND HANDLING

A. Site Storage

1. Remove materials for recycling and recovery from the work locations to approved containers or storage area as required. Failure to remove waste or recovered materials will be considered cause for withholding payment and termination of Contract.

2. Position containers for recyclable and recoverable waste materials at a designated location on the Project Site. If materials are sorted on site, also provide a sorting area and necessary storage containers.

3. Change-out loaded containers for empty containers, as demand requires.

4. If recovered materials are stored on-site for project duration provide adequate security from pilferage.

B. Handling

1. Deposit indicated recyclable, and recoverable materials in storage areas or containers in a clean (no mud, adhesive, solvents, petroleum contamination), debris-free condition. Do not deposit contaminated materials into the containers until such time as such materials have been cleaned.

2. Insure all recovered materials are made safe for handling and storage.

3. If the contamination chemically combines with the material so that it cannot be cleaned, do not deposit into the recycle containers. In such case, request resolution by the District for disposal of the contaminated material. Directions from the District do not relieve the Contractor of responsibility for compliance with all legal and regulatory requirements for disposal, nor shall such directions cause a request for modification of the Contract.

3.2 PROJECT CONDITIONS

A. Site Condition:

1. Signs and instructions should be clear, and easy to understand. All recycling containers should be clearly labeled and lists of acceptable and unacceptable materials will be posted throughout the site. Whenever possible, they should be in multiple-languages, especially in Spanish, and in graphic symbols.

2. The Contractor shall ensure the safety of all personnel involved in the waste management process.
3. A site management plan shall be created by the Contractor including: work areas, materials processing areas, materials storage and disposal areas, worker hand-washing and changing stations, first aid and medical information.

END OF SECTION 01505
SECTION 01572

STORM WATER POLLUTION PREVENTION – SITES THAT DISTURB ONE OR MORE ACRES OF LAND SURFACE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED DOCUMENTS SPECIFIED IN OTHER SECTIONS
   A. Section 01010 – “Summary of Work”
   B. Section 01050 – “Field Engineering”
   C. Section 01140 – “Work Restrictions”
   D. See SECTION 00700 GENERAL CONDITIONS for submittal procedures
   E. NOT USED
   F. Divisions 2 through 33 Sections for Storm Water Prevention Plan requirements for the work in those sections, where applicable.

1.3 BACKGROUND
   A. Storm drains discharge directly to creeks and the Bay without treatment. Discharge of pollutants (any substance, material, or waste other than uncontaminated storm water) from this project into the storm drain system is strictly prohibited by the State Water Resources Control Board (SWRCB) Order 2009-0009 DWQ (Order) and California Regional Water Quality Control Board (RWQCB) Water Quality Control Plan San Francisco Bay Basin Plan (Basin Plan).
   B. This specification is applicable to this Project since it will disturb (e.g., digging, trenching, grading, clearing, filling) one or more acres of land surface.
   C. This specification also covers Linear Underground/Overhead Projects as regulated by the Order.
   D. Area of land surface disturbance includes but is not limited to:
      1. Clearing of the land both for access (i.e. access roads) to the site as well as preparing the site for constructing the project,
      2. Constructing access roads to the Site,
      3. Grading of the Site in total,
      4. Equipment staging area, maintenance area, and construction easement if they occur atop a soil surface which has not been included in the calculation for area of soil disturbance,
5. Material and/or soil stockpiles if atop a soil surface (not if atop an impervious surface such as concrete or asphalt),

6. Area of asphalt or concrete pavement removal if it is removed entirely to the soil surface,

7. Area that is related to demolition and removal of existing structures if that demolition and removal is to the soil surface,

8. Concrete truck clean-out areas if atop a soil surface

1.4 SUMMARY OF WORK

A. The District will provide storm water pollution prevention plan as specified and as required by appropriate regulatory authorities, complete.

B. Work In this section includes all labor, equipment, and materials necessary for the implementation, maintenance, and monitoring of the Storm Water Pollution Prevention Plan (SWPPP). Principal items of work included herein include, but are not limited to:

1. Plan administration, maintenance, and updating.

2. Placement of erosion/pollution control devices (where applicable).

3. Maintenance and monitoring of control devices.

4. Miscellaneous related work necessary for plan compliance.

5. Reports and certificates.


C. Work under all other sections of this specification shall comply with the requirements of this section. All trades working on the Project need to be aware of and in compliance with the SWPPP.

D. All materials that can potentially enter and/or pollute storm water discharges and the generation of non-storm water discharges shall be in compliance with the SWPPP. Representative materials and procedures include erosion control of construction vehicles and equipment, and general construction debris potentially entering the storm drain system’s natural flow course.

1.5 REQUIREMENTS

A. The State Water Resources Control Board uses the Storm Water Multiple Application and Report Tracking System (SMARTS) web-based application for storm water permit processing and tracking. The Contractor shall input data and upload documents required for storm water permit compliance. The program is also responsible for processing, reviewing, updating, annual reports, and maintaining the billing status of each discharger. SMARTS has been developed to provide an online tool to assist dischargers in submitting their NOIs, NECs, NOTs, and Annual Reports, as well as, viewing/printing Receipt Letters, monitoring the status of submitted documents, and viewing their application/renewal fee statements. The system will also allow the Regional Board and State Board staff to process and track the discharger submitted documents.

SMARTS is a user account and password protected system where a valid user account and password is needed to access the system. The District will prepare and submit the Permit Registration Documents. The Contractor’s QSP shall submit any required changes to the
documentation electronically to the District at least 15 working days prior to the land surface disturbance at the Site. Once the documents are approved, the Contractor shall upload the required data and documents to the SMARTS web site.

B. Contractor shall provide a Qualified Storm-Water Pollution Prevention Plan (SWPPP) Practitioner (QSP) for SWPPP development and implementation as defined in the Order (“Qualified” means the developer and/or practitioner possesses the necessary professional license, i.e. Professional Engineer, Geologist, etc. and has passed any exam(s) required to obtain the QSD/QSP certification. Refer to the specific requirements as shown within the SWRCB General Construction Permit and regulations). The QSP shall input and maintain data and documents in the SMARTS web site to ensure compliance with the state storm permit at all times.

C. Provide all material, labor, equipment, for installation, implementation, and maintenance of all surface-water pollution prevention measures. This work includes the following:

1. Furnishing, placing, and installing effective measures for preventing erosion and runoff of soil, silts, gravel, hazardous chemicals or other prohibited materials defined by the SWRCB and RWQCB.
2. Managing on-site construction materials in such a manner as to prevent said materials from contacting storm water or wash water and running off-site into the storm drain system.
3. Complying with applicable standards and regulations for water pollution and erosion control.
4. Include post-construction storm water pollution prevention structures in the storm water pollution prevention plan. Contractor shall use construction drawings as the reference for post-construction BMPs.

D. Contractor will not be required to maintain post-construction pollution prevention structures. However, Contractor is required to provide operations and maintenance documents to the District at the end of construction.

E. In this section, the term "storm drain system" shall include storm water conduits, storm drain inlets and other storm drain structures, street gutters, channels, watercourses, creeks, lakes, and the San Francisco Bay.

F. Sanitary sewer discharge regulations are intended to provide protection of the sanitary sewer system and appropriate municipal utility water pollution control plant. In this specification, “sanitary sewer” shall include any sanitary sewer manhole, clean-out, side sewer or other connection to the area wastewater treatment plant.

G. Contractor shall have storm drain pollution prevention measures in place and follow this specification anytime rain is predicted in the San Francisco Bay Area by the National Oceanic and Atmospheric Administration (NOAA) prediction for rain at or above 50%. It is the responsibility of the Contractor to be prepared for a rain event at all times required by the Order, to be aware of weather predictions, and to perform actions triggered by prediction of such rain events. The District is not responsible for informing the Contractor of rain predictions.

H. Construction site sanitary sewer blockage will likely result in a back-up and overflow to the storm drain system. The Contractor shall immediately notify the District and the Project
Inspector of record if there is a clogged sanitary sewer, and implement a plan to re-direct sewage if an overflow of the sanitary sewer will result in sewage discharge to the storm drain.

I. Contractor shall not allow any non-storm water to enter the storm drain system. Non-storm water includes domestic supply water used to wash streets, painting and drywall equipment, tools, equipment, or vehicles. Except for certain fire-line flushing and testing procedures, contact the District for discharge approval.

1.6 REGULATIONS AND STANDARDS

A. Contractor shall comply with the following applicable regulations:
   2. “San Francisco Bay Basin (Region 2) Water Quality Control Plan” (Basin Plan), California Regional Water Quality Control Board,
   3. California State Water Resources Control Board NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, Order 2009-0009 DWQ (Order) and all Amendments.

B. Contractor shall comply with industry-standard guidelines on storm drain pollution prevention, such as:
   1. “Erosion and Sediment Control Field Manual” California Regional Water Quality Control Board (RWQCB)—San Francisco Bay Region.

1.7 SUBMITTALS/DELIVERABLES

A. Some or all of the following documents may be required, depending on the site Risk calculation, monitoring requirements, construction phase storm water treatment systems, and post-construction storm water treatment structures:
   1. Storm Water Pollution Prevention Plan created by the District’s QSD
   2. Site Map
   3. Post-construction water balance form
   4. Risk Calculation
   5. Active Treatment Systems plans (based on Risk Level 1)
   6. Others as may be required by the State Water Resources Control Board Order 2009-0009 DWQ.
   7. Erosion control and water pollution control drawings based on actual construction phasing and staging locations. Contractor shall use construction drawings and requirements from the construction general permit as the reference for these drawings.

B. The Notice of Intent (NOI) and the initial PRD will be completed by the District and uploaded for approval to the SMARTS web site. Once approved, any following revisions or updates during construction will be uploaded to the SMARTS web site by the Contractors’ QSP.
C. Monitoring Reports. Monitoring sampling results reports are mandated according to the Risk Level and specific characteristics of the Site as prescribed in the Order. Contractor shall determine the required monitoring reports according to the Order and submit a list of such documents to the District and the SMARTS database. When the Project is underway, the Contractor shall produce the mandated reports electronically and submit them to the District and SMARTS electronically within 2 days of the conclusion of the rain event, and within 1 day of Numeric Action Level exceedance.

D. Annual Reports. Contractor shall determine the required information according to the Order and electronically submit the Annual Report electronically to the District and the SWRCB via SMARTS database.

E. Notice of Termination. The District, working in conjunction with the Contractor, shall determine the required information according to the Order and electronically submit Notice of Termination documents to the District and the SWRCB via the SMARTS database for each increment separately.

F. Complete and provide the Post-Construction Water Balance Performance Standard Spreadsheet as found in Appendix 2/2.1 of the Order.

1.8 ENVIRONMENTAL ENFORCEMENT

A. State, regional, and local agencies have authority to enforce, through codified regulations, any portions of this Section that if not implemented may violate applicable regulations. Agency enforcement may include but is not limited to: citations, orders to abate, bills for cleanup costs and administration, civil suits, and/or criminal charges. Contract compliance action by the District shall not be construed to void or suspend any enforcement actions by these or other regulatory agencies.

PART 2 - MATERIALS

2.1 GENERAL

A. Provide materials as required for execution of the Work required by the approved Stormwater Pollution Prevention Plan, prepared by the District’s QSD

PART 3 - EXECUTION

3.1 GENERAL

A. Report any hazardous or unknown material spills immediately to a District Representative. If a spill occurs after hours or on a weekend, contact the campus Police Department. The Contractor is responsible for ensuring that its employees and subcontractors (if any) working on site are aware of the location of the campus phone nearest the Site. The Contractor is also responsible for creating the necessary spill reports outlined in the construction general permit and must upload them to SMARTS.

B. Adhere to the requirements of the Order.

3.2 SPILL PREVENTION AND CONTROL
A. The Contractor shall keep spill cleanup materials, such as rags or absorbents, readily accessible on-site.

B. The Contractor shall immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and cleanup materials. If the waste is hazardous, the Contractor shall dispose of hazardous waste only at authorized and permitted Treatment, Storage, and Disposal Facilities, and use only licensed hazardous waste haulers to remove the waste off-site, unless quantities to be transported are below applicable threshold limits to transportation specified in State and Federal regulations.

C. The Contractor shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials.

D. The Contractor shall report any hazardous materials spill to Emergency 911.

3.3 DE-WATERING AND SEDIMENT MANAGEMENT AND NONHAZARDOUS MATERIAL/WASTE MANAGEMENT

A. If storm water or groundwater in site excavations or drilled holes, (e.g., trenches, pits, pier holes, footings), needs to be removed, it shall be made clean by filtering, settling, or other method capable of removing solids and suspended particles from this water prior to discharge to the storm drain system. The Contractor shall ensure that this discharge complies with all applicable provisions of the Basin Plan.

B. If excavation water is domestic supply water, or the water is contaminated with a hazardous substance, then the Contractor shall dispose of according to guidance from the District. For disposal authorization, the Contractor shall contact the District to determine the discharge requirement.

C. If the Contractor suspects the presence of contaminated groundwater, or domestic supply water, the Contractor shall immediately notify the District. The Contractor shall not attempt to pump out or treat any material suspected of containing a hazardous material or petroleum product.

D. Designated Area:
   1. The Contractor shall propose designated areas of the Site, for approval by the Engineer, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and away from catch basins, gutters, drainage courses, and creeks.

E. Granular Material:
   1. The Contractor shall store granular material at least ten feet away from catch basin and curb returns.
   2. The Contractor shall not allow granular material to enter the storm drains or creeks.
   3. When rain is forecast within 24 hours or during wet weather, the Engineer shall require the Contractor to cover granular material with a tarpaulin and to surround the material with sand bags.
F. Dust Control: The Contractor shall use reclaimed water if available to control dust on a daily basis or as directed by the QSP. If reclaimed water is not available, Contractor to use domestic water.

3.4 HAZARDOUS MATERIAL/WASTE MANAGEMENT
A. Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with City, State and Federal regulations.
B. Store hazardous materials and wastes in secondary containment and cover them during wet weather.
C. Follow manufacturer’s application instructions for hazardous materials and do not use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
D. Arrange for appropriate disposal of all hazardous waste.
E. See the Contract General Conditions, Article 10.4 and Division 2 specifications prepared by Terracon for more information and requirements on the removal of Hazardous Materials.

3.5 SANITARY SEWER DISCHARGE POINT IDENTIFICATION
A. If the Contractor will be disposing of water from a settling operation, or any other water approved by the District for sanitary sewer disposal, the Contractor will verify with the Buildings and Grounds Department that the manhole used for disposal is a sanitary sewer and not a storm drain. (Note: do not assume that a manhole is a sanitary sewer, even if the words “sanitary sewer” is embossed on it. Sometimes utility maps and manhole cover designations are incorrect.)

3.6 WATER MAIN AND SANITARY SEWER LINE BREAK CONTINGENCY PLAN
A. If working on or near a water main line or sanitary sewer line, the Contractor shall have a written emergency response plan that states procedures for responding to a break and release of supply water to the storm drain system. This plan shall be made part of the SWPPP. The Contractor shall meet the following requirements:
   1. Water Main Work
      a. Determine the direction of water flow if the main were to break.
      b. Build a containment berm between the work area and the storm drain inlet(s) that the water would flow into. Make the containment structure large enough to hold the water so that it can be pumped to a sanitary sewer.
      c. Build this containment structure before digging.
      d. If there is a water main break, pump the water that collects in the containment structure to a sanitary sewer.
      e. If the containment fails, prevent chlorinated water from entering the storm drain system.
      f. Put in place, before digging, sediment control structures upstream of drain inlets and at drain inlets.
2. Sanitary Sewer Line Work.
   a. Determine where the sewage will flow if the work could cause a blockage.
   b. Build a containment structure between the work area and the storm drain inlet(s) that the sewage water would flow into. Make the containment structure large enough to hold the sewage flow so that it can be pumped to a sanitary sewer.
   c. Build the containment before working on the sewer line. Put in place, before digging, solids (toilet paper, etc.) control structures upstream of drain inlets and at drain inlets.
   d. If a sewage blockage occurs, pump it to a sanitary sewer, and do not allow it to flow into the storm drain system.
   e. If the containment fails, prevent chlorinated water from entering the storm drain system by placing dechlorination sodium sulfite tablets in the sewage according to Attachment 2 of this Section.
   f. If a sewage blockage or spill occurs contact the District and Project Inspector of record immediately.

3. Excavation Work. This Paragraph applies to Contractors that excavate in the vicinity of sanitary sewer lines and cause or discover a sewage spill, leak or blockage.
   a. Immediately notify the District. The District will immediately notify Project Inspector. Include in the plan the phone numbers of the District and Project Inspector contact information.

3.7 PAVING OPERATIONS

A. Project Site Management:
   1. When rain is forecast within 24 hours or during wet weather, the District or the QSP may prevent the Contractor from paving.
   2. The QSP may direct the Contractor to protect drainage courses by using control measures, such as earth dike, straw bale, straw wattles, and sand bag, to divert runoff or trap and filter sediment.
   3. The Contractor shall place drip pans or absorbent material under paving equipment when not in use.
   4. The Contractor shall cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
   5. If the paving operation includes an on-site mixing plant, the Contractor shall comply with the County’s General Industrial Activities Storm Water Permit requirements.

B. Paving Waste Management: The Contractor shall not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. Instead, the Contractor shall, either collect the sand and return it to the stockpile, or dispose of it in a trash container. The Contractor shall not use water to wash down fresh asphalt concrete pavement.
3.8 SAW CUTTING
A. During saw cutting, the Contractor shall cover or barricade catch basins using control measures, such as filter fabric, straw bales, sand bags, and fine gravel dams, to keep slurry out of the storm drain system. When protecting a catch basin, the Contractor shall ensure that the entire opening is covered.
B. The Contractor shall vacuum saw cut slurry and pick up the waste prior to moving to the next location or at the end of each working day, whichever is sooner.
C. If saw cut slurry enters catch basins, the Contractor shall remove the slurry from the storm drain system immediately.

3.9 CONTAMINATED SOIL MANAGEMENT
A. The Contractor shall look for contaminated soil as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes, or buried debris. If the Project is not within an area of known soil contamination and no evidence of soil contamination is found, then testing of the soil shall only be required if directed by the District.
B. If the Project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations shall be tested by the District’s testing agency. The soil shall be managed as required by designated agency.

3.10 CONCRETE, GROUT, AND MORTAR WASTE MANAGEMENT
A. Material Management: The Contractor shall store concrete, grout, and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.
B. Concrete Truck/Equipment Wash Out:
   1. The Contractor shall not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks.
   2. The Contractor shall perform washout of concrete trucks or equipment off-site.

3.11 PERSONNEL TRAINING
A. The Contractor shall train its employees working on the Site on the requirements contained in this Section. The Contractor shall document this training in writing. District representatives for the Site will request to see the training materials and records at the onset of work.
B. The Contractor shall inform all subcontractors (if any) of the water pollution prevention requirements contained in this specification and include appropriate subcontract provisions to ensure that these requirements are met.

3.12 LIST OF CONTRACTORS DESIGNATED SWPPP CONTACTS AND PHONE NUMBERS
A. Provide a list of employees that will be responsible for preparing, implementing and updating the SWPPP, including, but not limited to, the name of the Contractor’s QSP.
Storm Water Pollution Prevention Plan

For:
Contra Costa College
New Science Building
2600 Mission Bell Drive
San Pablo, California 94806
APN: 416-140-021

Grading Permit No: TBD

Discharger:
Ines Zildzic
500 Court Street
Martinez, CA 94553

Contractor:
TBD

Qualified SWPPP Practitioner (QSP)
TBD (By Contractor)

Qualified SWPPP Developer (QSD)
Dayne Johnson
BKF Engineers
1646 N. California Blvd, Suite 400
Walnut Creek, California 94596
(925) 940-2200

SWPPP Preparation Date:
July 26, 2018
BKF # 20175092

Estimated Project Phased Dates:
Increment 1: From approximately February 1, 2019 through June 30, 2019

WDID No.: TBD
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SWPPP Certification Statement by Qualified SWPPP Developer (QSD)

Project Name: Contra Costa College New Science Building

City Permits: Not Applicable – No local agency permit required - Project under jurisdiction of Division of the State Architect

BKF Project Number: 20175092

“This document and all attachments were prepared under my direction or supervision as a Qualified SWPPP Developer. To the best of my knowledge and belief, the information submitted is true, accurate, and complete."

______________________________
QSD’s Signature

______________________________
July 26, 2018
Date of SWPPP Preparation

Dayne Johnson, Project Manager

______________________________
QSD’s name and title

______________________________
(925) 940-2200
Telephone Number

OSP/QSD #C61408

______________________________
QSD’s Qualifying Professional Registration

New Science Building-Increment 1
July 26, 2018
Certifications
SWPPP Certification Statement by Discharger

Discharger (Owner or Legally Responsible Person - LRP)
Certification of the Storm Water Pollution Prevention Plan

Project Name: Contra Costa College New Science Building

City Permits: Not Applicable – No local agency permit required - Project under jurisdiction of Division of the State Architect

BKF Project Number: 20175092

"I certify under penalty of law that this document and all attachments were under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Discharger (LRP)’s Signature

Date

Ines Zildzic, Authorized Representative

Discharger’s name and title

Telephone Number
Section 1  SWPPP Requirements

1.1 Introduction

This SWPPP has been prepared to comply with the California’s General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit) - State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ under NPDES No. CAS000002 and modified by 2010-0014-DWQ and 2012-006-DWQ.

The Contractor shall designate a Qualified SWPPP Practitioner (QSP) to implement the provisions of the SWPPP and the Construction Site Monitoring Program (CSMP), and shall comply with the narrative effluent standards listed below:

- Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
- Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT (“economically” Available Technology) for toxic and non-conventional pollutants and BCT (Best Conventional “pollution control” Technology) for conventional pollutants.

The contractor shall notify the Owner if the QSP is no longer associated with the work. The Owner shall be notified within 24 hours and a qualified replacement named within 72 hours. The replacement QSP shall meet the Permit certification requirements.

The QSP shall have the training described in Section 5 of this SWPPP and shall be listed on the SMARTS system prior to the start of construction. The Legally Responsible Person (LRP) shall ensure that SWPPPs for all traditional project sites are developed and amended or revised by a Qualified SWPPP Developer (QSD).

The QSP is responsible for erosion control on the site and shall supplement the erosion control plan shown on Construction Documents where the facilities shown on the Construction Documents are not preventing erosion. The QSP shall make corrective measures as soon as erosion is observed and shall report these measures to the QSD by e-mail within 24 hours.

This SWPPP has been designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled.
2. Where not otherwise required to be under a Regional Water Quality Control Board (RWQCB) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated.
3. Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard.
4. Calculations and design details as well as BMP controls for site run-on are complete and correct.
5. Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.
6. Identify post-construction BMPs, which are those measures to be installed during construction that are intended to reduce or eliminate pollutants after construction is completed. See Section 3.4 for post-construction BMPs.

7. Identify and provide methods to implement BMP inspection, visual monitoring, and Construction Site Monitoring Program (CSMP) requirements to comply with the General Permit.

### 1.2 Permit Registration Documents

The LRP must electronically file Permit Registration Documents (PRDs) prior to the commencement of construction activity. PRDs are to be submitted to the Storm Water Multiple Application and Report Tracking System (SMARTS). Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the Clean Water Act and the California Water Code. See Appendix B for submitted Permit Registration Documents.

<table>
<thead>
<tr>
<th>Name of PRD</th>
<th>Date of Preparation</th>
<th>Date of Online Submittal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice of Intent (NOI)</td>
<td>August 2018</td>
<td>August 2018</td>
</tr>
<tr>
<td>Risk Assessment</td>
<td>7/26/2018</td>
<td>August 2018</td>
</tr>
<tr>
<td>Site Map</td>
<td>7/26/2018</td>
<td>August 2018</td>
</tr>
<tr>
<td>SWPPP</td>
<td>7/26/2018</td>
<td>August 2018</td>
</tr>
<tr>
<td>Annual Fee</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Signed Certification Statement</td>
<td>August 2018</td>
<td>August 2018</td>
</tr>
</tbody>
</table>

### 1.3 SWPPP Availability and Implementation

The QSP is responsible for making available the original SWPPP at the construction site during working hours while construction is occurring. The SWPPP shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle, and is not currently at the construction site, current copies of the BMPs and map/drawing shall be left with the field crew, and the original SWPPP shall be made available via a request by radio/telephone.

This SWPPP shall be implemented concurrently with the start of ground disturbing activities and remain in effect until a Notice of Termination for the site is approved by the Regional Water Quality Control Board.

### 1.4 SWPPP Amendments

All amendments proposed or implemented to the SWPPP shall be approved and signed by the QSD. Amendments are to be dated, included in the SWPPP in Appendix C, and logged in Appendix C.

### 1.5 Retention of Records

The QSP is required to maintain a paper or electronic copy of all required records throughout construction, and provide copies of these reports to the LRP when requested during the job and at the
end of the job. The LRP shall retain a copy of all required records for three years from the date generated or the date submitted to the State Water Board or Regional Water Boards, whichever is the latter. A copy of these records must be available at the construction site and within Appendix O of this SWPPP until construction is complete. The LRP shall furnish the RWQCB, SWRCB, or US Environmental Protection Agency (EPA) any requested information to determine compliance with this General Permit within a reasonable time.

1.6 Required Non-Compliance Reporting

The QSP is required to properly document reportable discharges or other violations of the General Permit. Please see Section 2.3 for potential impacts to SWPPP requirements. As discussed in the CSMP in Appendix S, the QSP shall submit all sampling reports and all field or laboratory analytical data electronically using the SMARTS system, as part of the Annual Report, including but not limited to the following:

- Any discharge violations or to comply with RWQCB enforcement actions.
- Discharges which contain a hazardous substance in excess of reportable quantities established in 40 CFR §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

Documentation of all reportable exceedances shall be included in this SWPPP under Appendix D.

1.7 Annual Report

The QSP is responsible for preparing and electronically submitting an Annual Report, which must be certified by the LRP no later than September 1st of each year. Reporting requirements are identified in Section XVI of the General Permit and include (but are not limited to) providing a summary of:

1) Sampling and analysis results including laboratory reports, analytical methods and reporting limits and chain of custody forms (if applicable to this Risk Level 1 site);
2) Corrective actions and compliance activities, including those not implemented;
3) Violations of the General Permit;
4) Date, time, place, and name(s) of the inspector(s) for all sampling, inspections, and field measurement activities;
5) Visual observation and sample collection exception records; and
6) Training documentation of all personnel responsible for General Permit compliance activities.

The LRP is responsible for certifying the Annual Report via SMARTS, and is required to retain paper copies of all submitted documents for a period of 3 years after the Notice of Termination is accepted.

1.8 Changes to Permit Coverage

The Construction General Permit allows a permittee to reduce or increase the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is sold to a different entity; or when new acreage is added to the project. To change the acreage covered, the permittee must electronically file modifications to PRDs (revised NOI, site map, SWPPP revisions as appropriate, and certification that new landowners have been notified of applicable requirements to obtain permit coverage, including name, address, phone number, and e-mail address of new landowners) in accordance with requirements of the General Permit within 30 days of a reduction or increase in total disturbed area.

Include any updates to PRDs submitted via SMARTS in Appendix E. Document any related SWPPP revisions/amendments in Appendix C.
1.9 Construction Site Monitoring Program

The QSP is to implement the Construction Site Monitoring Program (CSMP) in accordance with the requirements found in Appendix A. The CSMP is included in this SWPPP in Appendix N.

1.10 Notice of Termination

To terminate coverage under the General Permit, a Notice of Termination (NOT) must be submitted electronically via SMARTS. A “final site map” and photos are required to be submitted with the NOT. Filing a NOT certifies that all General Permit requirements have been met. The NOT is submitted when the construction project is complete, and within 90 days of meeting all General Permit requirements for termination and final stabilization including:

- The site will not pose any additional sediment discharge risk than it did prior to construction activity.
- All construction related equipment, materials and any temporary BMPs no longer needed are removed from the site.
- Post-construction storm water management measures are installed, and a long-term maintenance plan that is designed for a minimum of five years has been developed.

The NOT must demonstrate through photos that the project meets all of the requirements of Section II.D.1 of the General Permit by the 70% final cover method (no computational proof required)

1.11 Contractor Activities Location Map

Locations of storage areas for waste, vehicles, service, loading/unloading of materials, access (entrance/exits) points to construction site, fueling, and water storage, water transfer for dust control and compaction practices shall be shown on this map and updated regularly by the QSP. All updates of the Contractor Activities Location Map shall be included in Appendix S.

1.12 Other Plans/Permits

The following list indicates other local, state, and federal permits that are known to be associated with this project, as well as other pertinent reports and investigations. Information regarding these permits, approvals, reports or investigations may be obtained through the owner of the project and may be included in Appendix P ~ Agency Approvals and Miscellaneous Documents.

- “Geotechnical Engineering Investigation Report, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California.” Kleinfelder Project No.: 20181569.001A, Dated: October 17, 2017
- “Contra Costa College New Science Building” plans, prepared by Smithgroup JJR, BKF Engineers, RHAA, Integral Group, and Teecom, dated March 30, 2018, revised April 20, 2018
Section 2 Project Information

2.1 Project and Site Description

The Contra Costa College New Science Building project is located at 2600 Mission Bell Drive in San Pablo, California. The site is accessible from Campus Drive. The 1.56 acre site is contained within the Contra Costa College property. The New Science Building project involves three incements. Increment 1 will involve site grading and the installation of site utilities.

Initial construction activities during Increment 1 will include:
- Grading
- Utility Installation

To reduce pollutant run-off, construction practices may include, but are not held or limited to:
- Soil Stabilization Practices
- Practices to Reduce Tracking Sediment Onto Public and Private Roads
- Practices to Minimize Wind Erosion
- Practices to Minimize Contact with Storm Water
- Pre-Construction Control Practices

Site improvements will include:
- Fine Grading

The rainy season in this area is October 15th through April 15th. However, rainfall does occur outside this period and BMPs are required year round.

Site elevations range from approximately 94 at north draining south to an elevation of approximately 68. Existing overland release paths across the site will be maintained to accommodate run-off from upstream properties. The proposed developed project run-off will be detained and treated on site per City of San Pablo and Contra Costa County requirements before discharging to the public storm drain system. Run-on from off-site tributary areas enters the site from the street and neighboring open space to the north, and flows overland into the adjacent storm drain system within the limits of the property. Run-off will be collected through a network of area drains, subdrains, and pipes throughout the site and directed to the existing storm drain system on the property.

2.2 Site Data / Storm Water Run-On from Off-Site Areas

Site Data

Total Site Area = 68,040 sf = 1.56 acres

Existing / Pre-Construction Site Conditions

Impervious Area Percentage = 0%
Impervious Site Area = 0 sf = 0 acres
Storm Water Pollution Prevention Plan (SWPPP)
Contra Costa College New Science Building BKF# 20175092

Impervious Site Area Weighted Run-off Coefficient = 0.95
Pervious Site Area = \(68,040\) sf = \(1.56\) acres
Pervious Site Area Weighted Run-off Coefficient = 0.50
Total Existing Site Area Weighted Run-off Coefficient = 0.50

Proposed / Post-Construction Site Conditions
Impervious Area Percentage = 0%
Impervious Site Area = 0 sf = 0 acres
Impervious Site Area Weighted Run-off Coefficient = 0.95
Pervious Site Area = \(68,040\) sf = \(1.56\) acres
Pervious Site Area Weighted Run-off Coefficient = 0.50
Total Proposed Site Area Weighted Run-off Coefficient = 0.95

Run-On Discharges from Off-Site Areas
(Existing Conditions - 100 Year Event)
Area Run-off Coefficient = 0.50
Area Rainfall Intensity = 4.42 in/hr
Drainage Area = 1.56 acres
Site Area Run-on Discharge = 3.45 cfs

Run-on from off-site tributary areas enters the site from the north and flows overland to the south. The site geometry and topography this flow can be accommodated in overland swales at depths less than 0.3’ near proposed structures. The flows across the site are incorporated into the site grading and drainage design. The QSP is responsible for maintaining a non-erosive channel lining for the swales that convey off-site flows through the site.

2.3 Findings of the Construction Site Sediment and Receiving Water Risk Determination
The risk level for this project is 1.

The site’s RUSLE factors were determined as follows:
- Rainfall/Runoff (R) - EPA On-Line Rainfall Erosivity Factor Calculator
- Soil Erodibility (K) - GIS Map
- Length and Steepness of Slope (LS) - Site Specific Option

Since this is a Risk Level 1 site, NALs and NELs are not applicable.

All risk determination calculations are included in the SWPPP as a part of Appendix B.

As described above in Section 1.6 “Required Non-Compliance Reporting”, the QSP is required to properly document reportable discharges or other violations of the General Permit. Exceedances and violations may result in the project being subject to the more stringent monitoring and reporting requirements applicable to a Risk Level 2 or 3 project. This would require a major amendment to the project SWPPP, including an expanded CSMP.
2.4 Construction Schedule

Listed below are the identified phases of construction and their proposed start dates:

Increment 1 - From approximately February 1, 2019 through June 30, 2019.

This schedule is subject to change depending on permitting processes, phasing, and conditions encountered during construction and weather conditions. The QSP is required to keep an updated and detailed schedule in Appendix F.

2.5 Potential Construction Site Pollutant Sources

The following is a list of example construction materials and activities that have the potential to contribute pollutants, other than sediment, to storm water run-off:

- Vehicle fluids, including oil, grease, petroleum, and coolants
- Asphaltic emulsions associated with asphalt concrete paving operations
- Cement materials associated with Portland cement concrete (PCC) paving operations, drainage structures, and median barriers
- Base and subbase material
- Joint and curing compounds
- Concrete curing compounds
- Paints
- Solvents, thinners, and acids
- Sandblasting materials
- Raw landscaping materials and wastes (topsoil, plant materials, herbicides, fertilizers, mulch, pesticides)
- BMP materials (sandbags)
- Treated lumber (materials and waste)
- PCC rubble
- General litter

Construction activities that have the potential to contribute sediment to storm water discharges include:

- Clear and grub operations
- Grading operations
- Soil import and export operations
- Utility excavation operations
- Sandblasting operations
- Landscaping operations
- Painting
The QSP is required to maintain an ongoing and active list of potential pollutant sources, construction activities, and identify areas of the site where additional BMPs are necessary to reduce or prevent pollutants in discharges. This “SWPPP Construction Site Pollutant Checklist” must be consistent with the Material Safety Data Sheets (MSDS) for the project. It is recommended that the SWPPP and MSDS be kept together at the site office, together with the Stormwater Management Plan.

A template for the SWPPP Construction Site Pollutant Checklist is provided in Appendix G. In completing the list, the QSP, contractor, and subcontractors shall address at a minimum:

1) The quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

2) The degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

3) In describing method of control and protection, Contractor shall consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

2.6 Identification of Non-Storm Water Discharges

Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Any release of contained stormwater that is not concurrent with rainfall is considered as a non-stormwater discharge (including pumping from excavations). Non-storm water discharges may contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction, must be addressed through structural as well as non-structural BMPs.

The QSD is required to identify all potential non-storm water discharges within the project. All project activities shall be examined to determine what discharges will be generated or may be required in order to complete each activity, including mobile-type operations.

Examples of common construction activities that may result in non-storm water discharges on a project:

- Vehicle and equipment cleaning, fueling and maintenance
- Surface water diversions,
- Dewatering operations
- Saw-cutting
- Drilling
- Boring
- AC and PCC grinding
- AC and PCC recycling
- Concrete mixing
- Crushing
- Bridge cleaning
- Blasting
- Painting
• Hydro-demolition
• Mortar mixing
• Air-blown mortar
Section 3  Best Management Practices

3.1 BMP Implementation

The Contractor is required to install BMPs as shown on the Erosion Control Plans included in Appendix R and implement/install the BMPs listed in this section of the SWPPP. The Contractor shall modify the Erosion Control Plan to reflect the phase of construction and the weather conditions. The Contractor shall install BMPs before the site is disturbed (e.g., to provide protection during grading operations or to reduce or minimize pollution from historic areas of contamination during construction). The erosion control plan shall be implemented year round.

A BMP Consideration Checklist has been provided in Appendix H, followed by the Fact Sheets for the BMPs that are recommended for this project, which are included in the following sections. BMPs will be installed in a sequence to follow the progress of the grading and construction. As each area of the site is disturbed, BMPs will be installed to conform to the specific site requirements. In general, the project will have limited areas exposed at any time. Where practical, grading will occur during dry periods. Plantings shall be installed with sufficient time before rainfall begins to stabilize the soil. If this is not practical, physical means such as erosion blankets shall be used or sediment trapping devices shall be installed.

3.2 Erosion and Sediment Control

Identified in this section is a system of erosion and sediment control BMPs that have been found to be effective. As a result, there is a reduction of sediment related pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the BAT/BCT standard. This General Permit additionally requires that SWPPPs be designed to address post-construction BMPs installed to reduce pollutants after construction.

3.2.1 Erosion Control

Erosion control is any source control practice that protects the soil surface and prevents soil particles from being detached by rainfall, flowing water, or wind. Erosion control consists of using project scheduling and planning to reduce soil or vegetation disturbance (particularly during the rainy season), preventing or reducing erosion potential by diverting or controlling drainage, as well as preparing and stabilizing disturbed soil areas. It should be noted that several additional BMPs, such as Check Dams (SE-4) and Fiber Rolls (SE-5) can be used for erosion control, by reducing slope length or steepness, as well as for sediment control (i.e., perimeter control or retention of sediment).

All inactive soil disturbed areas on the project site, and most active areas prior to the onset of rain, must be protected from erosion. Soil disturbed areas may include relatively flat areas as well as slopes. Typically, steep slopes and large exposed areas require the most robust erosion controls. Flatter slopes and smaller areas still require protection, but less costly materials may be appropriate for these areas, allowing savings to be directed to the more robust BMPs for steep slopes and large exposed areas. To be effective, erosion control BMPs for slopes at disturbed areas must be protected from concentrated flows.

Some erosion control BMPs can be used effectively to temporarily prevent erosion by concentrated flows. These BMPs, used alone or in combination, prevent erosion by intercepting, diverting, conveying, and discharging concentrated flows in a manner that prevents soil detachment and transport. Temporary concentrated flow conveyance controls, such as Earth Dikes and Drainage Swales (EC-9) and Velocity Dissipation Devices (EC-10) may be required to direct run-on around or through the project in a non-erodible fashion.
The Contractor will implement the following practices for effective erosion control during construction:

- Provide effective soil cover for inactive areas and all finished slopes, open space, utility backfill, and completed lots. Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
- Limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.
- Implement/install the erosion control BMPs listed below.

### Erosion Control BMPs

The California Stormwater BMP Handbook - Construction contains fact sheets for erosion control BMPs applicable to a wide range of project types and potential construction activities. The table below indicates the erosion control BMPs that are required, because they are certain to be needed, and those that should be implemented as needed. As indicated in the footnotes under “Required”, some BMPs serve similar purposes and shall be implemented/installed in the combination deemed most suitable for the site conditions by the QSP.

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<thead>
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<th>BMP#</th>
<th>BMP Name</th>
<th>Required</th>
<th>Implement as Needed</th>
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</thead>
<tbody>
<tr>
<td>EC-1</td>
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<tr>
<td>EC-2</td>
<td>Preservation of Existing Vegetation</td>
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<tr>
<td>EC-3</td>
<td>Hydraulic Mulch</td>
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<tr>
<td>EC-5</td>
<td>Soil Binders</td>
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<td>EC-6</td>
<td>Straw Mulch</td>
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<td>Earth Dikes and Drainage Swales</td>
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<tr>
<td>EC-10</td>
<td>Velocity Dissipation Devices</td>
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<td></td>
</tr>
<tr>
<td>EC-15</td>
<td>Soil Preparation / Roughening</td>
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</tr>
<tr>
<td>EC-16</td>
<td>Non-Vegetative Stabilization</td>
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</tr>
</tbody>
</table>

1) BMP fact sheet updated in 2009
2) New BMP fact sheet added in 2009

Appendix H includes copies of the fact sheets of all the BMPs selected for this project.

Temporary Erosion Control BMPs as shown in the above table will be implemented per the SWPPP.

**EC-1 Scheduling**

The project is scheduled to complete tasks requiring soil disturbance by June 10, 2020. Much of the work during the winter will be on vertical construction.

**EC-2 Preservation of Existing Vegetation**

Areas of protected vegetation are identified on the plans and will be protected using safety fence.
EC-3 Temporary Hydraulic Mulch (Bonded Stabilized Fiber Matrix)

Hydraulic Mulch consists of various types of fibrous materials mixed with water and sprayed onto the soil surface in slurry form to provide a layer of temporary protection from wind and water erosion. Temporary hydraulic mulch will be used to stabilize disturbed soils.

- Where feasible, it is preferable to prepare soil surfaces prior to application by roughening embankments and fill areas with a crimping or punching type roller or by track walking.
- Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.
- Where possible apply hydraulic mulch from multiple directions to adequately cover the soil. Application from a single direction can result in shadowing, uneven coverage and failure of the BMP.
- Use a mulch with a tackifier component.

EC-5, EC-6 and EC-8 Temporary Erosion Control (various)

Temporary erosion control (various) may be used.

EC-9 Earth Dikes

No earth dikes are necessary on the project.

EC-10 Outlet Protection

There are no outlets on the project sites. EC-10 is not necessary

EC-15 Slope Roughening

There are no locations on the project where slope roughening is necessary.

EC-16 Non-vegetative Stabilization Streambank Stabilization

There are no locations on the project where non-vegetative stabilization is necessary.
3.2.2 Sediment Control

Sediment control is any practice that traps soil particles after they have been detached and moved by rain, flowing water, or wind. Sediment control measures are usually passive systems that rely on filtering or settling the particles out of the water or wind that is transporting them.

Sediment control BMPs include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped. Sediment control practices can consist of installing linear sediment barriers (such as silt fences, gravel bag berms, or fiber rolls); and constructing check dams, a sediment trap or sediment basin to retain sediment on site. Linear sediment barriers are typically placed below the toe of exposed and erodible slopes, down-slope of exposed soil areas, around soil stockpiles, and at other appropriate locations along the site perimeter. Some BMPs are dual-purpose, such as Fiber Rolls and Check Dams. By reducing effective slope length or steepness, these BMPs reduce erosion as well as promote sedimentation.

Sediment control BMPs are most effective when used in conjunction with erosion control BMPs. The combination of erosion control and sediment control is the most effective means to prevent sediment from leaving the project site and potentially entering storm drains or receiving waters. This General Permit requires that sediment controls be established and maintained at all sites, and requires the combined use with erosion controls to protect disturbed areas at most sites.

The QSP shall assure that the following practices for effective sediment control are implemented during construction:

- Effective perimeter controls are established and maintained to sufficiently control sediment discharges from the site.
- Streets are cleaned as needed to prevent unauthorized non-storm water discharges from reaching surface water or Municipal Separate Storm Sewer Systems (MS4 drainage systems).
- All run-on, all run-off within the site and all run-off that discharges off the site are effectively managed. Run-on from off-site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.
- Erodible landscape material is not applied at least 2 days prior to forecast rain or during rain events.
- Erodible landscape materials are stacked on pallets and covered when they are not being used or applied.
- Erodible landscape material is applied at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.
- Sediment control BMPs listed in the following section are implemented and installed.

Sediment Control BMPs

The California Stormwater BMP Handbook - Construction contains fact sheets for sediment control BMPs applicable to a wide range of project types and potential construction activities. The table below indicates the sediment control BMPs that are required, because they are certain to be needed, and those that should be implemented as needed. As indicated in the footnotes under “Required”, some BMPs serve similar purposes and shall be implemented/installed in the combination deemed most suitable for the site conditions by the QSP.
<table>
<thead>
<tr>
<th>BMP#</th>
<th>BMP Name</th>
<th>Required</th>
<th>Implement as Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-1</td>
<td>Silt Fence</td>
<td>X³</td>
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<tr>
<td>SE-3</td>
<td>Sediment Trap</td>
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<tr>
<td>SE-5</td>
<td>Fiber Rolls</td>
<td>X³</td>
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<tr>
<td>SE-6</td>
<td>Gravel Bag Berm</td>
<td>X³</td>
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</tr>
<tr>
<td>SE-7</td>
<td>Street Sweeping and Vacuuming</td>
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<td>X</td>
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<td>SE-8</td>
<td>Sand Bag Barrier</td>
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<td>Storm Drain Inlet Protection</td>
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</tr>
<tr>
<td>SE-12</td>
<td>Temporary Silt Dike</td>
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<td>SE-14</td>
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</tbody>
</table>

1) BMP fact sheet updated in 2009  
2) New BMP fact sheet added in 2009  
3) Linear sediment barriers (must use at least one of these)

Appendix H includes copies of the fact sheets of all the BMPs selected for this project.

Temporary Sediment Control BMPs as shown in the above table will be implemented per the WPCDs.

**SE-1 Temporary Silt Fence**
A silt fence is a temporary sediment barrier consisting of woven geotextile stretched across and attached to supporting posts, trenched-in, and, depending upon the strength of fabric used, supported with plastic or wire mesh fence. Silt fences trap sediment by intercepting and detaining small amounts of sediment-laden runoff from disturbed areas in order to promote sedimentation behind the fence. Silt fences are proposed on top of slopes to reduce the potential for wind to carry sediment from disturbed soils. Silt fences shall remain in place until the disturbed area is permanently stabilized, after which, the silt fence shall be removed and properly disposed.

**SE-3 Temporary Sediment Trap**
Temporary sediment traps are not necessary because storage behind SE-5 and SE-10 will be adequate to retain sediments.

**SE-5 Temporary Fiber Rolls**
A fiber roll consists of straw, coir, or other biodegradable materials bound into a tight tubular roll wrapped by netting, which can be photodegradable or natural. Additionally, gravel core fiber rolls are available, which contain an imbedded ballast material such as gravel or sand for additional weight when staking the rolls are not feasible (such as use as inlet protection). Fiber rolls are proposed at the toe and on the face of slopes along the contours. Fiber rolls intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established. Install fiber rolls as noted on plans.
SE-6 Temporary Gravel Bag Berm

A gravel bag berm is a series of gravel-filled bags placed on a level contour to intercept sheet flows. Gravel bags pond sheet flow runoff, allowing sediment to settle out, and release runoff slowly as sheet flow, preventing erosion. When appropriately placed, a gravel bag berm intercepts and slows sheet flow runoff, causing temporary ponding. The temporary ponding allows sediment to settle. The open graded gravel in the bags is porous, which allows the ponded runoff to flow slowly through the bags, releasing the runoff as sheet flows. Gravel bag berms also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets, which erode rills, and ultimately gullies, into disturbed, sloped soils. Gravel bag berms are similar to sand bag barriers, but are more porous. Generally, gravel bag berms should be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control.

**Design and Layout**

- Locate gravel bag berms on level contours.
- When used for slope interruption, the following slope/sheet flow length combinations apply:
  - Slope inclination of 4:1 (H:V) or flatter: Gravel bags should be placed at a maximum interval of 20 ft, with the first row near the slope toe.
  - Slope inclination between 4:1 and 2:1 (H:V): Gravel bags should be placed at a maximum interval of 15 ft. (a closer spacing is more effective), with the first row near the slope toe. Slope inclination 2:1 (H:V) or greater: Gravel bags should be placed at a maximum interval of 10 ft. (a closer spacing is more effective), with the first row near the slope toe.
- Turn the ends of the gravel bag barriers up slope to prevent runoff from going around the berm.
- Allow sufficient space up slope from the gravel bag berm to allow ponding, and to provide room for sediment storage.
- For installation near the toe of the slope, gravel bag barriers should be set back from the slope toe to facilitate cleaning. Where specific site conditions do not allow for a set-back, the gravel bag barrier may be constructed on the toe of the slope. To prevent flows behind the barrier, bags can be placed perpendicular to a berm to serve as cross barriers.
- Drainage area should not exceed 5 acres.
- In Non-Traffic Areas:
  - Height = 18 in. maximum
  - Top width = 24 in. minimum for three or more layer construction
  - Top width = 12 in. minimum for one or two layer construction
  - Side slopes = 2:1 (H:V) or flatter
- In Construction Traffic Areas:
  - Height = 12 in. maximum
  - Top width = 24 in. minimum for three or more layer construction.
  - Top width = 12 in. minimum for one or two layer construction.
  - Side slopes = 2:1 (H:V) or flatter.
- Butt ends of bags tightly.
- On multiple row, or multiple layer construction, overlap butt joints of adjacent row and row beneath.
- Use a pyramid approach when stacking bags.
SE-7 Street Sweeping
Power Brooms will be used for street sweeping. Sweeping will occur daily in areas with construction activity where needed.

SE-8 Temporary Sandbag Barrier
A sandbag barrier is a series of sand-filled bags placed on a level contour to intercept or to divert sheet flows. Sandbag barriers placed on a level contour pond sheet flow runoff, allowing sediment to settle out. When appropriately placed, a sandbag barrier intercepts and slows sheet flow runoff, causing temporary ponding. The temporary ponding allows sediment to settle. Sand-filled bags have limited porosity, which is further limited as the fine sand tends to quickly plug with sediment, limiting or completely blocking the rate of flow through the barrier. If a porous barrier is desired, consider SE-1, Silt Fence, SE-5, Fiber Rolls, SE-6, Gravel Bag Berms or SE-14, Biofilter Bags. Sandbag barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets which erode rills, and ultimately gullies, into disturbed, sloped soils. Sandbag barriers are similar to gravel bag berms, but less porous. Generally, sandbag barriers should be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control.

Design and Layout

- Locate sandbag barriers on a level contour.
- When used for slope interruption, the following slope/sheet flow length combinations apply:
  - Slope inclination of 4:1 (H:V) or flatter: Sandbags should be placed at a maximum interval of 20 ft, with the first row near the slope toe.
  - Slope inclination between 4:1 and 2:1 (H:V): Sandbags should be placed at a maximum interval of 15 ft. (a closer spacing is more effective), with the first row near the slope toe.
  - Slope inclination 2:1 (H:V) or greater: Sandbags should be placed at a maximum interval of 10 ft. (a closer spacing is more effective), with the first row near the slope toe.
- Turn the ends of the sandbag barrier up slope to prevent runoff from going around the barrier.
- Allow sufficient space up slope from the barrier to allow ponding, and to provide room for sediment storage.
- For installation near the toe of the slope, sand bag barriers should be set back from the slope toe to facilitate cleaning. Where specific site conditions do not allow for a set-back, the sand bag barrier may be constructed on the toe of the slope. To prevent flows behind the barrier, bags can be placed perpendicular to a berm to serve as cross barriers.
- Drainage area should not exceed 5 acres.
- Stack sandbags at least three bags high.
- Butt ends of bags tightly.
- Overlap butt joints of row beneath with each successive row.
- Use a pyramid approach when stacking bags.
- In non-traffic areas
  - Height = 18 in. maximum
  - Top width = 24 in. minimum for three or more layer construction
  - Side slope = 2:1 (H:V) or flatter
- In construction traffic areas
  - Height = 12 in. maximum
- Top width = 24 in. minimum for three or more layer construction.
- Side slopes = 2:1 (H:V) or flatter.

SE-10 Temporary Drain Inlet Protection
Storm drain inlet protection consisting of a fiber roll around a storm drain, drop inlet, or curb inlet will be used. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

SE-12, 13, 14 Temporary Silt Dike, Compost Socks and Berm and Biofilter Bags
Measures not proposed. Storm drain inlet protection and fiber rolls will be used.

3.2.3 Tracking Control
Tracking control consists of preventing or reducing the tracking of sediment off-site by vehicles leaving the construction area. Street Sweeping and Vacuuming (SE-7) is also a tracking control practice. All sites must have a stabilized construction entrance and implement controls to prevent off-site tracking of sediment or other loose construction-related materials. These controls should be inspected daily.

Attention to control of tracking sediment off site is essential, as dirty streets and roads near a construction site create a nuisance to the public and can generate complaints to elected officials and regulators. These complaints often result in immediate inspections and regulatory actions.

The Contractor will implement the following practices for effective sediment tracking control during construction:
- Stabilize all construction entrances and exits to prevent the off-site tracking of loose construction/landscape materials.
- Implement/install the tracking control BMPs listed below.

Tracking Control BMPs
The California Stormwater BMP Handbook - Construction contains fact sheets for tracking control BMPs. The table below indicates the tracking control BMPs that are required, because they are certain to be needed, and those that should be implemented as needed.

<table>
<thead>
<tr>
<th>BMP#</th>
<th>BMP Name</th>
<th>Required</th>
<th>Implement as Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-1</td>
<td>Stabilized Construction Entrance/Exit</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TC-2</td>
<td>Stabilized Construction Roadway</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TC-3</td>
<td>Entrance/Outlet Tire Wash</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Appendix H includes copies of the fact sheets of all the BMPs selected for this project. Temporary Tracking Control BMP as shown in the above table will be implemented per the WPCDs.

SC-7 Street Sweeping
To the extent feasible, parking will be on stabilized surfaces. To the extent feasible, work will be conducted from paved surfaces. Prior to being driven from a disturbed area to a paved surface, wheels
will be checked and sediment will be knocked from the tires. Powerbrooms will be used to collect any sediment that is tracked onto the roadway.

**TC-1 Temporary Construction Exit**
A construction exit will be provided as shown on plans.

**TC-2 Stabilized Construction Roadway**
No extended construction roadways are proposed.

**TC-3 Temporary Entrance/Outlet Tire Wash**
Limited access to disturbed soils is proposed. No tire wash facilities are warranted based on construction scheduling and size of disturbed areas. Sediment will knocked from tire as warranted by site conditions.

### 3.2.4 Wind Erosion Control

Wind erosion control consists of applying water or other dust palliatives to prevent or minimize dust nuisance.

Other BMPs that control wind erosion are EC-1 through EC-8, and EC-14 through EC-16. Be advised that some of the dust palliatives/chemical dust suppression agents may have potential water quality impacts

The Contractor will implement the following practices for effective wind erosion control during construction:
- Good housekeeping to prevent wind erosion of materials on site.
- Implement/install the wind erosion control BMP listed below.

**Wind Erosion Control BMP**
The California Stormwater BMP Handbook - Construction contains a fact sheet for wind erosion control BMPs. As indicated in the table below, the wind erosion control BMPs are required.

<table>
<thead>
<tr>
<th>BMP#</th>
<th>BMP Name</th>
<th>Required</th>
<th>Implement as Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE-1</td>
<td>Wind Erosion Control ¹</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1)</td>
<td>BPM fact sheet updated in 2009</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix H includes copies of the fact sheets of all the BMPs selected for this project.

Wind Erosion Control (WE-1) will be implemented as needed.

**WE-1 Wind Erosion Control**
Wind erosion control will consist of wetting soil to compact in weight of soil. All soil will be off-hauled to Contractor’s Yard. No overnight stockpile will be proposed. Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching can be
employed for areas of occasional or no construction traffic. Preventive measures include minimizing surface areas to be disturbed, limiting onsite vehicle traffic to 15 mph or less, and controlling the number and activity of vehicles on a site at any given time. Chemical dust uppressants include: mulch and fiber based dust palliatives (e.g. paper mulch with gypsum binder), salts and brines (e.g. calcium chloride, magnesium chloride), nonpetroleum based organics (e.g. vegetable oil, lignosulfonate), petroleum based organics (e.g. asphalt emulsion, dust oils, petroleum resins), synthetic polymers (e.g. polyvinyl acetate, vinyls, acrylic), clay additives (e.g. bentonite, montimorillonite) and electrochemical products (e.g. enzymes, ionic products).

Additional preventive measures include:

- Schedule construction activities to minimize exposed area (see EC-1, Scheduling).
- Quickly treat exposed soils using water, mulching, chemical dust suppressants, or stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Restrict construction traffic to stabilized roadways within the project site, as practicable.
- Water shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment shall be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit shall be available at all times to apply water or dust palliative to the project.
- If reclaimed waste water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality Control Board (RWQCB) requirements. Non-potable water shall not be conveyed in tanks or drain pipes that will be used to convey potable water and there shall be no connection between potable and non-potable supplies. Non-potable tanks, pipes, and other conveyances shall be marked, “NON-POTABLE WATER - DO NOT DRINK.”
- Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul trucks transporting materials that contribute to dust.
- Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances and wheel wash areas.
- Stabilize inactive areas of construction sites using temporary vegetation or chemical stabilization methods.
- For chemical stabilization, there are many products available for chemically stabilizing gravel roadways and stockpiles. If chemical stabilization is used, the chemicals shall not create any adverse effects on stormwater, plant life, or groundwater and shall meet all applicable regulatory requirements.

### 3.3 Non-Storm Water and Materials Management

#### 3.3.1 Non-Storm Water Management

The discharge of materials other than storm water and authorized non-storm water discharges is prohibited by NPDES regulations as well as other local codes and ordinances. It is recognized that certain authorized non-storm water discharges may be necessary for the completion of construction projects. Non-storm water management BMPs are source control BMPs that prevent pollution by
limiting or reducing potential pollutants at their source or eliminating off-site discharge. These practices involve day-to-day operations of the construction site and are usually under the control of the contractor. These BMPs are also referred to as “good housekeeping practices”, which involve keeping a clean, orderly construction site. This project will incorporate “good housekeeping practices”.

The Contractor will implement the following practices for effective non-storm water management source control during construction:

- All stockpiled materials that are not actively being used shall be covered and surrounded by a berm at all times during the project. Stockpiled materials include soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.
- All chemicals shall be sheltered and stored in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
- Construction materials not designated for outdoor use shall be stored in a manner that minimizes exposure to rain.
- Contractor shall implement BMPs to prevent the off-site tracking of loose construction/landscape materials.
- Contractor shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.
- Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.
- Place all equipment or vehicles which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.
- Clean leaks immediately and disposing of leaked materials properly.
- Wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.
- Implement/install the non-storm water management source control BMPs listed below.

### Non-Storm Water Management BMPs

The California Stormwater BMP Handbook - Construction contains fact sheets for non-storm water management source control BMPs applicable to a wide range of project types and potential construction activities. The table below indicates the non-storm water management source control BMPs that are required, because they are certain to be needed, and those that should be implemented as needed.

<table>
<thead>
<tr>
<th>BMP#</th>
<th>BMP Name</th>
<th>Required</th>
<th>Implement as Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-1</td>
<td>Water Conservation Practices</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-2</td>
<td>Dewatering Operations</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-3</td>
<td>Paving and Grinding Operations</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-6</td>
<td>Illicit Connection/Discharge</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-7</td>
<td>Potable Water/Irrigation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-8</td>
<td>Vehicle and Equipment Cleaning</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-9</td>
<td>Vehicle and Equipment Fueling</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NS-10</td>
<td>Vehicle and Equipment Maintenance</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Appendix H includes copies of the fact sheets of all the BMPs selected for this project.

The Non-Stormwater Pollution Control BMPs as shown in the above table will be implemented as needed.

**NS-1 Water Conservation Practices**

Water conservation practices are activities that use water during the construction of a project in a manner that avoids causing erosion and the transport of pollutants offsite. These practices can reduce or eliminate non-stormwater discharges. The following practices will be implemented:

- Keep water equipment in good working condition.
- Stabilize water truck filling area.
- Repair water leaks promptly.
- Washing of vehicles and equipment on the construction site is discouraged.
- Avoid using water to clean construction areas. If water must be used for cleaning or surface preparation, surface shall be swept and vacuumed first to remove dirt. This will minimize amount of water required.
- Direct construction water runoff to areas where it can soak into the ground or be collected and reused.
- Authorized non-stormwater discharges to the storm drain system, channels, or receiving waters are acceptable with the implementation of appropriate BMPs.
- Lock water tank valves to prevent unauthorized use.

**NS-2 Dewatering Operations**

The need for dewatering flows shall be minimized by berming to direct flow away from openings and covering trenches and bore holes. Dewatering flows shall be disposed of by dispersal for infiltration. Scheduling will be used to avoid open trenches during rainfall periods. If there is an exposed trench when rain is forecast that cannot be filled, berms will be constructed to divert surface flow away from the opening and covers will be placed over the opening. Any water that reaches the low point will be allowed to evaporate or percolate.

In the event that covering and berming is not successful, refer to the Field Guide to Construction Site Dewatering, October 2001 available on the Caltrans website and refer to the Basin Plan for guidance on dewatering.

It may be possible to discharge to the sewer or storm drain system with permit. A permit is required if the option is required.

Before sending dewatering flows to the storm drain or sewer system, Contractor shall submit a dewatering and discharge work plan under Section 5-1.02, "Plans and Working Drawings," of the
Standard Specifications and "Water Pollution Control" of these special provisions. The dewatering and discharge work plan must include:

1. Title sheet and table of contents
2. Description of dewatering and discharge activities detailing locations, quantity of water, equipment, and discharge point – Include description of filtering device (Baker Tank or sediment sack and list Turbidity and pH limits (Typically <50 NTU and pH 6.5 to 8.5)
3. Estimated schedule for dewatering and discharge start and end dates of intermittent and continuous activities
4. Discharge alternatives, such as dust control or percolation
5. Visual monitoring procedures with inspection log
6. Copy of written approval to discharge into a sanitary sewer system or storm drain system at least 5 business days before starting discharge activities

**NS-3 Paving, Sawcutting and Grinding Operations**

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent run-on and runoff pollution, properly disposing of wastes, and training employees and subcontractors. Many types of construction materials associated with paving and grinding operations, including mortar, concrete, and cement and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care shall be taken when managing these materials to prevent them from coming into contact with stormwater flows.

**General**

- Project will avoid paving during the wet season. Project is scheduled for completion October 31. Paving and grinding activities will be rescheduled if rain is forecasted.
- Employees and sub-contractors will be trained in pollution prevention and reduction.
- Disposal of PCC (Portland cement concrete) and AC (asphalt concrete) waste shall be in conformance with WM-8, Concrete Waste Management.

**Saw Cutting, Grinding, and Pavement Removal**

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw cutting to contain slurry.
- When paving involves AC, the following steps shall be implemented to prevent the discharge of grinding residue, uncompacted or loose AC, tack coats, equipment cleaners, or unrelated paving materials:
  - AC grindings, pieces, or chunks used in embankments or shoulder backing shall not be allowed to enter any storm drains or watercourses. Install inlet protection and perimeter controls until area is stabilized (i.e. cutting, grinding or other removal activities are complete and loose material has been properly removed and disposed of)or permanent controls are in place. Examples of temporary perimeter controls can be found in EC-9, Earth Dikes and Drainage Swales; SE-1, Silt Fence; SE-5, Fiber Rolls, or SE-13 Compost Socks and Berms.
  - Collect and remove all broken asphalt and recycle when practical. Old or spilled asphalt shall be recycled or disposed of properly.
Do not allow saw-cut slurry to enter storm drains or watercourses. Residue from grinding operations shall be picked up by a vacuum attachment to the grinding machine, or by sweeping, shall not be allowed to flow across the pavement, and shall not be left on the surface of the pavement. See also WM-8, Concrete Waste Management, and WM-10, Liquid Waste Management.

- Pavement removal activities shall not be conducted in the rain.
- Collect removed pavement material by mechanical or manual methods. This material may be recycled for use as shoulder backing or base material.
- If removed pavement material cannot be recycled, transport the material back to an approved storage site.

**Asphaltic Concrete Paving**

If paving involves asphaltic cement concrete, follow these steps:

- Do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks. Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM-5, Solid Waste Management.
- Old asphalt shall be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

**Portland Cement Concrete Paving**

- Do not wash sweepings from exposed aggregate concrete into a storm drain system. Collect waste materials by dry methods, such as sweeping or shoveling, and return to aggregate base stockpile or dispose of properly. Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in WM-8, Concrete Waste Management, or pump the water to the sanitary sewer if authorized by the local wastewater authority.

**Sealing Operations**

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate shall not be allowed to enter any storm drain or water courses. Apply temporary perimeter controls until structure is stabilized (i.e. all sealing operations are complete and cured and loose materials have been properly removed and disposed).
- Inlet protection (SE-10, Storm Drain Inlet Protection) shall be used during application of seal coat, tack coat, slurry seal, and fog seal.
- Seal coat, tack coat, slurry seal, or fog seal shall not be applied if rainfall is predicted to occur during the application or curing period.

**Paving Equipment**

- Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use.
• Clean up spills with absorbent materials and dispose of in accordance with the applicable regulations. See NS-10, Vehicle and Equipment Maintenance, WM-4, Spill Prevention and Control, and WM-10, Liquid Waste Management.
• Substances used to coat asphalt transport trucks and asphalt spreading equipment shall not contain soap and shall be non-foaming and non-toxic.
• Paving equipment parked onsite shall be parked over plastic to prevent soil contamination.
• Clean asphalt coated equipment offsite whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in WM-5, Solid Waste Management. Any cleaning onsite shall follow NS-8, Vehicle and Equipment Cleaning.

**Thermoplastic Striping**

• Thermoplastic stripper and pre-heater equipment shutoff valves shall be inspected to ensure that they are working properly to prevent leaking thermoplastic from entering drain inlets, the stormwater drainage system, or watercourses.
• Pre-heaters shall be filled carefully to prevent splashing or spilling of hot thermoplastic.
• Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move.
• Do not pre-heat, transfer, or load thermoplastic near drain inlets or watercourses.
• Clean truck beds daily of loose debris and melted thermoplastic. When possible, recycle thermoplastic material.

**Raised/Recessed Pavement Marker Application and Removal**

• Do not transfer or load bituminous material near drain inlets, the stormwater drainage system, or watercourses.
• Melting tanks shall be loaded with care and not filled to beyond six inches from the top to leave room for splashing.
• When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
• Use mechanical or manual methods to collect excess bituminous material from the roadway after removal of markers.

**Inspection and Maintenance**

• Inspect and verify that activity-based BMPs are in place prior to the commencement of paving and grinding operations.
• BMPs shall be inspected in accordance with General Permit requirements for the associated project type and risk level. BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
• Keep ample supplies of drip pans or absorbent materials onsite.
• Inspect and maintain machinery regularly to minimize leaks and drips.

**NS-6 Illegal Connection and Illegal Discharge Detection Reporting Planning**
• There are no identified pre-existing areas of contamination.
• Inspect site before beginning the job for evidence of illicit connections, illegal dumping or discharges. Document any pre-existing conditions and notify the owner.
• Inspect site regularly during project execution for evidence of illicit connections, illegal dumping or discharges.
• Observe site perimeter for evidence for potential of illicitly discharged or illegally dumped material, which may enter the job site.

**Identification of Illicit Connections and Illegal Dumping or Discharges**

**General** – Unlabeled and unidentifiable material shall be treated as hazardous.  
**Solids** - Look for debris, or rubbish piles. Solid waste dumping often occurs on roadways with light traffic loads or in areas not easily visible from the traveled way.  
**Liquids** - signs of illegal liquid dumping or discharge can include:  
• Visible signs of staining or unusual colors to the pavement or surrounding adjacent soils  
• Pungent odors coming from the drainage systems  
• Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes  
• Abnormal water flow during the dry weather season  

Evidence of illicit connections or illegal discharges is typically detected at storm drain outfall locations or at manholes. Signs of an illicit connection or illegal discharge can include:  
• Abnormal water flow during the dry weather season  
• Unusual flows in sub drain systems used for dewatering  
• Pungent odors coming from the drainage systems  
• Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes  
• Excessive sediment deposits, particularly adjacent to or near active offsite construction projects  

**Reporting**

Notify the owner of any illicit connections and illegal dumping or discharge incidents at the time of discovery. For illicit connections or discharges to the storm drain system, notify the local stormwater management agency. For illegal dumping, notify the local law enforcement agency.

**Cleanup and Removal**

The responsibility for cleanup and removal of illicit or illegal dumping or discharges will vary by location. Contact the local stormwater management agency for further information.

**NS-7 Potable Water / Irrigation**

• Direct water from offsite sources around or through a construction site, where feasible, in a way that minimizes contact with the construction site.  
• Discharges from water line flushing shall be reused for landscaping purposes where feasible.
• Shut off the water source to broken lines, sprinklers, or valves as soon as possible to prevent excess water flow.
• Protect downstream stormwater drainage systems and watercourses from water pumped or bailed from trenches excavated to repair water lines.
• Inspect irrigated areas within the construction limits for excess watering. Adjust watering times and schedules to ensure that the appropriate amount of water is being used and to minimize runoff. Consider factors such as soil structure, grade, time of year, and type of plant material in determining the proper amounts of water for a specific area.

NS-8 Vehicle and Equipment Cleaning

Options to washing equipment onsite include contracting with either an offsite or mobile commercial washing business. These businesses may be better equipped to handle and dispose of the wash waters properly. Performing this work offsite can also be economical by eliminating the need for a separate washing operation onsite.

If washing operations are to take place onsite, then:

• Use phosphate-free, biodegradable soaps.
• Educate employees and subcontractors on pollution prevention measures.
• Do not permit steam cleaning onsite. Steam cleaning can generate significant pollutant concentrates.
• Cleaning of vehicles and equipment with soap, solvents or steam should not occur on the project site unless resulting wastes are fully contained and disposed of. Resulting wastes shall not be discharged or buried, and must be captured and recycled or disposed according to the requirements of WM-10, Liquid Waste Management or WM-6, Hazardous Waste Management, depending on the waste characteristics. Minimize use of solvents. Use of diesel for vehicle and equipment cleaning is prohibited.
• All vehicles and equipment that regularly enter and leave the construction site must be cleaned offsite.
• When vehicle and equipment washing and cleaning must occur onsite, and the operation cannot be located within a structure or building equipped with appropriate disposal facilities, the outside cleaning area shall have the following characteristics:
  o Located away from storm drain inlets, drainage facilities, or watercourses
  o Paved with concrete or asphalt and bermed to contain wash waters and to prevent run-on and runoff
  o Configured with a sump to allow collection and disposal of wash water
  o No discharge of wash waters to storm drains or watercourses
  o Used only when necessary

When cleaning vehicles and equipment with water:

• Use as little water as possible. High-pressure sprayers may use less water than a hose and shall be considered
• Use positive shutoff valve to minimize water usage
• Facility wash racks shall discharge to a sanitary sewer, recycle system or other approved discharge system and must not discharge to the storm drainage system, watercourses, or to groundwater
NS-9 Vehicle and Equipment Fueling

- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage “topping-off” of fuel tanks.
- Absorbent spill cleanup materials and spill kits shall be available in fueling areas and on fueling trucks. Other options to washing equipment onsite include contracting with either an offsite or mobile commercial be disposed of properly after use.
- Drip pans or absorbent pads shall be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the absorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and large excavators, most vehicles shall be able to travel to a designated area with little lost time.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas shall be identified in the SWPPP.
- Dedicated fueling areas shall be protected from stormwater run-on and runoff, and shall be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent run-on, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shutoff to control drips. Fueling operations shall not be left unattended.
- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management District (AQMD).
- Federal, state, and local requirements shall be observed for any stationary above ground storage tanks.

NS-10 Vehicle and Equipment Maintenance

- Use offsite repair shops as much as possible. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate maintenance area.
- If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas shall be protected from stormwater run-on and runoff, and shall be located at least 50 ft from downstream drainage facilities and watercourses.
- Drip pans or absorbent pads shall be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- Place a stockpile of spill cleanup materials where it will be readily accessible. All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
- Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
- Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately.
- Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
• Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
• Train employees and subcontractors in proper maintenance and spill cleanup procedures.
• Drip pans or plastic sheeting shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
• For long-term projects, consider using portable tents or covers over maintenance areas if maintenance cannot be performed offsite.
• Consider use of new, alternative greases and lubricants, such as adhesive greases, for chassis lubrication and fifth-wheel lubrication.
• Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
• Do not place used oil in a dumpster or pour into a storm drain or watercourse.
• Properly dispose of or recycle used batteries.
• Do not bury used tires.
• Repair leaks of fluids and oil immediately.

Listed below is further information if you must perform vehicle or equipment maintenance onsite.

**Safer Alternative Products**

• Consider products that are less toxic or hazardous than regular products. These products are often sold under an “environmentally friendly” label.
• Consider use of grease substitutes for lubrication of truck fifth-wheels. Follow manufacturers label for details on specific uses.
• Consider use of plastic friction plates on truck fifth-wheels in lieu of grease. Follow manufacturers label for details on specific uses.

**Waste Reduction**

Parts are often cleaned using solvents such as trichloroethylene, trichloroethane, or methylene chloride. Many of these cleaners are listed in California Toxic Rule as priority pollutants. These materials are harmful and must not contaminate stormwater. They must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example, replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check the list of active ingredients to see whether it contains chlorinated solvents. The “chlor” term indicates that the solvent is chlorinated. Also, try substituting a wire brush for solvents to clean parts.

**NS-12 Concrete Curing**

**Chemical Curing**

• Avoid over spray of curing compounds.
• Minimize the drift by applying the curing compound close to the concrete surface. Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.
• Use proper storage and handling techniques for concrete curing compounds. Refer to WM-1, Material Delivery and Storage.
• Protect drain inlets prior to the application of curing compounds.
• Refer to WM-4, Spill Prevention and Control.

Water Curing for Retaining Walls, and other Structures

• Direct cure water away from inlets and watercourses to collection areas for evaporation or other means of removal in accordance with all applicable permits. See WM-8 Concrete Waste Management.
• Collect cure water at the top of slopes and transport to a concrete waste management area in a non-erosive manner. See EC-9 Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
• Utilize wet blankets or a similar method that maintains moisture while minimizing the use and possible discharge of water.

Education

• Educate employees, subcontractors, and suppliers on proper concrete curing techniques to prevent contact with discharge as described herein.
• Arrange for the QSP or the appropriately trained contractor’s superintendent or representative to oversee and enforce concrete curing procedures.

NS-13 Material and Equipment Used Over Water
No material or equipment use is proposed over water as a part of this project.

NS-14 Concrete Finishing

• Collect and properly dispose of water from high-pressure water blasting operations.
• Collect contaminated water from blasting operations at the top of slopes. Transport or dispose of contaminated water while using BMPs such as those for erosion control. Refer to EC-9, Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
• Direct water from blasting operations away from inlets and watercourses to collection areas for infiltration or other means of removal (dewatering). Refer to NS-2 Dewatering Operations.
• Protect inlets during sandblasting operations. Refer to SE-10, Storm Drain Inlet Protection.
• Refer to WM-8, Concrete Waste Management for disposal of concrete debris.
• Minimize the drift of dust and blast material as much as possible by keeping the blasting nozzle close to the surface.
• When blast residue contains a potentially hazardous waste, refer to WM-6, Hazardous Waste Management.

Education
Educate employees, subcontractors, and suppliers on proper concrete finishing techniques to prevent contact with discharge as described herein. Arrange for the QSP or the appropriately trained contractor’s superintendent or representative to oversee and enforce concrete finishing procedures.

3.3.2 Waste Management & Materials Pollution Control

Waste management and materials pollution control BMPs, like non-storm water management BMPs, are source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with storm water. These BMPs also involve day-to-day operations of the construction site which are under the control of the contractor, and are additional “good housekeeping practices” which involve keeping a clean, orderly construction site.
The Contractor will implement the following practices for effective waste management and materials pollution control during construction:

- Not dispose of rinse/wash waters to ground.
- Not allow sanitation facilities to leak. (Regular maintenance and inspection shall occur to assure that facilities do not leak.)
- Cover waste disposal containers at the end of each day and during rain events.
- Not allow discharge from waste containers.
- Protect stockpiled waste materials from wind and rain at all times (except during active use).
- Review the Spill Prevention and Control BMP WM-4. Contractor shall update the spill response procedure as necessary to be current with site conditions. Contractor shall have the necessary materials on site (spill response kit) and in a designated location for use. Spills and leaks shall be cleaned up immediately and disposed of properly. Appropriate spill response personnel shall be assigned and trained.
- Make concrete (and other) washouts water tight or arrange to have contractor/vendor to perform off-site. Contractor shall ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas. Washouts shall be sized appropriately by the QSP.
- Cover stockpiled materials such as mulch and top soils when they are not actively being used.
- Shelter fertilizer containers and other landscape materials when they are not actively being used.
- Implement/install the non-storm water management source control BMPs listed below.

**Waste Management & Materials Pollution Control BMPs**

The California Stormwater BMP Handbook - Construction contains fact sheets for waste management & materials pollution control BMPs applicable to a wide range of project types and potential construction activities. The table below indicates the waste management & materials pollution control BMPs that are required, because they are certain to be needed, and those that should be implemented as needed.

<table>
<thead>
<tr>
<th>BMP#</th>
<th>BMP Name</th>
<th>Required</th>
<th>Implement as Needed</th>
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<tbody>
<tr>
<td>WM-1</td>
<td>Material Delivery and Storage (^1)</td>
<td>X</td>
<td></td>
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<tr>
<td>WM-2</td>
<td>Material Use (^1)</td>
<td>X</td>
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<td>WM-3</td>
<td>Stockpile Management (^1)</td>
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<td>WM-4</td>
<td>Spill Prevention and Control</td>
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<td>WM-5</td>
<td>Solid Waste Management</td>
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<td>WM-6</td>
<td>Hazardous Waste Management</td>
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<td>WM-7</td>
<td>Contaminated Soil Management</td>
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<td>WM-8</td>
<td>Concrete Waste Management (^1)</td>
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<tr>
<td>WM-9</td>
<td>Sanitary/ Septic Waste Management (^1)</td>
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<tr>
<td>WM-10</td>
<td>Liquid Waste Management (^1)</td>
<td>X</td>
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</tbody>
</table>

\(^1\) BMP fact sheet updated in 2009

Materials will be delivered to the Contractor’s Yard. The Contractor’s Yard is located under Route 92 and is protected from direct rainfall. Materials will be stored in sheds with no direct water contact.
Portable sanitary facilities will be provided at the Contractor’s Yard and will be located at job locations as necessary, though a single facility may be used where there are several nearby job locations.

Where feasible, concrete will be delivered using concrete trucks that have built in water recycling systems. There is little concrete wash associated with these vehicles. Temporary Concrete Washout (Portable) will be implemented per the WPCDs for any required on-site wash. All other Temporary Waste Management and Materials Pollution Control BMPs as shown in Table 500.4.2 will be implemented as needed.

Debris boxes will be covered at the end of each day and while it is raining.

**WM-1 Material Delivery and Storage**

The following steps shall be taken to minimize risk:

- Chemicals must be stored in water tight containers with appropriate secondary containment or in a storage shed.
- When a material storage area is located on bare soil, the area shall be lined and bermed.
- Use containment pallets or other practical and available solutions, such as storing materials within newly constructed buildings or garages, to meet material storage requirements.
- Stack erodible landscape material on pallets and cover when not in use.
- Contain all fertilizers and other landscape materials when not in use.
- Temporary storage areas shall be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) shall be available on-site for all materials stored that have the potential to effect water quality.
- Construction site areas shall be designated for material delivery and storage.
- Material delivery and storage areas shall be located away from waterways, if possible.
  - Avoid transport near drainage paths or waterways.
  - Surround with earth berms or other appropriate containment BMP. See EC-9, Earth Dikes and Drainage Swales.
  - Place in an area that will be paved.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of the area. Contact the local Fire Marshal to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible Liquid Code, NFPA30.
- An up to date inventory of materials delivered and stored onsite shall be kept. Hazardous materials storage onsite shall be minimized.
- Hazardous materials shall be handled as infrequently as possible.
- Keep ample spill cleanup supplies appropriate for the materials being stored. Ensure that cleanup supplies are in a conspicuous, labeled area.
- Employees and subcontractors shall be trained on the proper material delivery and storage practices.
- Employees trained in emergency spill cleanup procedures must be present when dangerous materials or liquid chemicals are unloaded.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose of materials and any contaminated soil. See WM-7, Contaminated Soil...
Management. If the area is to be paved, pave as soon as materials are removed to stabilize the soil.

**Material Storage Areas and Practices**

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be placed in temporary containment facilities for storage.
- A temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 25 year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids shall be sent to an approved disposal site.
- Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Materials shall be covered prior to, and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to and during rain events.
- Stockpiles shall be protected in accordance with WM-3, Stockpile Management.
- Materials shall be stored indoors within existing structures or completely enclosed storage sheds when available.
- Proper storage instructions shall be posted at all times in an open and conspicuous location.
- An ample supply of appropriate spill clean up material shall be kept near storage areas.
- Also see WM-6, Hazardous Waste Management, for storing of hazardous wastes.
- Lime used for lime treatment shall be covered at the end of every day and shall remain covered during rain events.
- Lime shall be stored in a manner that protects the stockpile from flowing runoff.
- Lime shall not be applied if rain is forecast within 48 hours of application.

**Material Delivery Practices**

Keep an accurate, up-to-date inventory of material delivered and stored onsite.
Arrange for employees trained in emergency spill cleanup procedures to be present when dangerous materials or liquid chemicals are unloaded.

**Spill Cleanup**

- Contain and clean up any spill immediately.
- Properly remove and dispose of any hazardous materials or contaminated soil if significant residual materials remain on the ground after construction is complete. See WM-7, Contaminated Soil Management.
- See WM-4, Spill Prevention and Control, for spills of chemicals and/or hazardous materials.
- If spills or leaks of materials occur that are not contained and could discharge to surface waters, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

**WM-2 Material Use**

The following steps shall be taken to minimize risk:

- Minimize use of hazardous materials onsite.
- Follow manufacturer instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
- Train personnel who use pesticides. The California Department of Pesticide Regulation and county agricultural commissioners license pesticide dealers, certify pesticide applicators, and conduct onsite inspections.
- Do not over-apply fertilizers, herbicides, and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Unless on steep slopes, till fertilizers into the soil rather than hydraulic application. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried offsite by runoff. Do not apply these chemicals before predicted rainfall.
- Train employees and subcontractors in proper material use.
- Supply Material Safety Data Sheets (MSDS) for all materials.
- Dispose of latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, with other construction debris.
- Do not remove the original product label; it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain, or watercourse. Dispose of any paint thinners, residue, and sludge(s) that cannot be recycled, as hazardous waste.
- For water-based paint, clean brushes to the extent practicable, and rinse to a drain leading to a sanitary sewer where permitted, or contain for proper disposal off site. For oil-based paints, clean brushes to the extent practicable, and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
• Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials onsite when practical.
• Document the location, time, chemicals applied, and applicator’s name and qualifications.
• Keep an ample supply of spill clean up material near use areas. Train employees in spill clean up procedures.
• Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
• Discontinue use of erodible landscape material within 2 days prior to a forecasted rain event and materials shall be covered and/or bermed.
• Provide containment for material use areas such as masons’ areas or paint mixing/preparation areas to prevent materials/pollutants from entering stormwater.

WM-3 Stockpile Management
No stockpiling of materials is proposed at the construction locations. Materials will be taken from Contractors Yard at the start of the day and waste materials will be hauled to Contractor Yard at the end of the day. If storage occurs in the project Contractor Yard, storage will be under the existing freeway and will not be subject to direct rainfall. Dust control measures will be implemented on any stockpiled materials.

WM-3 Stockpile Management
No stockpiling of materials is proposed. Materials will be hauled to contractor’s yard.

WM-4 Spill Prevention and Control
See Contractors spill prevention plan. Employees will be trained to identify the type of spill (Minor, Semi-Significant or Significant/Hazardous), and respond accordingly. Spills will not be cleaned up using water. The spills will be cleaned up using materials specified for the type of spill. The used clean up material and the recovered materials no longer suitable for the intended purpose will be disposed off site as per the applicable regulations. Regular meetings will be held to discuss these procedures as continuing education for new employees.

Spill Prevention and Control
Keep material or waste storage areas clean, well organized, and equipped with enough cleanup supplies for the material being stored.

Implement spill and leak prevention procedures for chemicals and hazardous substances stored on the job site. Whenever you spill or leak chemicals or hazardous substances at the job site, you are responsible for all associated cleanup costs and related liability.

Report minor, semi-significant, and significant or hazardous spills to the WPC manager. The WPC manager must notify the Engineer immediately.

As soon as it is safe, contain and clean up spills of petroleum materials and sanitary and septic waste substances listed under 40 CFR, Parts 110, 117, and 302.

Minor Spills
Minor spills consist of quantities of oil, gasoline, paint, or other materials that are small enough to be controlled by a 1st responder upon discovery of the spill.

Clean up a minor spill using the following procedures:

1. Contain the spread of the spill
2. Recover the spilled material using absorption
3. Clean the contaminated area
4. Dispose of the contaminated material and absorbents promptly and properly under "Waste Management" of these special provisions

**Semi-Significant Spills**

Semi-significant spills consist of spills that can be controlled by a 1st responder with help from other personnel.

Clean up a semi-significant spill immediately using the following procedures:

1. Contain the spread of the spill.
2. On paved or impervious surfaces, encircle and recover the spilled material with absorbent materials. Do not allow the spill to spread widely.
3. If the spill occurs on soil, contain the spill by constructing an earthen dike and dig up the contaminated soil for disposal.
4. If the spill occurs during precipitation, cover the spill with 10-mil plastic sheeting or other material to prevent contamination of runoff.
5. Dispose of the contaminated material promptly and properly under "Waste Management" of these special provisions.

**Significant or Hazardous Spills**

Significant or hazardous spills consist of spills that cannot be controlled by job site personnel.

Immediately notify qualified personnel of a significant or hazardous spill. Take the following steps:

1. Do not attempt to clean up the spill until qualified personnel have arrived
2. Notify the Engineer and follow up with a report
3. Obtain the immediate services of a spill contractor or hazardous material team
4. Notify local emergency response teams by dialing 911 and county officials by using the emergency phone numbers retained at the job site
5. Notify the California Emergency Management Agency State Warning Center at (916) 845-8911
6. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under 40 CFR 110, 119, and 302
7. Notify other agencies as appropriate, including:
   
   7.1. Fire Department
   7.2. Public Works Department
   7.3. Coast Guard
   7.4. Highway Patrol
   7.5. City Police or County Sheriff’s Department
   7.6. Department of Toxic Substances
7.7. California Division of Oil and Gas
7.8. Cal/OSHA
7.9. Regional Water Resources Control Board

Prevent a spill from entering stormwater runoff before and during cleanup activities. Do not bury or wash the spill with water.

**WM-5 Solid Waste Management**

The following steps shall help keep a clean site and reduce stormwater pollution:

- Select designated waste collection areas onsite.
- Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use. Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Locate containers in a covered area or in a secondary containment.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove solid waste promptly since erosion and sediment control devices tend to collect litter.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

Regular meetings will be held to discuss these procedures as continuing education for new employees.

**Collection, Storage, and Disposal**

- Littering on the project site is prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines is a priority.
- Trash receptacles shall be provided in the contractor’s yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Litter from work areas within the construction limits of the project site shall be collected and placed in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris shall not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Dumpsters of sufficient size and number shall be provided to contain the solid waste generated by the project.
• Full dumpsters shall be removed from the project site and the contents shall be disposed of by the trash hauling contractor.
• Construction debris and waste shall be removed from the site biweekly or more frequently as needed.
• Construction material visible to the public shall be stored or stacked in an orderly manner.
• Stormwater run-on shall be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
• Solid waste storage areas shall be located at least 50 ft from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
• Except during fair weather, construction and highway planting waste not stored in watertight dumpsters shall be securely covered from wind and rain by covering the waste with tarps or plastic.
• Segregate potentially hazardous waste from non-hazardous construction site waste.
• Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
• For disposal of hazardous waste, see WM-6, Hazardous Waste Management. Have hazardous waste hauled to an appropriate disposal and/or recycling facility.
• Salvage or recycle useful vegetation debris, packaging and surplus building materials when practical. For example, trees and shrubs from land clearing can be used as a brush barrier, or converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

**WM-6 Hazardous Waste Management**

Hazardous Waste Management will be implemented as per the contract specifications for any requirements pertaining to handling of contaminated material. Any waste generated will be stored in watertight containers and stored in a location approved by the Engineer until it is disposed of by a licensed hazardous waste transporter.

**WM-7 Contaminated Soil Management**

Prevent or reduce the discharge of pollutants to stormwater from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly. Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.

• Prevent leaks and spills. Contaminated soil can be expensive to treat and dispose of properly. However, addressing the problem before construction is much less expensive than after the structures are in place.
• The contractor may further identify contaminated soils by investigating:
  - Past site uses and activities
  - Detected or undetected spills and leaks
  - Acid or alkaline solutions from exposed soil or rock formations high in acid or alkaline forming elements
  - Contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.
- Suspected soils should be tested at a certified laboratory.

ADL contaminated soil has been identified on the site. If suspected or known contaminated soils are excavated, the soils shall be stockpiled on plastic and covered. Contractor shall coordinate with Caltrans for testing.

**WM-8 Concrete Waste Management**

Concrete waste will be handled in accordance with contract documents. Collect and dispose of Portland concrete, AC, or HMA waste at locations where sawcutting, coring, grinding, grooving or hydro-concrete demolition of Portland cement concrete, AC or HMA create a residue or slurry. Concrete waste will be collected and disposed as appropriate portable washout bins. If any spilled material is observed, the spilled material shall be removed and placed into the concrete washout bin. WM-4 Spill Prevention and Control BMPs shall be implemented in case of any spill.

**WM-9 Sanitary/Septic Waste Management**

Sanitary or septic wastes shall be treated or disposed of in accordance with state and local requirements. The sanitary facilities shall be located at least 50 feet away from storm drains. The weekly QSP inspection shall include a review of sanitary facilities and disposal shall be monitored.

**WM-10 Liquid Waste Management**

The following steps shall help keep a clean site and reduce stormwater pollution:

- Select designated liquid waste collection areas onsite.
- Inspect containers for leaks and repair any container that is not watertight.
- Locate containers in a covered area or in a secondary containment.
- Provide an adequate number of containers with lids or covers that can be placed over the containers to keep rain out.
- Plan for enough containers and pickup schedule for anticipated liquid waste.
- Make sure that liquid waste, including toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out liquid waste containers on the construction site. Leave container cleaning to the liquid waste collecting contractor.
- Arrange for regular liquid waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that liquid waste is collected, removed, and disposed of only at authorized disposal areas.

Regular meetings will be held to discuss these procedures as continuing education for new employees.

*Containing Liquid Wastes*
• Drilling residue and drilling fluids shall not be allowed to enter storm drains and watercourses and shall be disposed of outside the highway right-of-way in conformance with the provisions in Standard Specifications Section 7-1.13.

• If an appropriate location is available, as determined by the Resident Engineer (RE), drilling residue and drilling fluids that are exempt under California Code of Regulations (CCR) Title 23 §2511(g) may be dried by infiltration and evaporation in a containment facility constructed in conformance with the provisions concerning the Temporary Concrete Washout Facilities detailed in WM-08 Concrete Waste Management.

• Liquid wastes generated as part of an operational procedure, such as water-laden dredged material and drilling mud, shall be contained and not allowed to flow into drainage channels or receiving waters prior to treatment.

• Contain liquid wastes in a controlled area, such as a holding pit, sediment basin, roll-off bin, or portable tank.

• Containment devices must be structurally sound and leak free.

• Containment devices must be of sufficient quantity or volume to completely contain the liquid wastes generated.

• Take precautions to avoid spills or accidental releases of contained liquid wastes. Apply the education measures and spill response procedures outlined in WM-4 Spill Prevention and Control.

• Do not locate containment areas or devices where accidental release of the contained liquid can threaten health or safety, or discharge to water bodies, channels, or storm drains.

Capturing Liquid Wastes

• Capture all liquid wastes running off a surface, which has the potential to affect the storm drainage system, such as wash water and rinse water from cleaning walls or pavement.

• Do not allow liquid wastes to flow or discharge uncontrolled. Use temporary dikes or berms to intercept flows and direct them to a containment area or device for capture.

• If the liquid waste is sediment laden, use a sediment trap (see SC-3 Sediment Trap) for capturing and treating the liquid waste stream, or capture in a containment device and allow sediment to settle.

Disposing of Liquid Wastes

• Typical method is to dewater the contained liquid waste, using procedures such as described in NS-2 Dewatering Operations, and SC-2 Sediment/Desilting Basin; and dispose of resulting solids per WM-5 Solid Waste Management, or per Standard Specifications Section 7-1.13, “Disposal of Material Outside the Highway Right of Way”, for off-site disposal.

• Method of disposal for some liquid wastes may be prescribed in Water Quality Reports, NPDES permits, Environmental Impact Reports, 401 Water Quality Certifications or 404 permits, local agency discharge permits, etc., and may be defined elsewhere in the special provisions.

• Liquid wastes, such as from dredged material, may require testing and certification whether it is hazardous or not before a disposal method can be determined.

• For disposal of hazardous waste, see WM-6 Hazardous Waste Management.

• If necessary, further treat liquid wastes prior to disposal. Treatment may include, though is not limited to, sedimentation, filtration, and chemical neutralization.
• Spot check employees and subcontractors at least monthly throughout the job to ensure appropriate practices are being employed.
• Remove deposited solids in containment areas and capturing devices as needed, and at the completion of the task. Dispose of any solids as described in WM-5 Solid Waste Management.
• Inspect containment areas and capturing devices frequently for damage, and repair as needed.

Appendix H includes copies of the fact sheets of all the BMPs selected for this project.

3.4 Post-Construction Storm Water Management Measures

The post-construction storm water management measures are to be developed.
Section 4    BMP Inspection, Maintenance, and Repair

4.1 Construction Site Monitoring Program

Contractor shall ensure that all inspection, maintenance repair and sampling activities at the project location are performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP shall complete inspections of all BMPs as required to ensure proper functioning of the BMPs at all times during construction. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment. The QSP is to implement the Construction Site Monitoring Program (CSMP) in accordance with the requirements found in Appendix A. The CSMP is included in this SWPPP in Appendix N, and incorporates a description of the BMP inspection locations, inspection procedures, and inspection follow-up and tracking procedures, including BMP maintenance and repair, sampling and analysis (if needed), SWPPP amendments (if needed).

Contractor shall purchase a turbidity meter and a pH meter. The QSP shall be trained in the use of both meters.
Section 5  Training

The Contractor shall designate a Qualified SWPPP Practitioner (QSP). The QSP must receive training and possess one of the certifications and or registrations specified in Table 9 of the 2009 Construction General Permit established by the SWRCB.

The QSP is required to document all training activities (formal and informal), and retain a record of training activities in SWPPP Appendix K. Training documentation must also be submitted in the Annual Report.

The Contractor’s Qualified SWPPP Practitioner is _______TBD______

Other Contractor personnel attending tailgate training will document attendance using the form in Attachment I. Informal training will include tailgate site briefings to be conducted bi-weekly, and will address the following topics:

• Erosion Control BMPs
• Sediment Control BMPs
• Non-Storm Water BMPs
• Waste Management and Materials Pollution Control BMPs
• Emergency Procedures specific to the construction site storm water management

This SWPPP was prepared by BKF Engineers, under the direction of Mr. Ed Boscacci, a registered Professional Engineer in the State of California and a Qualified SWPPP Developer. Mr. Boscacci has over 10 years of experience in the preparation of SWPPPs, and has the following previous experience:

• Has prepared over 25 project-specific SWPPPs
• Over 30 years of experience in storm drain design, hydrology, and hydraulics
• SWPPP Preparation training sponsored by San Francisco Bay Estuary
Section 6  Responsible Parties and Operators

6.1  Responsible Parties
A list of authorized representatives, along with project site personnel who are responsible for SWPPP activities, including the QSD and QSP, has been provided in Appendix L. This list includes the names of the individuals granted authority to sign permit-related documents.

6.2  Contractor List
The QSP is required to notify all contractors and subcontractors of the requirement for storm water management measures during the project. A list of contractors and subcontractors shall be maintained by the QSP and included in Appendix M. If subcontractors change during the project, the list will be updated accordingly. A sample “Subcontractor Notification Letter” and log is included in Appendix M.
List of Appendices

APPENDIX A  CONSTRUCTION GENERAL PERMIT
(SECTIONS APPLICABLE TO RISK LEVEL 1 PROJECTS)

APPENDIX B  SUBMITTED PERMIT REGISTRATION DOCUMENTS

APPENDIX C  SWPPP AMENDMENTS AND AMENDMENT LOG

APPENDIX D  NAL/NEL EXCEEDANCE SITE EVALUATIONS
(NOT INCLUDED - NOT APPLICABLE TO RISK LEVEL 1)

APPENDIX E  SUBMITTED CHANGES TO PRDS

APPENDIX F  CONSTRUCTION SCHEDULE

APPENDIX G  CONSTRUCTION ACTIVITIES, MATERIALS USED AND ASSOCIATED POLLUTANTS

APPENDIX H  BMP CONSIDERATION CHECKLIST AND CASQA BMP HANDBOOK
FACT SHEETS
(FACT SHEETS NOT INCLUDED IN VERSION OF SWPPP POSTED ON SMARTS)

APPENDIX I  SAMPLE CONSTRUCTION SITE INSPECTION REPORT FORM

APPENDIX J  SITE SPECIFIC RAIN EVENT ACTION PLAN
(NOT INCLUDED - NOT APPLICABLE TO RISK LEVEL 1)

APPENDIX K  TRAINING REPORTING FORM

APPENDIX L  RESPONSIBLE PARTIES

APPENDIX M  CONTRACTORS AND SUBCONTRACTORS

APPENDIX N  CONSTRUCTION SITE MONITORING PROGRAM

APPENDIX O  CONSTRUCTION RECORDS

APPENDIX P  AGENCY APPROVALS AND MISCELLANEOUS DOCUMENTS

APPENDIX Q  TEST METHODS, DETECTION LIMITS, REPORTING UNITS,
APPLICABLE NALS AND NELS
(NOT INCLUDED - NOT APPLICABLE TO RISK LEVEL 1)

APPENDIX R  EROSION CONTROL PLAN

APPENDIX S  CONTRACTOR ACTIVITIES LOCATION MAP
APPENDIX A

CONSTRUCTION GENERAL PERMIT

(Sections Applicable to Risk Level 1 Projects)

(Not Included in Version of SWPPP Posted on SMARTS.)
APPENDIX B

SUBMITTED PERMIT REGISTRATION DOCUMENTS

The following documents are to be filed electronically via the SMARTS system and included in this appendix per Attachment B, Section J of the General Permit. Paper copies of duplicate documents are not included in Appendix B.

1. Notice of Intent (NOI).
2. Site Map – See site map legend for specific documents to be included.
3. SWPPP – SWPPP consists of this entire document.
5. Post Construction Water Balance Calculator – NOT APPLICABLE TO THIS LOCATION.
6. ATS Design Document and Certification – NOT APPLICABLE TO THIS PROJECT.
The following list of referenced plans incorporate the information listed under Attachment B, Section J.2 of the General Permit.

a. **Vicinity Map** – See attached vicinity map.
b. **Site Layout** – See Inc. 1 Rough Grading Plan and Utility Plan.
c. **Site Boundaries** – See Inc. 1 Rough Grading Plan and Utility Plan.
d. **Drainage Areas** – See attached Site Drainage Exhibit.
e. **Discharge Locations** – Site discharges to the San Francisco Bay through the City’s existing storm drain system.
f. **Sampling Locations** – N/A
g. **Disturbed Areas** – Entire site is disturbed.
h. **Active Disturbed Areas** – Entire site is disturbed.
i. **Runoff BMP Locations** – See attached Erosion Control Plans.
j. **Erosion Control BMPs** – See attached Erosion Control Plans.
k. **Sediment Control BMPs** – See attached Erosion Control Plans.
l. **ATS Location** – N/A
m. **Sensitive Habitats** – N/A.
n. **Post-Construction BMPs** – See attached Erosion Control Plans. BMP implemented as part of construction will remain and be maintained as necessary, see erosion control plans.
o. **Construction Activities Locations** – TBD. This will be shown/up-dated on contractor markup of Appendix S.
### Sediment Risk Factor Worksheet

<table>
<thead>
<tr>
<th>Entry</th>
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</thead>
<tbody>
<tr>
<td><strong>A) R Factor</strong></td>
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</tbody>
</table>
| Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.  
http://water.epa.gov/polwaste/npdes/stormwater/Rainfall-Erosivity-Factor-Calculator.cfm |

| R Factor Value | 21.61 |

**B) K Factor (weighted average, by area, for all site soils)**

The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.

**Site-specific K factor guidance**

| K Factor Value | 0.24 |

**C) LS Factor (weighted average, by area, for all slopes)**

The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.

**LS Table**

| LS Factor Value | 2.86 |

### Watershed Erosion Estimate (=RxKxLS) in tons/acre

<table>
<thead>
<tr>
<th>Entry</th>
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<tbody>
<tr>
<td><strong>Watershed Erosion Estimate (=RxKxLS) in tons/acre</strong></td>
</tr>
</tbody>
</table>

**Site Sediment Risk Factor**

- Low Sediment Risk: < 15 tons/acre
- Medium Sediment Risk: >=15 and <75 tons/acre
- High Sediment Risk: >= 75 tons/acre

**Low**
### Receiving Water (RW) Risk Factor Worksheet

<table>
<thead>
<tr>
<th>Entry</th>
<th>Score</th>
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<tbody>
<tr>
<td>yes/no</td>
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</table>

#### A. Watershed Characteristics

A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?


  **OR**

A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of **SPAWN & COLD & MIGRATORY**? (For help please review the appropriate Regional Board Basin Plan)

- [http://www.waterboards.ca.gov/waterboards_map.shtml](http://www.waterboards.ca.gov/waterboards_map.shtml)
Combined Risk Level Matrix

<table>
<thead>
<tr>
<th>Receiving Water Risk</th>
<th>Sediment Risk</th>
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<tbody>
<tr>
<td>Low</td>
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<td>Medium</td>
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<td>Level 2</td>
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<tr>
<td>Level 2</td>
<td>Level 3</td>
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Project Sediment Risk: Low
Project RW Risk: Low
Project Combined Risk: Level 1
APPENDIX C
SWPPP AMENDMENTS AND AMENDMENT LOG
APPENDIX C
SWPPP AMENDMENTS AND AMENDMENT LOG

SWPPP Amendment No. (Insert here)

Project Name: Contra Costa College New Science Building

Town Permits: Grading Permit No: TBD

BKF Project Number: 20175092

Qualified SWPPP Developer (QSD) Certification of the
Storm Water Pollution Prevention Plan Amendment

"I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

QSD’s Signature  July 26, 2018

Dayne Johnson, Project Manager
QSD’s name and title

Discharger (Owner or Legally Responsible Person - LRP) Approval of the
Storm Water Pollution Prevention Plan Amendment

"I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Discharger (or LRP)’s Signature  Date

Ines Zildzic, Authorized Representative
Discharger’s name and title

Telephone Number
Amendment Log

Project Name: Contra Costa College New Science Building

Town Permits: Grading Permit No: TBD

BKF Project Number: 20175092

<table>
<thead>
<tr>
<th>Amendment No.</th>
<th>Date</th>
<th>Brief Description of Amendment</th>
<th>Prepared By</th>
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APPENDIX D

NAL/NEL EXCEEDANCE SITE EVALUATIONS

(NOT INCLUDED - NOT APPLICABLE TO RISK LEVEL 1)
APPENDIX E

SUBMITTED CHANGES TO PRDS
(DUE TO CHANGE IN OWNERSHIP OR ACREAGE)
APPENDIX F

CONSTRUCTION SCHEDULE
APPENDIX G

CONSTRUCTION ACTIVITIES,
MATERIALS USED AND ASSOCIATED POLLUTANTS
### SWPPP Construction Site Pollutant Checklist

#### CATEGORY - ADHESIVES

<table>
<thead>
<tr>
<th>Examples:</th>
<th>Pollutants:</th>
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<tbody>
<tr>
<td>Adhesives, glues, Resins and epoxy synthetics, Caulks, sealers, putty, sealing agents, Coal tars (naphtha, pitch)</td>
<td>Phenolics, formaldehydes Phenolics, formaldehydes Asbestos, phenolics, formaldehydes Benzene, phenols, naphthalene</td>
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<thead>
<tr>
<th>Product Name, Physical Form (L, P or S)*</th>
<th>Storage Location</th>
<th>Method of Control and Protection</th>
<th>Quantity</th>
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*Physical Form – “L” = Liquid, “P” = Powder, “S” = Solid

Note: VOC = Volatile organic compounds, BOD = Biological oxygen demand due to the use of oxygen by decomposing materials.

# CATEGORY - CLEANERS

**Examples:**
- Polishes, (metal, ceramic, tile)
- Etching agents,
- Cleaners, ammonia, lye, caustic sodas
- Bleaching agents
- Chromate salts

**Pollutants:**
- Metals
- Acidity/alkalinity
- Chromium

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### CATEGORY - PLUMBING

#### Examples:
- Solder (lead, tin), flux (zinc chloride)
- Pipe fitting (cut shavings)
- Galvanized metals (nails, fences)
- Electrical wiring

#### Pollutants:
- Lead, copper, zinc, tin
- Copper
- Zinc
- Copper, lead

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<th>Product Name, Physical Form (L, P or S)*</th>
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<tr>
<td>Paint thinner, acetone, MEK, stripper</td>
<td>VOCs</td>
<td></td>
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<tr>
<td>Paints, lacquers, varnish, enamels</td>
<td>Metals, Phenolics, mineral spirits</td>
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<tr>
<td>Turpentine, gum spirit, solvents</td>
<td>VOCs</td>
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<tr>
<td>Sanding</td>
<td>Metals</td>
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<td>Paints</td>
<td>Metals</td>
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### CATEGORY – WOODS

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<tr>
<th>Examples:</th>
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<tbody>
<tr>
<td>Sawdust</td>
<td>BOD</td>
</tr>
<tr>
<td>Particle board dusts</td>
<td>Formaldehyde</td>
</tr>
<tr>
<td>Treated woods</td>
<td>Copper, creosote</td>
</tr>
</tbody>
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<th>Product Name, Physical Form (L, P or S)*</th>
<th>Storage Location</th>
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### CATEGORY – MASONRY AND CONCRETE

#### Examples:
- Dusts (brick, cement)
- Colored chalks (pigments)
- Concrete curing compounds
- Glazing compounds
- Cleaning surfaces

#### Pollutants:
- Acidity, sediments
- Metals
- See MSDS
- Asbestos
- Acidity

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## CATEGORY – FLOORS AND WALLS

### Examples:
- Flashing
- Drywall
- Tile cutting (ceramic dusts)
- Adhesives (see Adhesives category)

### Pollutants:
- Copper, aluminum
- Dusts
- Minerals

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<td>Examples:</td>
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<td>Coolant reservoirs</td>
<td>Adhesives (See Adhesives category)</td>
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### CATEGORY – AIR CONDITIONING AND HEATING

#### Examples:
- Insulating
- Coolant reservoirs
- Adhesives (See Adhesives category)

#### Pollutants:
- Asbestos
- Freon

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<td>Vehicle and machinery maintenance</td>
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<td>Grading, earth moving</td>
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<td>Fire hazard control (herbicides)</td>
<td>Sodium arsenite, dinitro compounds</td>
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<td>Rodenticides, insecticides</td>
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<td>Wash waters (herbicides, concrete, oils and greases)</td>
<td>(see above categories)</td>
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* L = Liquid, P = Paste, S = Solid
### CATEGORY – LANDSCAPING AND EARTHMOVING

#### Examples:
- Planting, plant maintenance
- Excavation, tilling
- Masonry and concrete
- Solid wastes (trees, shrubs)
- Exposing natural lime /mineral deposits
- Soil additives
- Revegetation of graded areas

#### Pollutants:
- Pesticides, herbicides, nutrients
- Erosion (sediments)
- (see above categories)
- BOD
- Acidity/alkalinity, metals
- Aluminum sulfate, sulfur
- Fertilizers

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### CATEGORY - MATERIALS STORAGE

#### Examples:
- Waste storage (used oils, solvents, etc)
- Hazardous waste containment
- Raw material piles

#### Pollutants:
- Spills, leaks
- Dusts, sediments

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APPENDIX H

BMP CONSIDERATION CHECKLIST

AND

CASQA BMP HANDBOOK FACT SHEETS

(Not Included in Version of SWPPP Posted on SMARTS.)
## BMP Consideration Checklist

### CONSTRUCTION SITE BMPs

#### CONSIDERATION CHECKLIST

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as “Not Used” with a brief statement describing why it is not being used.

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(1) BMP fact sheet updated in 2009
(2) BMP fact sheet removed in 2009 (formerly PAM)
(3) New BMP fact sheet added in 2009

See Section 3.2.1 for BMPs that are required and those to be implemented as needed.
## CONSTRUCTION SITE BMPs
### CONSIDERATION CHECKLIST

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as “Not Used” with a brief statement describing why it is not being used.

### SEDIMENT CONTROL BMPs

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<td>Check Dam(^{(1)})</td>
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<td></td>
<td></td>
<td>Not applicable to project.</td>
</tr>
<tr>
<td>SE-5</td>
<td>Fiber Rolls(^{(1)})</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE-6</td>
<td>Gravel Bag Berm(^{(1)})</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE-7</td>
<td>Street Sweeping and Vacuuming</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE-8</td>
<td>Sandbag Barrier(^{(1)})</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE-9</td>
<td>Straw Bale Barrier</td>
<td>X</td>
<td></td>
<td></td>
<td>SE-1, SE-5, SE-6 &amp; SE-12 are more applicable as linear sediment barriers for this project.</td>
</tr>
<tr>
<td>SE-10</td>
<td>Storm Drain Inlet Protection(^{(1)})</td>
<td>X</td>
<td>X</td>
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<tr>
<td>SE-11</td>
<td>Active Treatment Systems(^{(1)})</td>
<td>X</td>
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<td></td>
<td>Not applicable to project.</td>
</tr>
<tr>
<td>SE-12</td>
<td>Temporary Silt Dike(^{(2)})</td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>SE-13</td>
<td>Compost Socks and Berms(^{(2)})</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>SE-14</td>
<td>Biofilter Bags(^{(2)})</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) BMP fact sheet updated in 2009
(2) New BMP fact sheet added in 2009

### WIND EROSION CONTROL BMPs

| WE-1    | Wind Erosion Control\(^{(1)}\) | X          | X             |                   |                           |

(1) BMP fact sheet updated in 2009

See Sections 3.2.2 & 3.2.4 for BMPs that are required and those to be implemented as needed.
CONSTRUCTION SITE BMPs  
CONSIDERATION CHECKLIST

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as “Not Used” with a brief statement describing why it is not being used.

### TRACKING CONTROL BMPs

<table>
<thead>
<tr>
<th>BMP No.</th>
<th>BMP</th>
<th>CONSIDERED FOR PROJECT</th>
<th>CHECK IF USED</th>
<th>CHECK IF NOT USED</th>
<th>IF NOT USED, STATE REASON</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-1</td>
<td>Stabilized Construction Entrance/Exit</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC-2</td>
<td>Stabilized Construction Roadway</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>TC-3</td>
<td>Entrance/Outlet Tire Wash</td>
<td>X</td>
<td>X</td>
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### NON-STORM WATER MANAGEMENT BMPs

<table>
<thead>
<tr>
<th>BMP No.</th>
<th>BMP</th>
<th>CONSIDERED FOR PROJECT</th>
<th>CHECK IF USED</th>
<th>CHECK IF NOT USED</th>
<th>IF NOT USED, STATE REASON</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-1</td>
<td>Water Conservation Practices</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-2</td>
<td>Dewatering Operations(1)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-3</td>
<td>Paving and Grinding Operations(1)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-4</td>
<td>Temporary Stream Crossing</td>
<td>X</td>
<td></td>
<td></td>
<td>Not applicable to project.</td>
</tr>
<tr>
<td>NS-5</td>
<td>Clear Water Diversion</td>
<td></td>
<td>X</td>
<td></td>
<td>Not applicable to project.</td>
</tr>
<tr>
<td>NS-6</td>
<td>Illicit Connection/Discharge</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-7</td>
<td>Potable Water/Irrigation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-8</td>
<td>Vehicle and Equipment Cleaning</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-9</td>
<td>Vehicle and Equipment Fueling</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-10</td>
<td>Vehicle and Equipment Maintenance</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>NS-11</td>
<td>Pile Driving Operations</td>
<td></td>
<td>X</td>
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<td>Not applicable to project.</td>
</tr>
<tr>
<td>NS-12</td>
<td>Concrete Curing(1)</td>
<td>X</td>
<td>X</td>
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<tr>
<td>NS-13</td>
<td>Concrete Finishing(1)</td>
<td>X</td>
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<tr>
<td>NS-14</td>
<td>Material and Equipment Use over Water</td>
<td>X</td>
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<td>Not applicable to project.</td>
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<tr>
<td>NS-15</td>
<td>Demolition Adjacent to Water</td>
<td>X</td>
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<td>Not applicable to project.</td>
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<tr>
<td>NS-16</td>
<td>Temporary Batch Plants(1)</td>
<td>X</td>
<td></td>
<td></td>
<td>Not applicable to project.</td>
</tr>
</tbody>
</table>

(1) BMP fact sheet updated in 2009

See Sections 3.2.3 & 3.3.1 for BMPs that are required and those to be implemented as needed.
CONSTRUCTION SITE BMPs  
CONSIDERATION CHECKLIST

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as “Not Used” with a brief statement describing why it is not being used.

## WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs

<table>
<thead>
<tr>
<th>BMP No.</th>
<th>BMP</th>
<th>CONSIDERED FOR PROJECT</th>
<th>CHECK IF USED</th>
<th>CHECK IF NOT USED</th>
<th>IF NOT USED, STATE REASON</th>
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<tbody>
<tr>
<td>WM-1</td>
<td>Material Delivery and Storage(1)</td>
<td>X</td>
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<tr>
<td>WM-2</td>
<td>Material Use(1)</td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>WM-3</td>
<td>Stockpile Management(1)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM-4</td>
<td>Spill Prevention and Control</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM-5</td>
<td>Solid Waste Management</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM-6</td>
<td>Hazardous Waste Management</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM-7</td>
<td>Contaminated Soil Management</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM-8</td>
<td>Concrete Waste Management(1)</td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>WM-9</td>
<td>Sanitary/Septic Waste Management(1)</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>WM-10</td>
<td>Liquid Waste Management(1)</td>
<td>X</td>
<td>X</td>
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</tr>
</tbody>
</table>

(1) BMP fact sheet updated in 2009

See Section 3.3.2 for BMPs that are required and those to be implemented as needed.
APPENDIX I

SAMPLE CONSTRUCTION SITE INSPECTION REPORT FORM
APPENDIX J

SITE SPECIFIC RAIN EVENT ACTION PLAN

(FORMS AND COMPLETED PLANS)

(NOT INCLUDED - NOT APPLICABLE TO RISK LEVEL 1)
APPENDIX K

TRAINING REPORTING FORM
# Trained Contractor Personnel Log

## Storm Water Management Training Log

**Project Name:** 

**Project Number/Location:** 

Storm Water Management Topic: (check as appropriate)

- [ ] SWPPP Implementation
- [ ] BMP Inspection and Maintenance
- [ ] Record Keeping
- [ ] Erosion Control
- [ ] Wind Erosion Control
- [ ] Non-storm water management
- [ ] Storm Water Sampling
- [ ] Sediment Control
- [ ] Tracking Control
- [ ] Waste Management and Materials Pollution Control

**Specific Training Objective:** 

**Location:** ________________  **Date:** ________________

**Instructor:** ________________  **Telephone:** ________________

**Course Length (hours):** ________________

### Attendee Roster (attach additional forms if necessary)

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Name</td>
<td>Company</td>
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</tbody>
</table>

COMMENTS:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
APPENDIX L

RESPONSIBLE PARTIES

Property Owners / Dischargers:
Contra Costa Community College District

Legally Responsible Person:
Ines Zildzic

Qualified SWPPP Practitioner
TBD

Qualified SWPPP Developer
Dayne Johnson
BKF Engineers
1646 N. California Blvd, Suite 400
Walnut Creek, California 94596
APPENDIX M

CONTRACTORS AND SUBCONTRACTORS
CONTRACTOR/SUBCONTRACTOR LIST
(All contractors, subcontractors, and individuals who will be directed by the QSP.)

Project Name: Contra Costa College New Science Building
Project Number/Location: 20175092 / San Pablo, CA

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>CONTACT NAME</th>
<th>ADDRESS</th>
<th>PHONE NUMBER</th>
<th>EMERGENCY CONTACT #</th>
<th>SPECIFIC AREAS OF RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

USE ADDITIONAL PAGES AS NECESSARY
APPENDIX N
CONSTRUCTION SITE MONITORING PROGRAM

1. BMP INSPECTIONS

1.1 Inspection Requirements - General

The QSP shall complete inspections of all BMPs as required to ensure proper functioning of the BMPs at all times during construction.

At a minimum, inspections shall be conducted as follows:

- Within 2 business days (48 hours) prior to a forecast storm that is anticipated to be a Qualifying Storm / Rain Event, which is any event that produces 0.5 inches or more precipitation, with a 48 hour or greater period between rain events.
- Within 2 business days (48 hours) after each Qualifying Storm / Rain Event or any rain event that causes run-off from the site.
- Daily during extended rain events.
- For all BMPs - Weekly during the entire construction period.
- For selected additional BMPs, as identified by the QSP - Daily during the entire construction period.
- Inspections during non-business hours are not required.
- If a random visual observation results in action being taken, then the visual observation shall be considered an inspection and documented accordingly.
- In addition to the inspections listed above, a quarterly inspection for non-storm water discharge shall be performed.

For each inspection required, the QSP shall complete an inspection checklist. Sample inspection forms are provided in Appendix I. At a minimum, inspection checklists shall include the following:

- Inspection date and time, and date the inspection report was written.
- Weather information, including presence or absence of precipitation, estimate of beginning of Qualifying Storm / Rain Event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.
- Site information, including stage of construction, activities completed, and approximate area of the site exposed.
- A description of any BMPs evaluated, including location of each BMP, and any deficiencies noted.
- If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.
- Report the presence of any observed pollutant characteristics (floating or suspended material, discoloration, turbidity, etc.), noticeable odors, or any visible surface sheen, for any discharges.
Any corrective actions required, including any necessary changes to the SWPPP and the implementation dates of the associated SWPPP changes.

Documentation that the required corrective actions were taken.

Photographs taken during the inspection, if any.

Inspector’s name, title, and signature.

The QSP shall identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. QSP shall submit all completed inspection checklists electronically via SMARTS as part of the Annual Report. Additional daily inspections performed at the discretion of the QSP do not need to be submitted unless the inspection results in sampling and analysis or a corrective action. Contractor shall ensure that all completed inspection checklists remain on-site with the SWPPP.

1.2 Inspection Requirements Prior to a Qualifying Storm / Rain Event

- Inspect all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the Contractor/QSP shall implement appropriate corrective actions.

- Inspect any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

- Inspect all BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the Contractor/QSP shall implement appropriate corrective actions.

- For the inspections described in the first two bullet points above, QSP shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

- If there are signs of spills, leaks or malfunctions, or evidence of non-storm water discharge QSP shall sample for pH and turbidity.

- If visual monitoring indicates evidence of non-visible pollutant discharge, QSP shall sample for, and analyze samples for, all non-visible pollutant parameters as described in Section 1.8 “Non-Visible Pollutant Monitoring Requirements” below.

1.3 Inspection Requirements After a Qualifying Storm / Rain Event

- Conduct post rain event inspections to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs required and revise the SWPPP accordingly.

- Complete the inspections listed under Section 1.2 “Inspection Requirements Prior to a Qualifying Storm / Rain Event” above.

- Inspect the discharge of stored or contained storm water that is derived from and discharged subsequent to a Qualifying Storm / Rain Event at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

- Record the time, date and rain gauge reading of all qualifying storm / rain events.

1.4 Inspection Requirements During an Extended Rain Event

- Complete the inspections listed under Section 1.2 “Inspection Requirements Prior to a Qualifying Storm / Rain Event” and Section 1.3 “Inspection Requirements After a Qualifying Storm / Rain Event” above. Inspections should be performed at least once each 24 hour period during an extended rain event.
1.5 Inspection Requirements During/After a Breach

During or immediately after a breach in perimeter controls, inlet protection, or sediment traps/basins, or any other unauthorized storm water discharges, Contractor/QSP shall do the following:

- Direct non-sampling/testing personnel to repair the breach immediately after sampling to minimize unauthorized storm water discharges.
- Direct trained/qualified personnel to sample for turbidity and pH.
- Direct trained/qualified personnel to sample for other pollutants if warranted by visual observations. QSP shall refer to the Construction Site Pollutant Checklists in Appendix G for possible pollutants associated with materials exposed to storm water.
- Prepare a sampling report with the following information:
  1. Location(s) of sampling.
  2. The date and approximate time of sampling.
  3. The individual(s) who performed the sampling.
  4. Identifying numbers for samples.
  5. Field analysis performed, or laboratory analysis to be performed, on samples.
- Contractor shall keep all sampling reports and field or analytical data in the SWPPP document.
- QSP shall submit all sampling reports and all field or laboratory analytical data electronically via SMARTS as part of the Annual Report. The Regional Board will respond with any further action required by the QSP and/or the Contractor.

1.6 Visual Observation Exemptions

The QSP shall conduct inspections per the requirements described above, but is not required to conduct visual observation (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

If no required inspections are collected due to these exceptions, Contractor/QSP shall include an explanation in the SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

1.7 Non-Storm Water Discharge Monitoring Requirements

a. Visual Monitoring Requirements:
   i. QSP shall inspect each drainage area for the presence of (or indications of prior) non-storm water discharges and their sources.
   ii. QSP shall conduct one non-storm water inspection quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Inspections are only required during daylight hours (sunrise to sunset).
   iii. QSP shall ensure that each inspection documents the presence or evidence of any non-storm water discharge, pollutant characteristics and source.
b. Sampling Requirements:
   i. If there are signs of spills, leaks or malfunctions, or evidence of non-storm water discharge QSP shall sample for pH and turbidity.
   
   ii. If visual monitoring indicates evidence of non-visible pollutant discharge in non-storm water discharges, QSP shall sample for, and analyze samples for, all non-visible pollutant parameters as described in Section 1.8 “Non-Visible Pollutant Monitoring Requirements” below.

c. QSP shall submit all sampling reports and all field or laboratory analytical data electronically via SMARTS as part of the Annual Report. The Regional Board will respond with any further action required by the QSP and/or the Contractor.

1.8 Non-Visible Pollutant Monitoring Requirements

   a. Contractor/QSP shall notify owner of release within 8 hours and provide details of incident and course of actions to be taken. QSP shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.
   
   b. QSP shall ensure that water samples are large enough to characterize the site conditions.
   
   c. QSP shall collect samples at all discharge locations that can be safely accessed.
   
   d. QSP shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
   
   e. If the breach, malfunction, leakage, or spill occurs when it is not raining, the QSP shall implement appropriate clean-up procedures. Then during the next rain event that occurs during business hours and generates runoff, the QSP shall collect samples during the first two hours of discharge.
   
   f. QSP shall analyze samples for all non-visible pollutant parameters (if applicable). Parameters indicating the presence of pollutants identified in the pollutant source assessment are required. Contractor/QSD shall modify this document to address these additional parameters in accordance with any updated SWPPP pollutant source assessment.
   
   g. QSP shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.
   
   h. QSP shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.
   
   i. QSP shall prepare a sampling report to document the specifics of each sample taken. At a minimum, the sampling report shall contain the following:
      
      i. Location(s) of sampling.
      
      ii. The date and approximate time of sampling.
      
      iii. The individual(s) who performed the sampling.
      
      iv. Identifying numbers for samples.
      
      v. Field analysis performed, or laboratory analysis to be performed, on samples.
j. Contractor shall keep all field or laboratory analytical data in the SWPPP document. At a minimum, the data records shall contain the following:
   i. Complete copies of all field or laboratory analyses.
   ii. The date and approximate time of analyses.
   iii. The individual(s) who performed the analyses.
   iv. The method detection limits and reporting units, and the analytical techniques or methods used.
   v. Quality assurance / quality control records and results.

k. QSP shall submit all sampling reports and all field or laboratory analytical data electronically via SMARTS as part of the Annual Report. The Regional Board will respond with any further action required by the QSP and/or the Contractor.

2. BMP MAINTENANCE AND REPAIR

BMPs shall be maintained regularly based on permit-required inspections and observations made during the course of normal construction activities.

The QSP shall implement corrective actions as soon as practical, but begin within 72 hours from the time deficiencies are identified during inspections. The QSP shall complete follow-up inspections and document that the required corrective actions were taken. If warranted by the problem encountered and corrective action required, SWPPP amendments shall be prepared by the QSP and approved by the QSD.

3. RECORDS

Contractor shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Contractor shall provide all records to owner upon completion of construction. Contractor shall retain all records on-site, in Appendix O, while construction is ongoing. At a minimum, these records sampling report shall include the following:

- All inspection checklists.
- Rain gauge readings from site inspections.
- Exemption/Exception Records – See Section 1.6.
- All sampling reports.
- A summary of all analytical results from the last three years, as well as all field /or analytical data.
- The records of any corrective actions (BMP Maintenance and Repair) and follow-up activities that resulted from analytical results or inspections.

4. REFERENCES

The QSP’s attention is directed to Appendix D, “Field Monitoring and Analysis Guidance” of the November 2009 California Stormwater BMP Handbook, Construction (www.casqa.org) for sampling procedures, including sampling safety.
APPENDIX O
CONSTRUCTION RECORDS
APPENDIX P

AGENCY APPROVALS AND MISCELLANEOUS DOCUMENTS
APPENDIX Q

TEST METHODS, DETECTION LIMITS, REPORTING UNITS, APPLICABLE NALS AND NELS

(NOT INCLUDED - NOT APPLICABLE TO RISK LEVEL 1)
APPENDIX R
EROSION CONTROL PLAN
APPENDIX S

CONTRACTOR ACTIVITIES LOCATION MAP
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SECTION 01785
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. This section includes administrative and procedural requirements for Operation and Maintenance (O&M) data and documents.

1.3 FORMAT

A. Contractor shall compile O&M manuals for all building equipment including mechanical, plumbing and electrical equipment, commissioned or not.

B. Submit O&M Data specifically applicable to this contract and a complete and concise depiction of the provided equipment, product, or system, stressing and enhancing the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 00700, General Conditions.

1.4 SYSTEMS COVERED

A. The Contractor shall supply the required information for all systems identified in Contract Documents. A separate manual or chapter shall be provided for all new equipment or systems referenced in the Contract Documents.

1.5 COMPUTER PROGRAMS

A. When any equipment requires operation by computer programs, submit copy of original program on CD, with a hard-copy and an electronic copy (Adobe PDF format) of all user
manuals and guides for operating the programs. Program shall be Windows compatible, latest
edition or as requested by the District. Provide required licenses to District at no additional
cost.

1.6 SUPPLEMENTAL DATA

A. Contractor shall prepare written text and/or special drawings to provide necessary information
when manufacturer’s standard printed data is not available and/or additional information is
necessary for a proper understanding and operation and maintenance of equipment or
systems, or when it is necessary to supplement data included in the manual or Project
documents.

1.7 SCHEDULE OF INFORMATION FOR OPERATION AND MAINTENANCE DATA PACKAGES

A. Supply all of the following, when and where applicable, for each O&M data package:
   1. Safety precautions
   2. Operator prestart
   3. Startup, shutdown, and post-shutdown procedures
   4. Normal operations
   5. Emergency operations
   6. Operator service requirements
   7. Environmental conditions
   8. Lubrication data
   9. Preventive maintenance plan and schedule
  10. Cleaning recommendations
  11. Troubleshooting guides and diagnostic techniques
  12. Wiring diagrams and control diagrams
  13. Maintenance and repair procedures
  14. Removal and replacement instructions
  15. Spare parts and supply list
  16. Special tools required to service or maintain the equipment
  17. Corrective maintenance man-hours
  18. Product submittal data
  19. O&M submittal data
  20. Parts identification
  21. Warranty information
  22. Personnel training requirements
  23. Testing equipment and special tool information
  24. Testing and performance data
  25. Installing Subcontractor information

PART 2 – PRODUCTS - Not Used.

PART 3 – EXECUTION - Not Used.

END OF SECTION 01785
SECTION 01805 - CALGREEN ENVIRONMENTAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes: Comply with CALGreen environmental requirements related to energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality.
   1. Nonresidential Projects: Comply with specific CALGreen requirements for nonresidential projects.

B. Related Requirements:
   1. Section 01813 “Sustainable Design Requirements” for coordination of sustainability goals affected by CALGreen environmental requirements.

1.2 ENVIRONMENTAL REQUIREMENTS

A. Mandatory Measures: Comply with CALGreen Mandatory Measures applicable to Project.
   1. Design team and construction team are each required to participate to maximum degree possible to achieve CALGreen environmental requirements.
   2. Contract Documents are not intended to limit alternative means of achieving environmental requirements.
      a. Suggestions from Contractor, subcontractors, suppliers, and manufacturers for achieving environmental requirements are encouraged; team approach is also encouraged.
   3. Voluntary Tiers: Contractor is encouraged to achieve enhanced Voluntary Tier levels by incorporating additional measures as defined in CALGreen Appendixes.
      a. Contractor is required to achieve Mandatory Measures and to achieve as much as possible without unacceptable cost impact or schedule impact on Project.

B. Requirements: Contractor is required to review CALGreen requirements relative to Nonresidential Projects.
   1. Energy Efficiency: Comply with California Energy Commission requirements.
   2. Water Efficiency and Conservation: Comply with requirements for both indoor and outdoor water use.

C. Material Conservation and Resource Efficiency:
   1. Nonresidential Projects: Provide weather-resistant exterior wall and foundation envelope including prevention of landscape irrigation spray on structures (if any), and prevent water intrusion at exterior entries.
   2. Construction Waste: Provide construction waste management plan as defined by CALGreen with at least 50% of construction waste diverted from landfill by recycling or salvage for reuse.
   3. Nonresidential Project Building Maintenance and Operation: Provide for commissioning requirements as required by CALGreen including but not limited to testing, documentation and training, testing and adjusting.
D. Nonresidential Projects Environmental Quality:

1. Mechanical Equipment Pollution Control: Cover duct and related air distribution component openings to prevent dust and debris accumulation.

2. Finish Material Pollution Control: Comply with CALGreen requirements for volatile organic compound (VOC) emissions including but not necessarily limited to following (as applicable):
   a. Adhesives, sealants and caulks.
   b. Paints and coatings.
   c. Carpet systems including carpet, carpet cushion, and adhesives.
   d. Resilient flooring systems.
   e. Composite wood products formaldehyde limitations.

3. Filters: Comply with requirements for mechanically ventilated buildings to have air filtration media for outside and return air prior to occupancy.

4. Environmental Tobacco Smoke (ETS) Control: Comply with CALGreen requirements for ETS.

5. Interior Moisture Control: Comply with California Building Code requirements and CALGreen requirements for vapor retarder at concrete slab foundations and capillary break (aggregate base).

6. Building Material Moisture Content: Do not use water damage building materials, remove and place wet and high moisture content insulation, and do not enclose wall or floor framing when moisture content exceeds 19%.

7. Indoor Air Quality: Comply with CALGreen requirements for outside air delivery and carbon dioxide monitoring.

8. Environmental Comfort: Comply with CALGreen requirements for whole acoustical control and interior sound control.


E. Planning and Design: Construction team shall coordinate with Design Team regarding Project Planning and Design methods related to CALGreen requirements related to Project design and shall comply with requirements related to construction.

1.3 QUALITY ASSURANCE

A. Project Management and Coordination: Contractor to identify one person on Contractor’s staff to be responsible for CALGreen issues compliance and coordination.

1. Experience: Environmental project manager to have experience relating to CALGreen building construction.

2. Responsibilities: Carefully review Contract Documents for CALGreen issues, coordinate work of trades, subcontractors, and suppliers; instruct workers relating to environmental issues; and oversee Project Environmental Goals.

3. Meetings: Discuss CALGreen Goals at the following meetings.
   a. Pre-construction meeting.
   b. Pre-installation meetings.
   c. Regularly scheduled job-site meetings.
   d. CALGreen Issues Criteria: Comply with requirements listed in CALGreen and various Specification sections.
PART 2 - PRODUCTS

2.1 MATERIALS

A. General Issues: Do not use materials with moisture stains or with signs of mold or mildew.
   1. Moisture Stains: Materials that have evidence of moisture damage, including stains, are not acceptable, including both stored and installed materials; immediately remove from site.
   2. Mold and Mildew: Materials that have evidence of growth of molds or of mildew are not acceptable, including both stored and installed materials; immediately remove from site.

PART 3 - EXECUTION

3.1 PROTECTION

A. Environmental Issues: Protect interior materials from water damage; where interior products not intended for wet applications are exposed to moisture, immediately remove from site.
   1. Protect installed products using methods that do not support growth of molds and mildews. Immediately remove from site materials with mold and materials with mildew.

END OF SECTION

Attachments:

1. DSA Form GL-4 - Project Submittal Guideline (11 pages)
PROJECT SUBMITTAL GUIDELINE: CALGREEN CODE

Newly constructed buildings on new or existing sites shall comply with Title 24, Part 11, California Green Building Standards (CALGreen Code) Chapter 5. Additions to existing buildings, newly constructed landscape work and rehabilitated landscape work shall comply with CALGreen Code, Chapter 5, Section 5.304.6. Projects submitted to DSA for review, as a single project or in a series of increments, must comply with the CALGreen Code. For purposes of the Title 24, Part 6, California Energy Code (Energy Code), the application of standards shall be in accordance with Energy Code, Table 100.0-A.

DSA Review for CALGreen Mandatory Measures
The CALGreen compliance review is limited to the mandatory measures, listed in Chapter 5. Chapter A5 is an appendix with voluntary measures provided as a guideline to further encourage green building design practices.

For mandatory Commissioning requirements refer to Energy Code Section 120.8. Note that the measures outlined in CALGreen Code, Chapter 5, Section 5.410.2 for Commissioning and Section 5.410.4 for Testing and Adjusting are not mandatory standards for schools and community colleges; however, these additional verification practices are encouraged and recommended to ensure performance, comfort, system durability, reliability, indoor air quality, and efficiency.

Note: Each of the following measures is an excerpt from the CALGreen Code; for the complete text, consult the 2016 Title 24, Part 11, California Green Building Standards Code.

A DSA Project Submittal Guideline is a compilation of recommendations based on Code, referenced standards, DSA USP documents, and DSA practices. These guidelines are designed to give the design professional helpful information and insight into the DSA project application, submittal and review processes. Guidelines are provided by DSA in support of the USP goals of giving stakeholders the information they need in order to work smoothly with DSA and to help standardize practices among the four DSA Regional Offices.

Compliance with a guideline does not assure that a project is complete or that it adheres to the requirements of the California Building Standards Code (Title 24 of the California Code of Regulations) or all DSA requirements. Additional information may be required, depending on project complexity or site conditions. For complete submittal requirements see forms DSA 1 and DSA 3.
### 5.106.4.2 Bicycle parking.
For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

- **5.106.4.2.1 Student bicycle parking.** Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.
- **5.106.4.2.2 Staff bicycle parking.** Provide permanent secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:
  1. Covered, lockable enclosures with permanently anchored racks for bicycles;
  2. Lockable bicycle rooms with permanently anchored racks; or
  3. Lockable, permanently anchored bicycle lockers.

### 5.106.8 Light pollution reduction.
Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the *California Energy Code* for Lighting Zones 1-4 as defined in Chapter 10 of the *California Administrative Code*; and
2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-11; and
3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or

Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

#### Exceptions:

1. Luminaires that qualify as exceptions in Section 140.7 of the *California Energy Code*.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the *California Energy Code*, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.
Note: See also *California Building Code*, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.

**TABLE 5.106.8 MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS**

5.106.10 Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales.
2. Water collection and disposal systems.
3. French drains.
4. Water retention gardens.
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

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**DIVISION 5.2 - ENERGY EFFICIENCY**

**GENERAL**

5.201.1 California Energy Code. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. New construction, additions, and alterations must comply with the *California Energy Code*. Refer to *California Energy Code* Table 100.0-A.

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**DIVISION 5.3 - WATER EFFICIENCY AND CONSERVATION**

**INDOOR WATER USE**

5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

5.303.3.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specifications for Tank-Type Toilets.

    *Note*: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

5.303.3.2 Urinals.

    5.303.3.2.1 Wall mounted Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush.

    5.303.3.2.2 Floor mounted urinals. The effective flush volume of floor mounted or other urinals shall not exceed 0.5 gallons per flush.
### APPLICATION MATRIX

<table>
<thead>
<tr>
<th>5.303.3.3 Showerheads</th>
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<tr>
<td><strong>5.303.3.3.1 Single showerhead.</strong> Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specifications for showerheads.</td>
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<td><strong>5.303.3.3.2 Multiple showerheads serving one shower.</strong> When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the showerhead shall be designed to allow only one shower outlet to be in operation at one time. <strong>Note:</strong> A hand-held shower shall be considered a showerhead.</td>
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<tr>
<td>5.303.3.4 Faucets and fountains.</td>
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<tr>
<td><strong>5.303.3.4.1 Non-residential lavatory faucets.</strong> Non-residential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.</td>
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<tr>
<td><strong>5.303.3.4.2 Kitchen faucets.</strong> Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.</td>
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<tr>
<td><strong>5.303.3.4.3 Wash fountains.</strong> Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi].</td>
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<tr>
<td><strong>5.303.3.4.4 Metering faucets.</strong> Metering faucets shall not deliver more than 0.20 gallons per cycle.</td>
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<tr>
<td><strong>5.303.3.4.5 Metering faucets for wash fountains.</strong> Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi]. <strong>Note:</strong> Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.</td>
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<tr>
<td>5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the <em>California Plumbing Code</em>, and shall meet the applicable standards referenced in Table 1701.1 of the <em>California Plumbing Code</em> and in Chapter 6 of this code.</td>
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Mandatory Chapter 5

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**Note:** Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.
### OUTDOOR WATER USE

**5.304.6 Outdoor potable water use in landscape areas.** For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, *California Code of Regulations*, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

**Exception:** Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO.

- **5.304.6.1 Newly constructed landscapes.** New construction projects with an aggregate landscape area equal to or greater than 500 square feet.
- **5.304.6.2 Rehabilitated landscapes.** Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

### DIVISION 5.4 - MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

#### WATER RESISTANCE AND MOISTURE MANAGEMENT

- **5.407.1 Weather protection.** Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code*, Section 1403.2 (Weather Protection) and *California Energy Code* Section 150, (Mandatory Features and Devices), manufacturer’s installation instructions, or local ordinance, whichever is more stringent.

- **5.407.2 Moisture control.** Employ moisture control measures by the following methods:
  - **5.407.2.1 Sprinklers.** Design and maintain landscape irrigation systems to prevent spray on structures.
  - **5.407.2.2 Entries and openings.** Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:
    - **5.407.2.2.1 Exterior door protection.** Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:
      1. An installed awning at least 4 feet in depth.
      2. The door is protected by a roof overhang at least 4 feet in depth.
      3. The door is recessed at least 4 feet.
      4. Other methods which provide equivalent protection.
    - **5.407.2.2.2 Flashing.** Installed flashings integrated with a drainage plane.
### CALGREEN CODE

**APPLICATION MATRIX**

<table>
<thead>
<tr>
<th>DIVISION 5.4 - MATERIAL CONSERVATION AND RESOURCE EFFICIENCY</th>
<th>Mandatory Chapter 5</th>
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<tr>
<td>CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING</td>
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5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

#### 5.408.1.1 Construction waste management plan.
Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that:

1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction and demolition waste material collected will be taken.
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

#### 5.408.1.2 Waste management company.
Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.

**Note:** The owner or contractor shall make the determination if the construction and demolition waste material will be diverted by a waste management company.

#### Exceptions to Sections 5.408.1.1 and 5.408.1.2:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65 percent minimum requirement as approved by the enforcing agency.
### BUILDING MAINTENANCE AND OPERATION

**5.410.1 Recycling by occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

**Exception:** Rural jurisdictions that meet and apply for the exemption of Public Resources Code 42649.82 (a)(2)(A) et seq. will also be exempt from the organics waste portion of this section.

**5.410.1.2 Sample ordinance.** Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

*Note:* A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle’s website.

### DIVISION 5.5 ENVIRONMENTAL QUALITY

#### POLLUTANT CONTROL

**5.504.3 Covering of duct openings and protection of mechanical equipment during construction.** At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

**5.504.4 Finish material pollutant control.** Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.

**5.504.4.1 Adhesives, sealants, and caulks.** Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2, below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3, shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet at least one of the following testing and product requirements:

1. Carpet and Rug Institute’s Green Label Plus Program;
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version1.1, February 2010 (also known as CDPH Standard Method V1.1 or Specification 01350);
3. NSF/ANSI 140 at the Gold level or higher;
4. Scientific Certifications Systems Sustainable Choice; or
5. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database.

5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute’s Green Label program.

5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

5.504.4.5 Composite wood products. Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB’s Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted by the ATCM must meet the specified emission limits as shown in Table 5.504.4.5.
### APPLICATION MATRIX

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<th>TABLE 5.504.4.5 - FORMALDEHYDE LIMITS</th>
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**5.504.4.6 Resilient flooring systems.** For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health’s 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;
3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database; or
4. Products certified under the UL GREENGUARD Gold (formerly the Greenguard Children & Schools program).

**5.504.5.3 Filters.** In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 8. MERV 8 filters shall be installed prior to occupancy and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

**Exceptions:**

1. An ASHRAE 10-percent to 15-percent efficiency filter shall be permitted for an HVAC unit meeting the 2016 *California Energy Code* having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at the design air flow.
2. Existing mechanical equipment.

**5.504.5.3.1 Labeling.** Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

### INDOOR MOISTURE CONTROL

**5.505.1 Indoor moisture control.** Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.

### INDOOR AIR QUALITY

**5.506.1 Outside air delivery.** For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.
**5.507.4 Acoustical control.** Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413 or Outdoor–Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

*Exception:* Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

*Exception: [DSA-SS]* For public schools and community colleges, the requirement of this section and all subsections apply only to new construction.

**5.507.4.1 Exteriors noise transmission, prescriptive method.** Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

   *Exceptions:*
   1. $L_{dn}$ or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
   2. $L_{dn}$ or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or $L_{dn}$ noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

**5.507.4.1.1 Noise exposure where noise contours are not readily available.** Buildings exposed to a noise level of 65 dBA during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

**5.507.4.2 Performance method.** For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level ($L_{eq-1Hr}$) of 50 dBA in occupied areas during any hour of operation.

**5.507.4.2.1 Site features.** Exterior features such as sound wall or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.
### CALGREEN CODE

#### APPLICATION MATRIX

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<th><strong>5.507.4.3 Interior sound transmission.</strong> Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.</th>
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<td><strong>Note:</strong> Examples of assemblies and their various STC rating may be found at the California Office of Noise Control website.</td>
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<tr>
<th><strong>5.508.1 Ozone depletion and greenhouse gas reductions.</strong> Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.</th>
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<tr>
<td><strong>5.508.1.1 Chlorofluorocarbons (CFCs)</strong> Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.</td>
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<td><strong>5.508.1.2 Halons</strong> Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.</td>
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<th>Mandatory Chapter 5</th>
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### OUTDOOR AIR QUALITY
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SECTION 01813 - SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general requirements and procedures for compliance with certain prerequisites and credits needed for Project to obtain "LEED Version 4 for Building Design and Construction" (LEED v4 BD+C) Silver certification based on USGBC's LEED v4 BD+C.

1. Some LEED prerequisites and credits needed to obtain LEED certification depend on product selections and may not be specifically identified as LEED requirements. Compliance with requirements needed to obtain LEED prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.

2. A copy of the LEED Project checklist is attached at the end of this Section for information only.

   a. Some LEED prerequisites and credits needed to obtain the indicated LEED certification depend on aspects of Project that are not part of the Work of the Contract.

3. Definitions included in the "LEED Version 4 for Building Design and Construction" (LEED v4 BD+C) Reference Guide and online amendments apply to this Section.

B. Related Requirements:

1. Section 00700 - General Conditions.
2. Section 01010 - Summary of Work.
3. Section 01500 - Temporary Facilities and Controls.
4. Section 01505 - Construction Waste Management.
5. Section 01785 - Operation and Maintenance Data.
6. Divisions 02 through 49 Sections for LEED requirements specific to the work of each of these Sections. Requirements may or may not include reference to LEED.

1.2 DEFINITIONS

A. Bio-Based Materials: Materials that meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials shall be tested using ASTM D 6866 and be legally harvested, as defined by the exporting and receiving country.


C. Chain-of-Custody (COC): A procedure that tracks a product from the point of harvest or extraction to its end use, including all successive stage of processing, transformation, manufacturing, a distribution.

D. Chain-of-Custody Certificates: Certificates signed by manufacturers and fabricators certifying
that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001.

E. Composite Wood and Agrifiber: Products made of wood particles and/or plant material pressed and bonded with adhesive or resin such as particleboard, medium density fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates, and door cores.

F. Concurrent Work: Work performed under separate Contract performed simultaneously with this Contract that may affect the sustainability requirements and Work of this Contract.

G. Corporate Sustainability Report: A third-party verified report that outlines the environmental impacts of extraction operations and activities associated with the manufacturer’s product and the product’s supply chain.

H. Environmental Product Declaration (EPD): An independently verified report based on life-cycle assessment studies that have been conducted according to a set of common rules for each product category and peer-reviewed.
   1. Product-Specific Declaration: A product with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that has at least a cradle to gate scope.
   2. Industry-Wide (Generic) EPD: Provide products with third-party certification (Type III), including external verification, in which the manufacturer is explicitly recognized as a participant by the program operator. EPD must conform to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930 and have at least a cradle to gate scope.
   3. Product-Specific Type III EPD: A product with a third-party certification, including external verification, in which the manufacturer is explicated recognized by the program operator. EPD must conform to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930 and have at least a cradle to gate scope.

I. Extended Producer Responsibility (EPR): Measures undertaken by the maker of a product to accept its own and sometimes other manufacturers’ products as postconsumer waste at the end of the products’ useful life.

J. Health Product Declaration Open Standard (HPD): A standard format for reporting product content and associated health information for building products and materials.

K. Indoor Air Quality (IAQ) Management Plan: Plan developed by the Contractor to provide a healthy indoor environment for workers and building occupants during construction. Plan must meet or exceed the recommendations of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) “IAQ Guidelines for Occupied Buildings Under Construction.”

L. Leadership Extraction Practices: Products that meet at least one of the responsible extraction criteria, which include: extended producer responsibility; bio-based materials; FSC wood products; materials reuse; recycled content; and other USGBC approved programs.

M. Material Cost: The dollar value of materials being provided to the site, after Contractor mark-ups, including transportation costs, taxes, fees, and shop labor, but excluding field equipment and field labor costs.

N. Materials Reuse: Reuse includes salvaged, refurbished, or reused products.

O. Multi-Attribute Optimization: Third party certified products that demonstrate impact reduction below industry average in at least three of the following six categories: global warming potential; stratospheric ozone depletion; acidification; eutrophication; tropospheric ozone creation;
nonrenewable resource depletion.

P. Preceding Work: Work performed under a previous Contract that may affect the sustainability requirements and Work of this Contract.

Q. Recycled Content: Recycled content is the sum of postconsumer recycled content plus one-half the preconsumer recycled content, based on cost.
   1. "Postconsumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
   2. "Preconsumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials, such as rework, regrind, or scrap, generated in a process and capable of being reclaimed within the same process that generated it.

R. Regional Materials: Materials that are extracted, harvested, recovered, and manufactured within a radius of 100 miles from the Project site.

S. Subsequent Work: Work performed under a separate and subsequent Contract performed after Substantial Completion of this Contract. The Work of this Contract may affect the Work of future Contracts.


1.3 PHASED CONSTRUCTION

A. The Work shall be conducted in several phases under separate contracts, with each phase substantially complete as indicated. LEED requirements for each phase shall be the responsibility of the Contractor corresponding to that particular phase and contract. Commutatively, LEED certification will be granted on the totality of all consecutive and combined phases. Coordination between Contractors for each phase may be required.

B. Before commencing Work of each phase, submit a copy of the construction schedule showing the proposed sequence, commencement and completion dates for the corresponding LEED requirements of that phase. This information will be shared with subsequent Contractors performing Work on the Project.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Work of this project includes completed building and application for LEED certification. Work is not complete until Owner has accepted USGBC’s final review of LEED certification.
   1. Provide documentation required by LEED and LEED review.

B. Provide materials and procedures necessary to obtain LEED prerequisites and credits required in this Section. Other Sections may specify requirements that contribute to LEED prerequisites and credits. Refer to other sections for additional materials and procedures necessary to obtain LEED prerequisites and credits.

C. Respond to questions and requests for additional information from Architect and the USGBC regarding LEED credits until the USGBC has made its determination on the project's LEED
certification application.

D. LEED Online Submittals: Upload LEED documentation submittal data directly to USGBC project “LEED Online” website. Complete online forms at least monthly and as necessary to document LEED credits for submittals required in this Section. Coordination between Contractors of Preceding, Concurrent, and Subsequent Work may be required.

E. LEED Conference: Schedule and conduct a conference at a time convenient to Owner and Architect within 21 days prior to commencement of the work. Advise Architect, Owner’s Commissioning Authority, and Owner’s Project Manager of scheduled meeting dates.

1. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Owner’s Project Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: LEED goals for the project, Contractor’s action plans, and discussion of targeted LEED Prerequisites and Credits.

3. Minutes: Record and distribute minutes to attendees and other entities with responsibilities for obtaining LEED Credits.

1.5 SUSTAINABILITY SUBMITTALS

A. General: Submit additional LEED submittals required by other Specification Sections.

1. LEED submittals submitted to the Architect will be for information only. No action will be required by the Architect.

2. Submit signed documentation to USGBC tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met. Respond to questions and requests from USGBC regarding construction waste management and disposal until the USGBC has made its determination on the project’s LEED certification application. Document correspondence with USGBC as informational submittals.

B. Sustainable design submittals are in addition to other submittals.

1. If submitted item is identical to that submitted to comply with other requirements, include an additional copy with other submittal as a record copy of compliance with indicated LEED requirements instead of separate sustainable design submittal. Mark additional copy "Sustainable design submittal."

C. Sustainable Design Documentation Submittals – General Requirements:

1. Environmental Product Declarations complying with LEED requirements.

2. Documentation for products that comply with LEED requirements for multi-attribute optimization.

   a. Include documentation for regional materials, indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material and costs of regional materials.

3. Sustainability reports for products that comply with LEED requirements for raw material and source extraction reporting.

4. Documentation for products that comply with LEED requirements for leadership
extraction practices. Include the following:

a. Product data and certification letter from product manufacturers, indicating participation in an extended producer responsibility program and statement of costs.

b. Product data and certification for bio-based materials, indicating that they comply with requirements. Include statement of costs.


d. Receipts for salvaged and refurbished materials used for Project, indicating sources and costs.

e. Product data and certification letter from product manufacturers, indicating percentages by weight of postconsumer and preconsumer recycled content for products having recycled content. Include statement of costs.

f. Documentation for regional materials, indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material and costs of regional materials.

5. Material ingredient reports for products that comply with LEED requirements for material ingredient reporting.

6. Documentation for products that comply with LEED requirements for material ingredient optimization.

7. Documentation for products that comply with LEED requirements for product manufacturer supply chain optimization.

a. Include documentation for regional materials, indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material and costs of regional materials.

8. Waste Management Plan: Submit plan within 30 days of date established for commencement of the Work.

9. Product data for adhesives and sealants used inside the weatherproofing system, indicating VOC content and laboratory test reports showing compliance with requirements for low-emitting materials.

10. Product data for paints and coatings used inside the weatherproofing system, indicating VOC content and laboratory test reports showing compliance with requirements for low-emitting materials.

11. Laboratory test reports for flooring, indicating compliance with requirements for low-emitting materials.

12. Laboratory test reports for products containing composite wood or agrifiber products or wood glues, indicating compliance with requirements for low-emitting materials.

13. Laboratory test reports for ceilings, walls, and thermal insulation, indicating compliance with requirements for low-emitting materials.

14. Construction Indoor-Air-Quality (IAQ) Management:

a. Construction IAQ management plan.

b. Product data for temporary filtration media.

c. Product data for filtration media used during occupancy.

d. Construction Documentation: Six photographs at three different times during the
construction period, along with a brief description of the SMACNA approach employed, documenting implementation of the IAQ management measures, such as protection of ducts and on-site stored or installed absorptive materials.

15. IAQ Assessment:
   a. Signed statement describing the building air flush-out procedures, including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out.
   b. Product data for filtration media used during flush-out and occupancy.
   c. Report from testing and inspecting agency indicating results of IAQ testing and documentation showing compliance with IAQ testing procedures and requirements.

D. LEED Documentation Submittals – Specific Project Requirements:

1. General, Sustainable Materials Attributes Form: Project submittals must be accompanied by a completed Sustainable Materials Attributes Form. Submittal packages must also include highlighted documentation supporting the sustainability claims made on the Sustainable Materials Attributes Form.
   a. Provide location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material.

2. EAp3, Building-Level Energy Metering: Product data for meters, sensors, and data collection system used to provide continuous metering of building energy-consumption performance.

3. MRp2/MRc5, Construction and Demolition Waste Management: Comply with the following:
   a. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste. Include the following information:
      1) Material category.
      2) Generation point of waste.
      3) Total quantity of waste in tons (tonnes).
      4) Quantity of waste salvaged, both estimated and actual in tons (tonnes).
      5) Quantity of waste recycled, both estimated and actual in tons (tonnes).
      6) Total quantity of waste recovered (salvaged plus recycled) in tons (tonnes).
      7) Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
   b. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
   c. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
   d. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
   e. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
   f. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of
waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

4. **MRc2, Building Product Disclosure and Optimization: Environmental Product Declarations complying with LEED requirements.**

5. **MRc3, Building Product Disclosure and Optimization, Sourcing of Raw Materials: Option 1, Raw Material Source and Extraction Reporting.**
   a. Corporate sustainability reports for products that comply with LEED requirements for raw material and source extraction reporting.

   b. Bio-Based Materials: Product data and certification for bio-based materials, indicating that they comply with requirements. Include statement of costs.
   c. Certified Wood: Product data and chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each certified wood product.
   d. Materials Reuse: Receipts for salvaged and refurbished materials used for Project, indicating sources and costs.
   e. Recycled Content: Product data and certification letter from product manufacturers, indicating percentages by weight of postconsumer and preconsumer recycled content for products having recycled content. Include statement of costs.

7. **MRc4, Building Product Disclosure and Optimization, Material Ingredients: Option 1, Material Ingredient Reporting.**
   a. Material ingredient reports for products that comply with LEED requirements for material ingredient reporting, including but not limited to the following:
      1) Manufacturer Inventory.
      2) Health Product Declaration.
      3) Cradle to Cradle certifications.
      4) Declare product labels.
      5) ANSI/BIFMA e3 Furniture Sustainability Standard.

8. **MRc4, Building Product Disclosure and Optimization, Material Ingredients: Option 2, Material Ingredient Optimization.**
   a. Documentation for products that comply with LEED requirements for material ingredient optimization, including but not limited to the following:
      1) GreenScreen Benchmarks.
      2) Cradle to Cradle certifications.
      3) REACH optimizations.

9. **EQu2/EQu3/EQu4, Indoor Air Quality:**

10. **EQu2, Low-Emitting Materials: Product data, indicating VOC content and emissions testing documents showing compliance with requirements for low-emitting materials, for the following materials:**
    a. Paints and coatings.
    b. Adhesives and sealants.
c. Flooring.
d. Products containing composite wood or agrifiber products or wood glues.
e. Ceilings, walls, thermal, and acoustic insulation.
f. Exterior applied materials.
g. Furniture.

E. Qualification Data:
   1. For LEED coordinator, and for waste management coordinator if different entity.
   2. Refrigerant recovery technician.

F. Project Materials Cost Data: Provide statement indicating total cost and shop labor for materials used for Project. Costs exclude site labor, overhead, and profit. Include breakout of costs for the following categories of items:
   1. Wood construction materials.
   2. Furniture.
   5. Passive electrical materials.
   7. Specialty items, such as elevators and equipment.

G. LEED Action Plan Components: Provide preliminary submittals within 30 days of date established for commencement of the Work, updated within 7 days of commencement of each phase or portion of the Work, indicating how the following requirements will be met:
   1. MRp2/MRc5, Waste management plan, complying with Section 01505 "Construction Waste Management."
   2. EQp2/EQ3/EQ4, Indoor air quality plan. Comply with article 3.3

H. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with LEED action plans for the following:
   1. MRp2/MRc5, Waste reduction progress reports complying with Section 01505 "Construction Waste Management."
   2. MRc2, Building product disclosure and optimization – environmental product declarations.
      a. General: Manufacturing locations.
      b. Option 1: Corporate sustainability reports.
      c. Option 2:
         1) Extended producer responsibility.
         2) Bio-based materials.
         3) Certified wood products.
         4) Materials reuse.
         5) Recycled content.
4. MRC4, Building product disclosure and optimization – material ingredients.

5. EQc2, Low emitting materials.
   a. Low Emitting Materials Tracking Sheet monitoring the project’s progress towards targeted LEED Indoor Environmental Quality Credits. Tracking Sheet to be presented at construction meetings.

6. EQc3, Indoor air quality, during construction, complying with Section 00700 – General Conditions, and applicable Division 01 requirements.

7. EQc4, Indoor air quality assessment, comply with article 3.3

1.6 QUALITY ASSURANCE

A. LEED Coordinator: Engage an experienced LEED-Accredited Professional to coordinate LEED requirements. LEED coordinator may also serve as waste management coordinator.

B. LEED Preconstruction Meeting: Architect to conduct meeting at project site as part of the Pre-Construction Conference to comply with requirements of this section.
   1. The General Contractor shall require all major subcontractors to attend meeting.
   2. Review methods and procedures related to managing the LEED construction process and to include, but are not limited to the following:
      a. Understanding LEED process and terminology.
      b. Understanding contractor responsibilities and LEED submittal process.
      c. Maintaining proper meeting minutes, records, and tracking mechanisms related to LEED credit responsibilities.
      d. Understanding LEED certification process and filling out LEED Online submittal forms.

C. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

D. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent [may] [may not] serve as Waste Management Coordinator.
   1. Firm employs a LEED-Accredited Professional, certified by the USGBC, as waste management coordinator.
   2. Waste management coordinator may also serve as LEED coordinator.

E. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

F. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

G. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 01311 “Project Management and Coordination” and as indicated herein. Review methods and procedures related to waste management including, but not limited to, the following:
1. Review and discuss waste management plan including responsibilities of each contractor and waste management coordinator.

2. Review requirements for documenting quantities of each type of waste and its disposition.

3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.

4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.

5. Review waste management requirements for each trade.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Waste identified in this portion of the Work will be considered demolition waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Use Form CWM-1 for construction waste and Form CWM-2 for demolition waste. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-3 for construction waste and Form CWM-4 for demolition waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work in compliance with Section 02 41 13 "Selective Site Demolition and "Section 02 41 16 "Structure Demolition."

2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.

3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.

4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there were no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste and Form CWM-6 for demolition waste. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include transportation and tipping fees and cost of collection containers and handling for each type of waste.

3. Total cost of disposal (with no waste management).

4. Revenue from salvaged materials.

5. Revenue from recycled materials.


7. Savings in transportation and tipping fees that are avoided.

8. Handling and transportation costs. Include cost of collection containers for each type of waste.

9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Provide products and procedures necessary to obtain LEED credits required in this Section. Although other Sections may specify some requirements that contribute to LEED credits, the Contractor shall determine additional materials and procedures necessary to obtain LEED credits indicated. Contractor to determine a combination of credit options best suited for achieving credits required.

1. Exclusions: Special equipment, such as elevators, escalators, process equipment, and fire suppression systems, is excluded from the credit calculations. Also excluded are products purchased for temporary use on the project, like formwork for concrete.

2.2 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling a minimum of 50 percent by weight of total nonhazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:

1. Demolition Waste:
   a. Asphalt paving.
   b. Concrete.
   c. Concrete reinforcing steel.
   d. Brick.
   e. Concrete masonry units.
   f. Wood studs.
   g. Wood joists.
   h. Plywood and oriented strand board.
   i. Wood paneling.
   j. Wood trim.
k. Structural and miscellaneous steel.
l. Rough hardware.
m. Roofing.
n. Insulation.
o. Doors and frames.
p. Door hardware.
q. Windows.
r. Glazing.
s. Metal studs.
t. Gypsum board.
u. Acoustical tile and panels.
v. Carpet.
w. Carpet pad.
x. Demountable partitions.
y. Equipment.
z. Cabinets.
aa. Plumbing fixtures.
bb. Piping.
cc. Supports and hangers.
dd. Valves.
ee. Sprinklers.
ff. Mechanical equipment.
gg. Refrigerants.
hh. Electrical conduit.
ii. Copper wiring.
jj. Lighting fixtures.
kk. Lamps.
ll. Ballasts.
mm. Electrical devices.
nn. Switchgear and panelboards.
oo. Transformers.

2. Construction Waste:
a. Masonry and CMU.
b. Lumber.
c. Wood sheet materials.
d. Wood trim.
e. Metals.
f. Roofing.
g. Insulation.
h. Carpet and pad.
i. Gypsum board.
j. Piping.
k. Electrical conduit.
l. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
   - Paper.
     1) Cardboard.
     2) Boxes.
     3) Plastic sheet and film.
     4) Polystyrene packaging.
     5) Wood crates.
     6) Wood pallets.
     7) Plastic pails.
m. Construction Office Waste: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following construction office waste materials:
   - Paper.
   - Aluminum cans.
   - Glass containers.

2.3 BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION

A. MRc2, Building Product Disclosure and Optimization, Environmental Product Declarations (EPD): Option 1. Provide at least 20 permanently installed products (sourced from at least 5 different manufacturers) which meet one of the disclosure criteria:
   1. Product-Specific Declaration: Valued as one quarter (1/4) of a product.
   2. Industry-Wide (Generic) EPD: Valued as one half (1/2) of a product.
   3. Product-Specific Type III EPD: Valued as one whole product.

B. MRc3, Building Product Disclosure and Optimization, Sourcing of Raw Materials: Option 1, Raw Material Source and Extraction Reporting. Provide at least 20 permanently installed products (sourced from at least 5 different manufacturers) which meet one of the disclosure criteria:
   1. Corporate sustainability reports.

C. MRc3, Building Product Disclosure and Optimization, Sourcing of Raw Materials: Option 2, Leadership Extraction Practices. Provide products that meet at least one of the responsible extraction criteria below for at least 25%, by cost, of the total value of permanently installed building products in the project:
   1. Extended producer responsibility program.
   3. Certified Wood: Wood-based materials include, but are not limited to, the following
materials when made from wood, engineered wood products, or wood-based panel products:

a. Rough carpentry.
b. Miscellaneous carpentry.
c. Heavy timber construction.
d. Wood decking.
e. Metal-plate-connected wood trusses.
f. Structural glued-laminated timber.
g. Finish carpentry.
h. Architectural woodwork.
i. Wood paneling.
j. Wood veneer wall covering.
k. Wood flooring.
l. Wood lockers.
m. Wood cabinets.
n. Furniture.

4. Recycled content.
   a. Exceptions: Do not include [furniture, fire protection, operational plumbing, operational mechanical, and operational electrical components, and specialty items, such as elevators and equipment, in the calculation."

D. MRc4, Building Product Disclosure and Optimization, Material Ingredients: Option 1, Material Ingredient Reporting.

1. Use at least 20 different permanently installed products from at least five different manufacturers that use any of the following programs to demonstrate the chemical inventory of the product to at least 0.1% (1000 ppm), which meet one of the following disclosure criteria:

   a. Manufacturer Inventory.
   b. Health Product Declarations (HPDs).
   c. Cradle to Cradle (C2C) certifications.
   d. Declare product labels.
   e. ANSI/BIFMA e3 Furniture Sustainability Standard.

E. MRc4, Building Product Disclosure and Optimization, Material Ingredients: Option 2, Material Ingredient Optimization.

1. Use products that document their material ingredient optimization using the paths below for at least 25%, by cost, of the total value of permanently installed products in the project, which meet one of the following disclosure criteria:

   a. GreenScreen benchmarks.
   b. Cradle to Cradle certifications.
   c. REACH optimizations.
2.4 LOW-EMITTING MATERIALS

A. EQc2, Low-Emitting Materials, General Emissions Requirements: Products must demonstrate they have been tested and determined compliant in accordance with California Department of Public Health, (CDHP), Standard Method v1.1-2010, using the applicable exposure scenario. Manufacturer’s documentation demonstrating compliance must state the range of total VOCs (tVOC) after 14 days measured as specified in the CDPH Standard Method v1.1 as follows:

1. 0.5mg/m³ or less,
2. between 0.5 and 5.0 mg/m³ or,
3. 0.50 mg/m³ or more.

B. EQc2, Low-Emitting Materials, Paints and Coatings: For field applications[ that are inside the weatherproofing system], use paints and coatings that comply with the limits for VOC content when calculated according to the California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or the South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011.

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<thead>
<tr>
<th>Product Type:</th>
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<tr>
<td>Bond Breaker</td>
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<tr>
<td>Clear wood finishes - Varnish</td>
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<td>Clear wood finishes – Sanding Sealer</td>
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<td>Clear wood finishes - Lacquer</td>
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<td>Colorant – Architectural Coatings, excluding IM coatings</td>
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<td>Colorant – Solvent Based IM</td>
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<td>Colorant - Waterborne IM</td>
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<td>Concrete – Curing compounds for roadways &amp; bridges</td>
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<tr>
<td>Concrete surface retarder</td>
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<td>Driveway Sealer</td>
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<td>Dry-fog coatings</td>
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<td>Faux finishing coatings – Decorative Coatings</td>
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<td>Faux finishing coatings - Japan</td>
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<td>Fire-proof coatings</td>
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<td>Floor coatings</td>
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<td>Form release compounds</td>
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<td>Graphic arts (sign) coatings</td>
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<td>Magnesite cement coatings</td>
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<td>Metallic pigmented coatings</td>
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<tr>
<td>Multi-color coatings</td>
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C. EQc2, Low-Emitting Materials, Paints and Coatings: For field applications that are inside the weatherproofing system, 90 percent of paints and coatings shall comply with the 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."

D. EQc2, Low-Emitting Materials, Adhesives and Sealants: For field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the limits for VOC content when calculated according to South Coast Air Quality Management District (SCAQMD) Rule #1168, requirements in effect on July 1, 2005, and rule amendment date January 7, 2005:

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<tr>
<th>Architectural Applications:</th>
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<td>Carpet pad adhesives</td>
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<td>Outdoor carpet adhesives</td>
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<td>Rubber floor adhesives</td>
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<td>Subfloor adhesives</td>
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<tr>
<td>Ceramic tile adhesives</td>
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<td>VCT and asphalt tile adhesives</td>
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<td>Dry wall and panel adhesives</td>
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<td>Cove base adhesives</td>
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<td>Multipurpose construction adhesives</td>
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<td>Structural glazing adhesives</td>
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<td>Single ply roof membrane adhesives</td>
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<td>Specialty Applications:</td>
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<tr>
<td>PVC welding</td>
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<td>CPVC welding</td>
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<tr>
<td>ABS welding</td>
<td>325</td>
</tr>
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</table>
1. Exception: The provisions of SCAQMD Rule 1168 do not apply to adhesives and sealants subject to state or federal consumer product VOC regulations.

E. EQc2, Low-Emitting Materials, Adhesives and Sealants: For field applications that are inside the weatherproofing system, 90 percent of adhesives and sealants shall comply with the 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."

F. EQc2, Low-Emitting Materials, Flooring: Flooring shall comply with the 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."

G. EQc2, Low-Emitting Materials, Composite Wood: Composite wood, agrifiber products, and adhesives shall be made using ultra-low-emitting formaldehyde (ULEF) resins as defined in the California Air Resources Board’s "Airborne Toxics Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or shall be made with no added formaldehyde.

H. EQc2, Low-Emitting Materials, Ceilings, Walls, Thermal, and Acoustic Insulation: Ceilings, walls, and thermal insulation shall comply with the 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."

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Plastic cement welding</td>
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<td>Adhesive primer for plastic</td>
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<td>Computer diskette manufacturing</td>
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<td>Contact adhesive</td>
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<tr>
<td>Special purpose contact adhesive</td>
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<td>Tire retread</td>
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<td>Adhesive primer for traffic marking tape</td>
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<tr>
<td>Structural wood member adhesive</td>
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<td>Sheet applied rubber lining operations specialty</td>
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<td>Top and Trim adhesive</td>
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**Substrate Specific Applications:**

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<td>Metal to metal substrate specific adhesives</td>
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<tr>
<td>Plastic foam substrate specific adhesives</td>
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<td>Porous material (except wood) substrate specific adhesives</td>
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<tr>
<td>Wood substrate specific adhesives</td>
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<td>Fiberglass substrate specific adhesives</td>
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**Sealants:**

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<td>Marine deck sealant</td>
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<tr>
<td>Nonmember roof sealant</td>
<td>300</td>
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<tr>
<td>Roadway sealant</td>
<td>250</td>
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<tr>
<td>Single-ply roof membrane sealant</td>
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<tr>
<td>Other sealant</td>
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</table>

**Sealant Primers:**

<table>
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<th>Sealant Primer</th>
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<tbody>
<tr>
<td>Architectural non-porous sealant primer</td>
<td>250</td>
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<tr>
<td>Architectural porous sealant primer</td>
<td>775</td>
</tr>
<tr>
<td>Modified bituminous sealant primer</td>
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</tr>
<tr>
<td>Marine deck sealant primer</td>
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<tr>
<td>Other sealant primer</td>
<td>750</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Other adhesives, adhesive bonding primers, adhesive primers or any other primers</td>
<td>250</td>
</tr>
</tbody>
</table>
I. **EQc2, Low-Emitting Materials, Exterior Applied Materials:** At least 90 percent of exterior applied materials, measured by volume, shall comply with the 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."

1. The following materials are prohibited and do not count toward total percentage compliance:
   a. Hot-mopped asphalt for roofing.
   b. Coal tar sealants for parking lots and other paved surfaces.

J. **EQc2, Low-Emitting Materials, Furniture:** At least 90 percent of furniture, measured by cost, shall be tested in accordance with ANSI/BIFMA Standard Method M7.1-2011; comply with ANSI/BIFMA e3-2011 Furniture Sustainability Standard, Sections 7.6.1 and 7.6.2, using either the concentration modeling approach or the emissions factor approach; and model the test results using the open plan, private office, or seating scenario in ANSI/BIFMA M7.1, as appropriate.

K. **Additional Low-Emitting Requirements:**

   1. If the applicable regulation requires subtraction of exempt compounds, any content of intentionally added exempt compounds larger than 1% weight by mass (total exempt compounds) must be disclosed.

   2. If a product cannot reasonably be tested as specified above, testing of VOC content must comply with ASTM D2369-10; ISO 11890, part 1; ASTM D6886-03; or ISO 11890-2.

   3. Methylene chloride and perchloroethylene may not be intentionally added in paints, coatings, adhesives, or sealants.

2.5 **INDOOR WATER USE REDUCTION**

A. **WEp2, Indoor Water Use Reduction, Appliances:** Provide ENERGY STAR or performance equivalent appliances.

B. **WEp2/WEc2, Indoor Water Use Reduction, Plumbing Fixtures:** Do not exceed water flow requirements indicated in Division 22 - PLUMBING.

PART 3 - EXECUTION

3.1 **NONSMOKING BUILDING**

A. **EQp2, Environmental Tobacco Smoke Control:** Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

3.2 **CONSTRUCTION WASTE MANAGEMENT**

A. **MRp2 MRc5, Construction and Demolition Waste Management:** Comply with Section 01505 "Construction Waste Management" and the following:
B. Plan Implementation, General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
   1. Comply with operation, termination, and removal requirements in Section 01500 "Temporary Facilities and Controls."

C. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

D. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
   1. Distribute waste management plan to everyone concerned within [three] <Insert number> days of submittal return.
   2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

E. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
   2. Comply with Section 01500 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.3 SALVAGING DEMOLITION WASTE

A. Comply with requirements in Section 02 41 13 "Selective Site Demolition" and Section 02 41 16 "Structure Demolition" for salvaging demolition waste.

B. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
   3. Store items in a secure area until installation.
   4. Protect items from damage during transport and storage.
   5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

C. Salvaged Items for Sale and Donation: Not permitted on Project site.

D. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
   3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area [on-site] [off-site] [designated by Owner].
5. Protect items from damage during transport and storage.

E. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

F. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

G. Plumbing Fixtures: Separate by type and size.

H. Lighting Fixtures: Separate lamps by type and protect from breakage.

I. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.4 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

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 according to approved construction waste management plan.
   1. Provide appropriately marked containers or bins for controlling recyclable waste until 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 from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.5 RECYCLING DEMOLITION WASTE

A. Asphalt Paving: Grind asphalt to maximum 1-1/2-inch size.
   1. Break up and transport paving to asphalt-recycling facility.

B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals. Pulverize concrete to maximum 1-1/2-inch size.
C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
   1. Pulverize masonry to maximum 1-1/2-inch size.
   2. Clean and stack undamaged, whole masonry units on wood pallets.

D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

E. Metals: Separate metals by type.
   1. Structural Steel: Stack members according to size, type of member, and length.
   2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

G. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

H. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

I. Metal Suspension System: Separate metal members, including trim and other metals from acoustical panels and tile, and sort with other metals.

J. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
   1. Store clean, dry carpet and pad in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

K. Carpet Tile: Remove debris, trash, and adhesive.
   1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

L. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.

M. Conduit: Reduce conduit to straight lengths and store by material and size.

N. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

3.6 RECYCLING CONSTRUCTION WASTE

A. Packaging:
   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
   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.

B. 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.
   a. Comply with requirements in Section 32 93 00 "Plants" for use of clean sawdust as organic mulch.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container 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.

D. Paint: Seal containers and store by type.

3.7 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, 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.

3.8 CONSTRUCTION INDOOR-AIR-QUALITY (IAQ) MANAGEMENT

A. EQc3/EQc4, Construction Indoor Air Quality Management Plan:
   1. Comply with SMACNA's "SMACNA IAQ Guideline for Occupied Buildings under Construction."
      a. If Owner authorizes use of permanent heating, cooling, and ventilating systems during construction period as specified in Section 01500 "Temporary Facilities and Controls," install MERV 8 filter media at each return-air inlet for the air-handling system used during construction.
      b. Replace air filters immediately prior to occupancy.

3.9 IAQ ASSESSMENT

A. Flush-Out:
   1. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total volume of 14,000 cu. ft. of outdoor air per sq. ft. of floor area while maintaining an internal temperature of at least 60 deg F and a relative humidity no higher than 60 percent.
2. If occupancy is desired prior to flush-out completion, the space may be occupied following delivery of a minimum of 3500 cu. ft. of outdoor air per sq. ft. of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cfm per sq. ft. of outside air or the design minimum outside-air rate, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cu. ft./sq. ft. of outside air has been delivered to the space.

B. Air-Quality Testing: Owner will engage testing agency to perform the following:

1. Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air," and as additionally detailed in the USGBC's "LEED Reference Guide for Building Design and Construction."

2. Demonstrate that the contaminant maximum concentrations listed below are not exceeded:
   a. Formaldehyde: 27 ppb.
   b. Particulates (PM10): 50 micrograms/cu. m.
   c. Ozone: 0.075 ppm, according to ASTM D 5149.
   d. Total Volatile Organic Compounds: 500 micrograms/cu. m.
   e. 4-Phenylcyclohexene (4-PH): 6.5 micrograms/cu. m.
   f. Carbon Monoxide: 9 ppm and no greater than 2 ppm above outdoor levels.

3. For each sampling point where the maximum concentration limits are exceeded, take corrective action until requirements have been met.

4. Air-sample testing shall be conducted as follows:
   a. All measurements shall be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at the minimum outside-air flow rate for the occupied mode throughout the duration of the air testing.
   b. Building shall have all interior finishes installed, including, but not limited to, millwork, doors, paint, carpet, and acoustic tiles. Nonfixed furnishings, such as workstations and partitions, are encouraged, but not required, to be in place for the testing.
   c. Number of sampling locations varies depending on the size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, the number of sampling points shall not be less than one per 5000 sq. ft.
   d. Air samples shall be collected between 3 and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum four-hour period.

END OF SECTION
Attachments:

1. LEED v4 BD+C: New Construction and Major Renovation Project Checklist
2. Form CWM-1 for construction waste identification.
3. Form CWM-2 for demolition waste identification.
4. Form CWM-3 for construction waste reduction work plan.
5. Form CWM-4 for demolition waste reduction work plan.
6. Form CWM-5 for cost/revenue analysis of construction waste reduction work plan.
7. Form CWM-6 for cost/revenue analysis of demolition waste reduction work plan.
8. Form CWM-7 for construction waste reduction progress report.
### LEED v4 for BD+C: New Construction and Major Renovation

#### Project Checklist

<table>
<thead>
<tr>
<th>Credit</th>
<th>Location and Transportation</th>
<th>Materials and Resources</th>
<th>Indoor Environmental Quality</th>
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<td>Y Prereq LEED for Neighborhood Development Location</td>
<td>0 5 8 Y Prereq Storage and Collection of Recyclables</td>
<td>14 4 0 Y Prereq Minimum Indoor Air Quality Performance</td>
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<td>Y Prereq Environmental Tobacco Smoke Control</td>
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<td>2 Credit High Priority Site</td>
<td>1 Credit Enhanced Indoor Air Quality Strategies</td>
<td>2 Credit Enhanced Indoor Air Quality Strategies</td>
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<td>5 Credit Access to Quality Transit</td>
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<td>2 Credit Bicycle Facilities</td>
<td>3 Credit Construction Indoor Air Quality Management Plan</td>
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<td>5 Credit Reduced Parking Footprint</td>
<td>1 Credit Indoor Air Quality Assessment</td>
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#### Sustainable Sites

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<td>1 Credit Site Assessment</td>
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#### Water Efficiency

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#### Project Information

**Project Name:** Contra Costa Community College New Science Building  
**Date:** 10/4/2017  
**Certified:** 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110
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## FORM CWM-5: COST/REVENUE ANALYSIS OF CONSTRUCTION WASTE REDUCTION WORK PLAN

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SECTION 01820

DEMONSTRATION AND TRAINING PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for instructing District’s personnel, including the following:
   1. Demonstration of operation of systems, subsystems, and equipment
   2. Training in operation and maintenance of systems, subsystems, and equipment
   3. Demonstration and training videos

1.3 SUBMITTALS

A. At completion of training, provide two (2) complete training manuals for the District’s use.
B. Attendance Record: For each training module, provide list of participants and length of instruction time.

1.4 QUALITY ASSURANCE

A. Instructor Qualifications: A factory-authorized service representative or District approved equivalent, complying with requirements in Section 01400 (Quality Control Requirements), and technical specification sections where required. Service representative shall be experienced in operation and maintenance procedures and training for Project specific systems and equipment.
B. Contractor shall coordinate instruction schedule and verify availability of educational materials, instructor’s personnel, audiovisual equipment, and facilities needed to avoid delays.
C. For instruction that must occur outdoors, review weather forecast and provide alternatives if conditions are unfavorable.

1.5 COORDINATION

A. Contractor shall coordinate instruction schedule with District Construction Manager.
B. Provide written notice ten (10) working days in advance to District Construction Manager, and Architect prior to any scheduling instruction sessions. District Construction Manager shall furnish Contractor with names and positions of intended participants.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Contractor shall develop and provide instruction program that includes group training modules for each system and equipment not part of a system, but included in individual Specification Sections.
B. Training Modules: Contractor shall develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
   1. Review basis of system design
   2. Operational requirements and criteria, including:
      a. System, subsystem, and equipment descriptions
      b. Operating standards
      c. Regulatory requirements
      d. Operating characteristics
      e. Limiting conditions
      f. Performance curves
   3. Detailed review of documentation, including:
      a. Emergency manuals and procedures
      b. Operations manuals and procedures
      c. Maintenance manuals and procedures
      d. Identification systems
      e. Warranties and Guarantees
      f. Maintenance service agreements and similar continuing commitments
      g. Normal shutdown instructions
      h. Required sequences for electric or electronic systems
      i. Special operating instructions and procedures
      j. Troubleshooting and diagnostics
      k. Test and inspection procedures

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.

B. Set up as required at instructional location.

END OF SECTION 01820
BID DOCUMENTS COVER SHEET

CONTRACT DOCUMENTS

FOR

C-4016 New Science Building – Increment 1
Site Work

AT

Contra Costa College
2600 Mission Bell Dr., San Pablo, CA 94806

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Consists of:

DSA Appl. #01-117149 Inc. 1

VOLUME 2

Architect:
SmithGroupJJR
301 Battery Street, 7th Floor
San Francisco, CA 94111
415.227.0100

October 17, 2018 (DSA Approval)
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SECTION 02 41 19 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section Includes:
   1. Demolition and removal of selected existing concrete piles as shown in sheets C2.00 and C2.01.
B. Related Requirements:
   1. Section 01100 "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
   2. Section 01730 "Execution" for cutting and patching procedures.

1.3 DEFINITIONS
A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP
A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREINSTALLATION MEETINGS
A. Predemolition Conference: Conduct conference at Project site.
   1. Inspect and discuss condition of construction to be selectively demolished.
   2. Review structural load limitations of existing structure.
   3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
   4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
   5. Review areas where existing construction is to remain and requires protection.
1.6 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.

1. Schedule of Selective Demolition Activities: Indicate the following:
   a. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
   b. Interruption of utility services. Indicate how long utility services will be interrupted.
   c. Coordination for shutoff, capping, and continuation of utility services.
   d. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

B. Predemolition Photographs or Video: Submit before Work begins.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Storage or sale of removed items or materials on-site is not permitted.

D. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review record documents of existing construction and previous demolition work provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Survey of Existing Conditions: Record existing conditions by use of measured drawings and preconstruction photographs.
   1. Comply with requirements specified in Section 01320 "Photographic Documentation."
   2. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.
   3. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
   1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
   2. Arrange to shut off indicated utilities with utility companies.
   3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
   4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
      a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
      b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
      c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
      d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and...
remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.

e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.

2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.

3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

4. Cover and protect furniture, furnishings, and equipment that have not been removed.

5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.

2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces,
such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.

5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 01505 “Construction Waste Management.”

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
3.8 SELECTIVE DEMOLITION SCHEDULE

A. Existing Items to Be Removed: Refer to Drawings.

B. Existing Items to Remain: Refer to Drawings.

END OF SECTION
SECTION 27 00 00 BASIC COMMUNICATIONS REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes general administrative and procedural requirements for Division 27, and is intended to supplement, not supersede, the general requirements specified in Division 00.

B. The requirements described herein include the following:
   1. References
   2. Definitions
   3. Submittals
   4. Quality Assurance
   5. Delivery, Storage, and Handling
   6. Scheduling
   7. Warranty
   8. Product Substitutions
   9. Project Management and Coordination Services
  10. Permits and Inspections
  11. Field Quality Control
  12. Project Closeout and Record Documents

C. Related Items
   1. General and Supplementary Conditions: General provisions of the Prime Contract and Divisions 00 and 01 apply to Division 27.
   2. Consult other Divisions and Sections, determine the extent and character of related work, and coordinate Work of Division 27 with that specified elsewhere to produce a complete and operable installation.
   3. Section 27 05 43, “Communication Outside Plant Pathways”

1.2 REFERENCES

A. General
   1. Codes, standards, and industry manuals/guidelines listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Consider such codes and/or standards a part of this specification as though fully repeated herein.
   2. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
   3. Reference to codes, standards, specifications and recommendations of technical societies, trade organizations and governmental agencies shall mean that latest edition of such publications adopted and published prior to submittal of the bid unless otherwise specifically stated.

B. Codes: Perform work and furnish materials and equipment under Division 27 in accordance with applicable requirements of the latest edition of governing codes, rules and regulations including but not limited to the following minimum standards, whether statutory or not:
   1. California Code of Regulations (CCR):
      a. Title 8, “Industrial Relations”
1) Chapter 3.22, “California Occupational Safety and Health Regulations (CAL/OSHA)"
   b. Title 24, “California Building Standards Code”
      2) Part 2, “California Building Code” (CBC)
      3) Part 3, “California Electrical Code” (CEC)
      4) Part 11, “California Green Building Standards Code” (CALGeen)"

2. National Fire Protection Agency (NFPA)
   a. NFPA 70, “National Electrical Code” (NEC)
   b. NFPA 75, “Protection of Information Technology Equipment”

3. United States Department of Labor (DOL) Occupational Safety and Health Administration (OSHA) Regulations (Standards - 29 CFR)
   a. Part 1910, “Occupational Safety and Health Standards”
   b. Part 1926, “Safety and Health Regulations for Construction”

   b. Part 27, “Miscellaneous Wireless Communications Services”
   c. Part 68, “Connection of Terminal Equipment to the Telephone Network”
   d. Part 90, “Private Land Mobile Radio Services”

5. Other applicable national, state, and local binding building and fire codes

C. Standards: Perform work and furnish materials and equipment under Division 27 in accordance with the latest editions of the following standards as applicable:

1. Building Industry Consulting Services International (BICSI):
   a. Telecommunications Distribution Methods Manual (TDMM)
   c. Wireless Design Reference Manual (WDRM)

2. EIA testing standards

3. National Electrical Contractors Association (NECA):

4. Telecommunications Industry Association (TIA):
   a. ANSI/TIA-568-C.0, “Generic Telecommunications Cabling for Customer Premises”
   b. ANSI/TIA-568-C.1, “Commercial Building Telecommunications Cabling Standards - Part 1 General Requirements”
   c. ANSI/TIA-568-C.2, “Balanced Twisted Pair Telecommunications Cabling and Components”
   e. ANSI/TIA-569-B, “Commercial Building Standard for Telecommunications Pathways and Spaces”
   f. ANSI/TIA/EIA-598-B, “Optical Fiber Cable Color Coding”
   g. ANSI/TIA-606-B, “Administration Standard for Telecommunications Infrastructure”
   h. ANSI-TIA-607-B, “Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises”
   i. ANSI/TIA-758-A, “Customer-Owned Outside Plant Telecommunications Infrastructure Standard”
1.3 DEFINITIONS

A. The definitions of Divisions 00 and 01 shall apply to Division 27 sections.

B. In addition to those definitions of Divisions 00 and 01, the following list of terms as used in this specification defined as follows:

1. “AFF”: Above Finished Floor
2. “As directed”: As directed or instructed by the Owner, or their authorized representative
3. “AHJ”: Authority Having Jurisdiction
4. “Cabling”: installed media ready for electronic or optical signal circuit use; a complete media connection comprised of cables, termination apparatus (patch panels, blocks, connectors), outlets, connecting media (path cord, crossconnects), labeling
5. “CBC”: California Building Code (CCR Title 24 Part 2)
6. “CCR”: California Code of Regulations
7. “CEC”: California Electrical Code (CCR Title 24 Part 3)
8. “Connect”: To install patch cords, equipment cords, crossconnect wire, etc. to complete an electronic or optical signal circuit
9. “Cord”: a length of cordage having connectors at each end. The term “Cord” is synonymous with the term “Jumper” and “Lead”
10. “Engineer”: TEECOM
11. “Furnish”: To purchase, procure, acquire, and deliver complete with related accessories
12. “General Contractor”: successful bidder
13. “Identifier”: A unique code assigned to an element of the Telecommunications infrastructure that links it to its corresponding record
14. “Install”: To set in place, join, unite, fasten, link, attach, set up or otherwise connect together and test before turning over to the Owner, parts, items, or equipment supplied by contractor or others. Make installation complete and ready for regular operation
15. “IOR”: Inspector Of Record
16. “ISP”: Inside Plant
17. “LED”: Light Emitting Diode
18. “MSDS”: Material Safety Data Sheets
19. “NEC”: National Electrical Code (NFPA 70)
20. “NEMA”: National Electrical Manufacturers Association
22. “NIC”: Not In Contract (work or equipment)
23. “OFCI”: Owner-furnished contractor-installed; coordinate the integration of components furnished by the Owner; provide mounting hardware, cable, connectors, etc. to ensure proper integration of OFCI equipment
24. “OFE”: Owner Furnished Equipment
25. “OSP”: Outside Plant
26. “Owner”: Contra Costa College
27. “Owner’s Representative”: Critical Solutions Inc.
29. “Pigtail”: a length of cordage having connectors at one end
30. “Provide”: To furnish, transport, install, erect, connect, test and turn over to the Owner, complete and ready for regular operation

j. ANSI/TIA-1005, “Telecommunications Infrastructure Standard for Industrial Premises”
31. “UL”: Underwriters Laboratories

1.4 SYSTEM DESCRIPTION AND PROJECT CONDITIONS

A. In circumstances where the Specifications and Drawings conflict, the Drawings shall govern quantity and the Specifications shall govern quality.

1.5 SUBMITTALS

A. Submit required submittals to the General Contractor in the quantities and formats as required under the general contract. In the absence of requirements, provide as described in the following with reference to quantity and format.

B. Failure to comply with requirements in part or whole shall constitute grounds for rejection.

C. Resubmittals: For resubmittals, provide a cover letter with the resubmittal that lists the action taken and revisions made to each product in response to the Engineer’s submittal review comments. Lack of this actions-taken cover letter shall constitute grounds for non-review and/or rejection of resubmittal packages.

D. Submittal Description: Product Data
   1. Obtain written approval from the Engineer for the product data submittal prior to materials and equipment purchase order and prior to installation.
   2. Quantity and Media: Submit product data as described in Division 01. In the absence of requirements given, submit product data submittal as directed in writing either as an electronic submittal (preferred) via approved means (e.g., email, e-transmit) or as four printed submittals (not preferred).
   3. Format and Organization – Electronic Submittal:
      a. File format shall be PDF, either as a single compiled PDF file or as a PDF portfolio. PDF files should be produced from original electronic media, not scans of printed media. If scans from prints are the only option, annotate electronically, not on the prints prior to scanning.
      b. Pages should be letter size (8.5” x 11”)
      c. Organize the Content in the following order:
         1) Cover
         2) Table of Contents (TOC)
         3) Statement of compliance
         4) Product information
         5) Seismic calculations (as required)
      d. Clearly and precisely indicate the submitted product and accessories by part number using an electronic annotation (arrow, rectangle, oval, etc.). Where the product data presents “part number builds”, list the exact part number of the submitted products and accessories.
      e. Add page numbers in numerical order with no gaps to each page that correctly correspond to the TOC.
   4. Format and Organization – Printed Submittal:
      a. Paper shall be letter size (8.5” x 11”).
      b. Package printed submittal using a 3-ring binder, clear-front report cover, or similar.
1) For 3-ring binders, clearly label the cover and spine of each binder with the required “Cover” information (e.g., insert the cover in the front and spine transparent pockets):

c. Organize the content in the following order:
   1) Cover
   2) Table of Contents (TOC)
   3) Statement of compliance
   4) Product information
   5) Seismic calculations (as required)

d. Include tabbed separators for improved navigation through the submittal.

e. Clearly, precisely, and permanently indicate the submitted product and accessories by part number using an arrow stamp or other permanent indicator. Where the product data presents “part number builds”, indicate the exact part number of the submitted products and accessories.

5. Content:
   a. Cover: Include a cover that clearly displays the following information:
      1) Owner name
      2) Project name and address
      3) Submittal name (e.g., “Product Data Submittal for Telecommunications Equipment Rooms”)
      4) Project submittal number
      5) Contractor’s submittal number (discretionary)
      6) Submittal date; format: Month Day, Year (e.g., “January 1, 2019”)
      7) Specification section numbers included in the submittal (e.g., “Section 271100”)
      8) Contractor name and contact information

   b. Table of Contents (TOC): Include a TOC that lists materials by section number, article and paragraph number. Add a brief product description (what it is, size or color or other optional features), manufacturer and part number. List the submittal page number per product. Example heading for TOC:

   | Section | Article | Paragraph | Description | Manufacturer | Part # | Page # |

   c. Statement of Compliance: Include a “Statement of Compliance” letter or memorandum on the submitter’s company letterhead from the highest-ranking employee assigned to this project stating the submittal has been reviewed (quality control check) and is in full compliance with the requirements of the contract documents, and listing the submittal’s contents. Wet sign (and stamped, if applicable) the letter.
d. Product Information: Include manufacturer's technical data, product literature, "catalog cuts", data sheets, specifications, and block wiring diagrams (if necessary) that clearly describe the product's characteristics, physical and dimensional information, electrical performance data, materials used in fabrication, material color and finish, and other relevant information such as test data, typical usage examples, independent test agency information, and storage requirements. Include products listed in the specifications, at a minimum. Include relevant products that will be installed, which are not listed in the specifications.

E. Submittal Description: Shop Drawings
   1. Prior to the start of work, submit shop drawings and obtain written approval from the Engineer for the shop drawings submittal.
   2. Quantity and Media: Submit shop drawings as described in Division 01. In the absence of requirements given, submit shop drawings as directed in writing either an electronic submittal (preferred) via approved means (email, e-transmit, FTP upload) or four printed and bound sets on bond.
   3. Format:
      a. Use the same sheet size as the contract drawings.
      b. Use the same title block as the contract drawings, modified to include contractor information.
      c. Text: 3/32" - 1/8" high when plotted at full size.
      d. Use identical symbols as those in the contract drawings.
      e. Screen background information.
      f. Plot system components (symbols, outlet, devices, pathways, cable routes, etc.) and text using a heavier line weight sufficient enough to stand out against background information.
      g. Scaling:
         1) Scale floor plans and reflected ceiling plans at 1/8"=1'-0"
         2) Scale enlarged room plans at 1/4"=1'-0"
         3) Scale wall elevations at 1"=1'-0"
         4) Scale rack elevations at 1"=1'-0"

F. Submittal Description: As-Built Drawings
   1. Quantity and Media: Submit as-built drawings as described in Division 01. In the absence of requirements given, submit as-built drawings as directed in writing as electronic files via approved media (or four printed and bound sets on bond, if approved).
   2. Format:
      a. Use the same sheet size as the contract drawings.
      b. Use the same title block as the contract drawings, modified to include contractor information.
      c. Text: 3/32" - 1/8" high when plotted at full size.
      d. Use symbols identical to the symbols shown on the contract drawings.
      e. Screen background information.
      f. Plot system components (symbols, outlet, devices, pathways, cable routes, etc.) and text using a heavier line weight sufficient enough to stand out against background information.
g. Electronic files shall be native format and plotted PDF files. The file names shall include the sheet number.

3. Content:
   a. Submit as-built drawings that fully represent actual installed conditions and that incorporate modifications made during the course of construction.
   b. Symbols List
   c. Diagrams, such as (but not limited to) point-to-point diagrams, block diagrams, riser diagrams, line diagrams, and other diagrams that conceptually describe the system
   d. Floor Plans and Reflected Ceiling Plans: Scale plans at 1/8”=1’-0”. Plans shall show:
      1) Locations and identifiers of telecommunications outlets
      2) Routes, types, sizes, and quantities of pathways (such as cable trays, conduits, hangers, and other pathways)
   e. Enlarged Rooms Layouts: Applicable rooms: Server Room, Network Patching Facility, PBX Equipment Room, Entrance facilities, MTR, TRs, MDF, BDFs, IDFs. Room drawings shall show:
      1) Floor layouts – scaled at either 1/4”=1’-0” or 1/2”=1’-0”, showing dimensioned placement of equipment cabinets/frames, rack bays, etc.
      2) Overhead layouts – scaled at either 1/4”=1’-0” or 1/2”=1’-0”, showing dimensioned placement of overhead cable support (e.g., cable tray, cable runway, conduit sleeves, etc.)
      3) Rack elevations – scaled at 1”=1’-0”, showing placement of termination apparatus and other equipment installed onto rack bays
      4) Wall Elevations – scaled at 1”=1’-0”, showing dimensioned placement of termination apparatus (e.g., termination/crossconnect blocks)

G. Submittal Description: Operation and Maintenance (O&M) Manual
   1. Quantity and Media: Submit O&M Manual as described in Division 01. In the absence of requirements given, submit one packaged O&M Manual set.
   2. Format and Organization:
      a. Include contents in a 3-ring binder with front cover and spine clear pockets for insertion of the cover information.
      b. Cover shall include the following information:
         1) Owner name
         2) Project name and address
         3) Manual name (e.g., “Operation and Maintenance Manual for Telecommunications Cabling System”)  
            4) Date; format: Month Day, Year (e.g., “January 1, 2014”)  
         5) Contractor name and contact information
      c. Include a ToC at the beginning that lists the contents.
      d. Include tabbed separators for improved navigation through the manual.
   3. Content:
      a. Instructions on making a warranty claim during the warranty period
      b. Contact information during the warranty period
      c. Contact information beyond the warranty period for maintenance and related service
      d. As-built drawings, as described above, printed on tabloid size (17”x11”) paper and as electronic files – both native files and plotted PDF files
1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications
1. Five continuous years, minimum, design and manufacture of the materials and equipment specified herein.
2. Manufacturer(s) of products and equipment specified herein shall demonstrate that they have a quality assurance program in place to assure that the specifications are met. Include in the program, at a minimum, provisions for:
   a. Incoming inspection of raw materials
   b. In-process inspection and final inspection of the cable product
   c. Calibration procedures of test equipment to be used in the qualifications of the product
   d. Recall procedures in the event that out of calibration equipment is identified.
3. Conform to government standards on quality assurance for applications within these specifications.

B. Contractor Qualifications:
1. A current, active, and valid and C7 or C10 California State Contractors License
2. Five, minimum, continuous years of experience
3. Five, minimum, completed projects similar to scope and cost
4. Evidence of technicians qualified for the work

C. Materials
1. Materials, support hardware, equipment, parts comprising units, etc., shall be new, unused, without defects and of current manufacturer, materials
2. Use specified products and applications, unless otherwise submitted and approved in writing.

D. Regulatory Requirements
1. Work and materials shall conform to the latest rules of National Board of Fire Underwriters wherever such standards have been established and shall conform to the regulations of the State Fire Marshal, OSHA and the codes of the governing local municipalities. Work under Division 27 shall confirm to the most stringent of the applicable codes.
2. Provide the quality identified within these specifications and drawings when codes, standards, regulations, etc. allow Work of lesser quality or extent. The contract documents address the minimum requirements for construction.

E. Drawings
1. Follow the general layout shown on the drawings except where other work may conflict with the drawings.
2. Drawings for the work within this division are essentially diagrammatic within the constraints of the symbology applied.
3. The drawings do not fully represent the entire installation. Drawings indicate the general route for pathways and cables, and show general locations of outlets. The drawings might not expressly show every conduit, sleeve, hanger, etc., but a complete system is required.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery
1. Do not deliver products to the site until protected storage space is available.
2. Coordinate materials delivery with installation schedule to minimize storage time at jobsite.
3. Deliver materials in manufacturer’s original, unopened, undamaged packaging and containers with identification labels (name of the manufacturer, product name and number, type, grade, UL classification, etc.) intact.
4. Immediately replace equipment damaged during shipping at no cost to the Owner, so as not to impact the construction schedule.

B. Storage and Protection
1. Store materials in clean, dry, ventilated space free from temperature and humidity conditions (as recommended by manufacturer) and protected from exposure to harmful weather conditions.
2. Comply with manufacturer’s storage requirements for each product. Comply with recommended procedures, precautions or remedies as described in the MSDS as applicable.
3. Maintain factory wrapping or provide a heavy canvas/plastic cover to protect units from dirt, water, construction debris, and traffic.
4. Storage outdoors covered by rainproof material is not acceptable.
5. Provide heat where required to prevent condensation or temperature related damage.

C. Handling
1. Handle materials and equipment in accordance with manufacturer’s written instructions. Handle with care to prevent damage, breakage, denting, and scoring.
2. Do not install damaged materials and equipment. Replace damaged equipment at no cost to the Owner.

1.8 SCHEDULING

A. Unless otherwise specified, the construction schedules of the Sections within Division 27 may be combined into a single, overall schedule.

B. Do not proceed without written approval from the Owner or Owner’s Representative for schedule of this Work.

1.9 PROJECT MANAGEMENT AND COORDINATION

A. Project Management and Coordination Services
1. Provide a project manager for the duration of the project to coordinate this Work with other trades. Coordination services, procedures and documentation responsibility include, but are not limited to, the items listed in this section.
2. Review of Shop Drawings Prepared by Other Subcontractors:
   a. Obtain copies of shop drawings for equipment provided by others that require telecommunication service connections or interface with work.
b. Thoroughly review other trades’ shop drawings to confirm compliance with the service requirements contained in the Division 27 contract documents. Document discrepancies or deviations as follows:
   1) Prepare memo summarizing the discrepancy
   2) Submit a copy of the specific shop drawing, indicating via cloud, the discrepancy

c. Prepare and maintain a shop drawing review log indicating the following information:
   1) Shop drawing number and brief description of the system/material
   2) Date of the review
   3) Name of the individual performing the review
   4) Indication if follow-up coordination is required

3. Should existing conditions prohibit construction progress as submitted and approved, coordinate the adjusted installed locations with the other contractors (AV, electrical, etc).

B. Concurrent Installation
   1. The network will be installed concurrent with the work of Division 27. Coordinate your work with the Owner’s/network integrator’s work. For example, coordinate scope and dates for rack and cabling (terminations) readiness to allow the network integrator to plan and schedule installation of the network equipment (for example, access switches).

C. Role of the Engineer
   1. The Owner has retained the Engineer’s services through construction. During construction, the Engineer will work with and assist the Contractor as follows (in general):
      a. Review product data and shop drawings submittals for general compliance with the contract drawings and specifications.
      b. Provide interpretation and clarification of project contract documents
      c. Reply to (and ‘process’) relevant Requests for Information (RFIs)
      d. Review changes as they arise, and confirm that the proposed solutions maintain the intended functionality of the system.
      e. Interpret field problems for Owner, and translate between Owner and Construction Team.
      f. Review the testing procedures to confirm compliance with industry-accepted practices.
      g. Observe the work for general compliance with the contract documents and to ensure that the installation meets the design intent of the system, and report progress to the Owner.

D. Use of Electronic Drawing Files
   1. Should the Contractor require the Engineer’s electronic files to produce shop drawings and/or as-built drawings, the Engineer will require the Contractor sign a file release agreement.

1.10 WARRANTY

A. As a minimum, warrant products and labor provided will, under normal use and service, be free from defects and faulty workmanship for period of 1 year from the date of acceptance. During the warranty period the entire system shall be kept in operating condition at no additional material or labor costs to the Owner. Also refer to specific sections for additional warranty requirements that supersedes the project’s minimum warranty.
B. Render service within 24 hours of system failure notification. Note deviations or improvements to this service at the time of bid and obtain written acceptance from the Owner, or Owner’s Representative.

C. Manufacturers of the major system components shall maintain a replacement parts department and provide testing equipment when needed. Provide complete replacement parts within 24 hours during the warranty period.

D. Conformance to certain government standards on quality assurance may be required for some applications outlined in these specifications.

1.11 MAINTENANCE

PART 2 - PRODUCTS

2.1 GENERAL

A. Materials used shall present no environmental or toxicological hazards as defined by current industry standards and shall comply with OSHA and EPA standards, other applicable federal, state, and local laws.

B. Product numbers are subject to change by the manufacturer without notification. In the event a product number is invalid or conflicts with the written description, notify the Engineer in writing prior to ordering the material and performing installation work.

2.2 PRODUCT SUBMITTAL AT TIME OF BID

A. At the time of bid, include a list of major products in the Contract documenting the intended cabling system solution, AV equipment, etc.

2.3 SUBSTITUTIONS

A. Conform to the substitutions requirements and procedures outlined in Division 01

B. Only one substitution for each product specified will be considered.

C. Where products are noted as "or equal", a product of equivalent design, manufacture, and performance will be considered. Submit product data (product information, catalog cuts, pertinent test data, etc.) to substantiate that the product is in fact equivalent to that specified. The burden of proof that the substituted product is equivalent to the specified product rests with the Contractor. Whenever material, process or equipment is specified in accordance with an industry specification (ANSI, TIA, etc), UL rating, or other association standard, present an affidavit from the manufacturer certifying that the product complies with the particular standard specification. When requested by the Engineer, submit supporting test data to substantiate compliance.

D. Manufacturers' names and model numbers used in conjunction with materials, processes or equipment included in the contract documents are used to establish standards of quality, utility and appearance. Materials, processes or equipment that, in the opinion of the Engineer, are equivalent in quality, utility and appearance will be approved as substitutions to that specified when “or equal” follows the manufacturers' names or model number(s).
E. When the Engineer accepts a substitution in writing, it is with the understanding that the Contractor guarantees the substituted product, component, article, or material to be equivalent to the one specified and dimensioned to fit within the construction according to contract documents. Do not provide substituted material, processes, or equipment without written authorization from the Engineer. Assumptions on the acceptability of a proposed substitution, prior to acceptance by the Engineer, are at the sole risk of the Contractor.

F. Approved substitutions shall not relieve the Contractor of responsibilities for the proper execution of the work, or from provisions of the specifications.

G. Pay expenses, without additional charge to the Owner, in connection with substitution materials, processes and equipment, including the effect of substitution on self, subcontractor’s or other Contractor’s work.

PART 3 - EXECUTION

3.1 PERMITS AND INSPECTIONS

A. Obtain and pay for permits and inspections required for the work.

B. Furnish materials and execute workmanship for this work in conformance with applicable legal and code requirements.

C. Perform tests required herein, or as may be reasonably required to demonstrate conformance with the Specifications or with the requirements of legal authority having jurisdiction.

D. Arrange and pay for review/inspection from compliance officials responsible for enforcement of applicable codes and regulations to establish that the work is in compliance with requirements of reference codes indicated herein.

3.2 EXAMINATION

A. Verify existing conditions, stated under other sections, are acceptable for installation in accordance with manufacturer’s instructions.

3.3 FIELD QUALITY CONTROL

A. Staffing: Provide a qualified foreman to supervise the crew performing the work and who is present at the job site at times work is being performed.

B. Construction Meetings: Participate in construction coordination meetings throughout the course of construction to review the progress and to resolve issues and conflicts. Prepare and distribute meeting agenda for telecommunication issues prior to, and meeting notes after meetings, in a format acceptable to the Owner. Publish meeting notes within 3 business days following the meeting.

C. Scheduling: Perform the work within the approved construction schedule. Keep the construction schedule current, based on the results of the construction meetings. At minimum, schedule shall document critical due dates, tasks, and milestones. Submit revised schedules for approval within 3 business days whenever there are modifications.
D. Inspection: Inspect the work after installation. Keep areas of work accessible and notify code authorities, or designated inspectors, of work completion ready for inspection. Document completion and inspection as required.

3.4 INSTALLATION

A. Complete work in a neat, high-quality manner, relative to common industry practices, and in accordance to NECA “Standard of Installation”.

B. Complete work in conformance to applicable federal, state and local codes, and telephone standards.

C. Coordinate the entire installation throughout the construction team (general contractor and subcontractors).

D. Manufacturer's Instructions: Comply with manufacturer's published installation instructions, product data, product technical bulletins, product catalog, and other instructions for installation. Maintain a file on the jobsite of MSDSs for each product delivered to jobsite packaged with an MSDS.

E. Adjusting: Make changes and revisions to systems to optimize operation for final use. Make changes to systems such that defects in workmanship are corrected and completed systems pass the minimum test requirements.

F. Protection: Protect installed products and finish surfaces from damage during construction.

G. Repair/Restoration: Replace or repair work completed by others that you deface or destroy. Pay the full cost of this repair/replacement. Repair defects prior to system acceptance.

3.5 CLEANING

A. Remove temporary coverings and protection of adjacent work areas. Remove unused, excess, and left over products, debris, spills, or other excess materials. Remove installation equipment.

B. Leave finished work and adjacent surfaces in neat, clean condition with no evidence of damage.

C. Repair or replace damaged installed products.

D. Legally dispose of debris.

E. Clean installed products in accordance with manufacturer's instructions prior to Owner's, or Owner's Representative's, punch walk.

3.6 PUNCH WALKS AND PUNCH LISTS

A. Punching the Work of individual Sections of Division 27 may be combined when noted so.

B. Execute a punch walk with the Engineer and the Owner or Owner’s Representative to observe Work.

C. Develop a punch list for items needing correction. Issue this punch list to Engineer.

D. Correct the Work as noted on punch list.

E. Execute follow up punch walk with the Engineer and the Owner or Owner’s Representative to verify punch list items have been corrected.
3.7 SYSTEM ACCEPTANCE
   A. Complete corrections (punch list items) prior to submitting acceptance certificate.
   B. On completion of the acceptance test, submit system acceptance certificate to the Owner or Owner’s Representative requesting their signature and return of the certificate. Issue copies of the signed certificate back to the Owner or Owner’s Representative with copy to the Engineer.

3.8 TRAINING
   A. After acceptance, schedule a time convenient with the Owner, or Owner’s Representative, for instruction in the configuration, operation, and maintenance of the system.
   B. Refer to individual sections within Division 27 for additional training requirements.

END OF SECTION
PART 4 - PRODUCT SUBSTITUTION SCHEDULE
Use this schedule only if your proposal is not based on the specified products.
Your proposal is assumed to be based upon the specified products if this schedule is not included in the proposal.
If this substitution schedule is not included in the proposal and products are substituted during product data submittals, than the contractor may be liable for additional costs incurred to process these product substitutions.

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Copy this page as necessary to completely list product substitutions.
SECTION 27 05 43 - COMMUNICATIONS OUTSIDE PLANT PATHWAYS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Outside plant underground pathways for communications (and other low voltage systems)

1.2 BASE BID WORK

A. General

1. The work of this section includes the planning of and coordination with other trades for outside plant pathways, furnishing necessary materials, and the labor and associated services required to install pathways and structures. Work of this section includes the tools and equipment necessary to provide a complete and working underground pathways system.

2. The drawings are diagrammatic in nature, and require shop drawings to complete the detailed design of the underground pathways system and coordination with other underground utilities and services.

3. In general, OSP pathways consist of the following subsystems:
   a. Surveying and determining existing underground infrastructure
   b. Laying out the routes
   c. Submittals
   d. Obtaining permit for digging and underground construction work
   e. Excavation, trenching, and shoring (as necessary)
   f. Underground duct banks (conduits) and precast concrete structures (vaults, maintenance holes, and/or hand holes)
   g. Backfill and patching
   h. Identification tags and system labeling
   i. Close Out Documents
   j. Warranty

B. Design-Build Additional Scope of Work

1. Investigation
   a. Coordinate with utilities to locate and mark existing underground utilities infrastructure.
   b. Coordinate with property owner and others as needed to locate and mark existing underground infrastructure.

2. Submittals
   a. Initial Shop Drawings, showing the following:
      1) Duct routes with duct quantities and sizes per segment
      2) Vault, pull box, and handhole locations
   b. Initial Product Data, including the following:
      1) Conduits, vaults
   c. Final Shop Drawings, showing the following:
      1) Duct routes with duct quantities and sizes per segment and elevations/depths
      2) Vault, pull box, and handhole locations and details – type, interior dimensions, lid details, etc (V/MH/PB/HH schedule) with elevations
      3) Utilities and other underground facilities
4) Trench sections and details
d. Final Product Data, including the following:
   1) Conduits, fittings, vaults, accessories

3. Pre-Construction Coordination
   a. Field Layout – Based on the approved shop drawings, mark duct bank routes and precast structure locations.
   b. Utilities Notifications – As needed, notify utilities of site work to satisfy each utility’s requirements.

4. Final Design
   a. Confirm duct quantities and/or duct bank routes
   b. Confirm vault and/or pull box locations

5. Coordination
   a. Prior to the start of excavation work
   b. Coordinate elevations of ducts and duct-bank entrances into vaults and pull boxes with final profiles of conduits as determined by coordination with other utilities and underground obstructions. Revise locations and elevations from those indicated as required to suit field conditions and to ensure duct runs drain to vaults and pull boxes.

C. Underground Duct Banks
   1. Provide complete duct banks, including construction materials needed during construction (such as spacers, etc.), that meet or exceed the requirements herein. Refer to the associated drawings for quantities, sizes, types, routes, and additional installation requirements.
   2. Provide 4-inch trade size ducts or as noted herein or shown on the drawings.

3. Concrete Encasement
   a. Provide steel-reinforced, concrete-encasement at turns 45 degrees or greater with less than a 24.4 m (80') radius. Encasement shall prevent pulling stress on conduit bends in both horizontal and vertical directions.
   b. Encasement shall result in 51 mm (2") of top cover, 25 mm (1") at the sides and 25 mm (1") beneath the duct bank, minimum.

D. Precast Concrete Structure – Maintenance Holes
   1. Provide vaults and/or pull boxes within 30 m (100') of any 90-degree duct bank turn and at intervals not exceeding 152 m (500'). Adjust spacing to avoid paved areas and traveled roadways.
   2. Vaults and pull boxes shall be precast units that conform to USDA Rural Utilities Service (RUS) specifications.
   3. For branch duct runs, provide pull boxes approximately 1.5 m (5'-0") long by 0.9 m (3'-0") wide by 0.9 m (3'-0") deep (internal dimension) or as shown on the drawings. Branch runs are those serving a single facility and contain four or fewer ducts.

E. Earthwork
   1. Excavation, shoring, and backfill shall comply with applicable codes, regulations, and standards and with Division 31, where explicitly called out or not.
   2. Excavation: Excavate to the depth and width required for the duct banks and encasement using means and methods approved for this project.
   3. Shoring: As required for this project and per applicable safety guidelines, shore excavation to prevent collapse.
   4. Backfill: Backfill trenches using soil the same as or similar to the surrounding soil to 90 percent.
compaction.

F. Duct Bank Marking/Warning
   1. Provide marking/warning tape per duct bank.

G. Above-Ground Duct Banks
   1. Provide galvanized materials and installation accessories (where applicable) to withstand weather conditions.
   2. At conduit terminations exposed at weatherproof enclosures and cast outlet boxes, provide watertight connectors and hubs.

H. Subducting / Innerduct
   1. Provide two 3-cell fabric subducts into the ducts designated for fiber optic cabling, or as noted on drawings. The subduct within a given duct shall be uniquely colored or have an identification marker/colored stripe.

I. Duct Plugs
   1. Provide duct plugs at each duct end and each innerduct end – duct plug type (blank, quadport, etc.) and size shall match application. In unused ducts, provide blank duct plugs. In ducts containing innerducts, provide triport and/or quadport duct plugs to seal around the innerduct within the duct.
   2. In unused corrugated innerducts, provide blank plugs. In innerducts containing a cable, provide simplex plugs to seal around cables within the innerducts.
   3. Expanding foam as a duct plug method is not permitted.

J. Related Sections
   1. Comply with the Related Sections paragraph of section 27 00 00.
   2. Division 03, “Concrete” (requirements for underground concrete work applicable to encasement)
   3. Division 26, “Electrical” (related conduit work)
   4. Division 31, “Earthwork” (requirements for excavation, backfill, and related items for ducts and vaults/ pull boxes/maintenance holes/handholes)
   5. Division 32, “Exterior Improvements” (requirements for paving)

1.3 REFERENCES

A. Comply with the References requirements of section 27 00 00.
   1. In addition to those codes, standards, etc., listed in 27 00 00, comply with the latest edition of the following applicable specifications and standards except as otherwise shown or specified.
   2. American Association of State Highway and Transportation Officials (AASHTO):
      a. LRFD Highway Bridge Design Specifications
      b. AASHTO T280-06-UL, “Standard Method of Test for Concrete Pipe, Manhole Sections, or Tile”
   3. American Concrete Institute (ACI):
      a. SP-66, “ACI Detailing Manual”
      b. ACI 212.3R, “Report on Chemical Admixtures for Concrete”
      c. ACI 301, “Structural Concrete for Buildings”
      d. ACI 304R, “Guide for Measuring, Mixing, Transporting, and Placing Concrete”
      e. ACI 305R, “Hot Weather Concreting”
f. ACI 306R, “Cold Weather Concreting”
g. ACI 318, “Building Code Requirements for Structural Concrete”

4. American National Standards Institute, Inc. (ANSI):
   a. ANSI C80.1, “Rigid Steel Conduit, Zinc-Coated”

   a. ASTM C33, “Concrete Aggregates”
   b. ASTM C39, “Compressive Strength Cylinder Specimens”
   c. ASTM C94, “Ready-Mixed Concrete”
   e. ASTM C150, “Portland Cement”
   f. ASTM C173, “Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method”
   g. ASTM C231, “Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method”
   h. ASTM C260, “Air Entraining Admixtures for Concrete”
   i. ASTM C309, “Standard Specifications for Liquid Membrane Forming Compound for Curing Concrete”
   j. ASTM C478, “Precast Reinforced Concrete Manhole Sections”
   k. ASTM C494, “Chemical Admixtures for Concrete”
   l. ASTM C497, “Testing of Manhole Sections”
   m. ASTM C615, “Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement”
   n. ASTM C706, “Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement”
   r. ASTM C1037, “Standard Practice for Inspection of Underground Precast Concrete Utility Structures”
   s. ASTM C1064, “Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete”
   t. ASTM C1244, “Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test”
   u. ASTM F2176, “Standard Specification For Mechanical Couplings Used On Polyethylene Conduit, Duct And Innerduct”

6. Building Industry Consulting Services International (BICSI)
   a. “Customer-Owned Outside Plant” manual

7. Concrete Reinforcement:
   a. ANSI/ASTM A82, “Cold Drawn Steel Wire for Concrete Reinforcement”
d. ASTM A615, “Deformed and Plain Billet Steel Bars for Concrete Reinforcement”
e. AWS D12, “Welding Reinforcement Steel, Metal Inserts and Connections in Reinforced Concrete Construction”

a. CFR 29 Part 1910.146; “Permit-Required Confined Spaces Standard”

9. National Electrical Manufacturers Association (NEMA):
a. NEMA TC 2, “Electrical Polyvinyl Chloride (PVC) Conduit”
b. NEMA TC 3, “Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing”
c. NEMA TC 7, “Smooth-Wall Coilable Electrical Polyethylene Conduit”
d. NEMA RN1, “Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit”

10. Telecommunications Industry Association (TIA):

11. Underwriter’s Laboratories (UL):
a. UL 6, “Rigid Metal Conduit”
b. UL 514B, “Conduit, Tubing, and Cable Fittings”
c. UL 651, “Schedule 40 and 80 Rigid PVC Conduit”
d. UL 797, “Electrical Metallic Tubing – Steel”

12. California Public Utilities Commission (CPUC)
a. relevant documents/standards

1.4 DEFINITIONS

A. Definitions as described in section 27 00 00 shall apply to this section.

B. In addition, define the following list of terms as used in this specification as follows:

1. “CPUC”: California Public Utility Commission
2. “Duct”: Conduit and other raceway, either metallic or nonmetallic, used underground embedded in earth or concrete
3. “Duct Bank”: Two or more ducts installed underground in same trench or concrete encasement
4. “Handhole”: An underground pathway structure providing above-grade hand access into the ducts/duct banks for cable placement
5. “HDPE”: high-density polyethylene
6. “IOR”: Inspector Of Record
7. “Maintenance Hole”: An underground pathway structure providing above-grade person access (large enough for a person to stand within) into the ducts/duct banks for cable placement, splicing apparatus
8. “Manhole”: an access point to a sewer system; for telecommunications, see “Vault”
9. “NEC”: National Electrical Code, NFPA 70
10. “OSP”: Outside Plant
11. “PVC”: Polyvinyl Chloride
12. “Pull Box”: see maintenance hole
13. “Vault”: An underground pathway system structure providing above-grade person access (large enough for a person to fully enter) into the ducts/duct banks for cable placement, splicing apparatus, wiring, and equipment
1.5 SYSTEM DESCRIPTION

A. The installation shall comply with the CEC.

B. Electric wiring is not permissible to be installed within telecommunications OSP pathways.

C. Underground Duct Banks
   1. Allowable Conduit Types:
      a. Underground Conduit in Grade (direct burial):
         1) Straight runs: NEMA TC 2 EPC-40
         2) Bends and turns: NEMA TC 2 EPC-80
         3) When entering buildings: transition to GRS conduit approximately 3 to 6 m (10 to 20 feet) from building
      b. Underground Conduit Encased in Concrete:
         1) Straight runs: NEMA TC 2 EPC-40
         2) Bends and turns: NEMA TC 2 EPC-40
         3) When entering buildings: transition to GRS conduit approximately 3 to 6 m (10 to 20 feet) from building
      c. Beneath Building Floor Slab:
         1) Straight runs: NEMA TC 2 EPC-40
         2) Bends and turns: NEMA TC 2 EPC-80
         3) Penetrations through the slab: PVC-coated GRS
   2. Disallowed Conduit Types – The following duct types are not allowed:
      a. Encased burial Type EB-20 and Type EB-35 power and communications (P&C) duct
      b. Direct burial Type DB-60, Type DB-100, and Type DB-120 utility duct
      c. Type C telephone duct
   3. Burial depth (cover requirement) of ducts not encased in concrete: 600 mm (24"), minimum.

D. Above-Ground Duct Banks
   1. Allowable Conduit Types:
      a. Straight runs: NEMA TC 2 EPC-40, EPC-80, or GRS
      b. Bends and turns: NEMA TC 2 EPC-80 or GRS
      c. Penetrations through the building envelope: GRS
   2. Disallowed Conduit Types – The following duct types are not allowed:
      a. Encased burial Type EB-20 and Type EB-35 power and communications (P&C) duct
      b. Direct burial Type DB-60, Type DB-100, and Type DB-120 utility duct
      c. Type C telephone duct

E. Separation Requirements:
   1. The installation shall meet separation requirements of the CEC, BICSI’s “Outside Plan Design Reference Manual”, and, where applicable, CPUC regulations.
   2. Communications duct systems and electrical ducts: not less than 76 mm (3") concrete or 304 mm (12") earth
   3. Communications duct systems and gas, water, or other pipe systems: not less than 76 mm (3") concrete or 304 mm (12") earth
   4. Communications duct systems and warning tape: not less than 300 mm (12") earth
1.6 **SUBMITTALS**

A. Comply with the Submittals article of section 27 00 00 for procedural, quantity, and format requirements.

B. **Submittal Requirements Prior to Construction**
   1. **Bill of Materials and Product Data Submittal**
      a. Product data submittals shall include datasheets/cutsheets/catalog pages for each product, structure, and component required for a complete system and shall cover the components specified herein. Clearly mark on each page the specific item(s) being submitted and the proposed application.
      b. Product data submittals shall list physical and electrical characteristics and ratings, shall indicate conformance with NEC, UL, NEMA, ASTM, and other listings, certifications and specifications, and shall include manufacturer’s certification(s) that products meet the required ASTM and other specifications. As needed, include inspection report(s) for factory inspections, according to ASTM C1037, and compliance reports for concrete and steel used in precast concrete utility structures, according to ASTM C858.
      c. Product data submittals shall include drawings for precast concrete units produced by the precast concrete manufacturer showing details of steel reinforcing size and placement and shall demonstrate that the design loads and standards have been met.
      d. For custom-made precast concrete units, in addition to the requirements above, drawings shall show locations and dimensions to all penetrations and special embed items, product dimensions and cast thicknesses.

   2. **Shop Drawings Submittal**
      a. Shop drawings shall be drawn to accurate scale, where scaling applies.
      b. Shop drawings shall consist of site plans that show the following:
         1) Duct bank routes and maintenance hole locations. Duct bank routes shall be tagged with duct quantities and sizes and with burial depths per section. Maintenance hole locations shall be scheduled or tagged with type, dimensions/configuration, and other pertinent information.
         2) Trench sections, showing trench profiles and coordination with other utilities and trades
         3) Maintenance hole details, showing products, components, accessories, etc., included
         4) Other drawings that clearly illustrate a fully coordinated (with other trades, utilities, and underground structures) layout
      c. Shop drawings shall include details and design calculations for precast telecommunications vaults, including steel reinforcement.
      d. Shop drawings shall show existing utilities and site infrastructure – at least to the extent of adjacency to the work of this section and that which requires modification and/or relocation.

C. **Submittal Requirements at Close Out**
   1. **As-Built Drawings**
      a. As-built drawings shall show installed duct banks and underground structures, including:
         1) Dimensioned duct bank routes in plan, duct bank configurations and depths
2) Dimensioned underground structure locations and types (such as vaults, maintenance holes and/or pull boxes), and include ‘butterfly’ diagrams (explicitly showing the structures’ configurations).

2. Warranty statement and instructions

D. Substitutions: Requests for substitutions shall conform to the general requirements and procedure outlined in section 2700 00.

1.7 QUALITY ASSURANCE

A. Comply with Quality Assurance requirements of section 2700 00.

B. Precast Concrete Products Manufacturer Requirements
   1. Precast concrete product manufacturers shall have been regularly and continuously engaged in the manufacture of precast concrete units similar to that indicated in the project specifications or drawings for at least 10 years.
   2. Precast concrete product manufacturer’s plant shall comply with the standards set forth in the National Precast Concrete Association Quality Control Manual as applicable to the products and plant type. The precast concrete manufacturer’s processes, procedures, and practices shall meet the standard practices of ASTM C1037, including the inspection of underground precast concrete utility structures designed and manufactured in accordance with Practice C857 and Specification C858.
   3. Precast concrete product manufacturers shall maintain a permanent quality control department or retain an independent testing agency on a continuing basis. The agency shall issue a report, certified by a licensed engineer, detailing the ability of the precast concrete producer to produce quality products consistent with industry standards.

C. Contractor Requirements
   1. The Contractor shall be experienced in all aspects of this work and shall demonstrate direct experience on recent projects of similar scope and size.
   2. The Contractor shall have personnel who are adequately trained and experienced in the use of the tools and equipment necessary for successful installation and testing of underground pathways systems.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Comply with delivery, storage and handling requirements of section 2700 00.

B. Handling
   1. Ship, unload, handle, and store products in a manner to minimize damage.
   2. For precast concrete structures, lift using appropriate crane (or similar) equipment connected to precast holes or inserts consistent with industry standards. Lift with methods, or devices, intended for this purpose.

C. Acceptance at Site
   1. Inspect precast concrete products upon arrival at the jobsite. Reject damaged and/or cracked precast products.
   2. Notify Owner/Owner’s Representative of delivery of precast products for inspection at their discretion.
1.9  WARRANTY

A.  Warrant products and labor provided will, under normal use and service, be free from defects and faulty workmanship for period of not less than 5 years from the date of acceptance. During the warranty period the entire system shall be kept in operating condition at no additional material or labor costs to the Owner.

B.  Render service within 24 hours of system failure notification. Note deviations or improvements to this service at the time of bid and obtain written acceptance from the Owner, or Owner’s Representative.

C.  Manufacturers of the major system components shall maintain a replacement parts department and provide testing equipment when needed. Provide complete replacement parts within a 24-hour period during the warranty period.

PART 2 - PRODUCTS

2.1  GENERAL

A.  Materials used shall present no environmental or toxicological hazards as defined by current industry standards and shall comply with OSHA and EPA standards, other applicable federal, state, and local laws.

B.  Product numbers are subject to change by the manufacturer without notification. In the event a product number is invalid or conflicts with the written description, notify the Engineer in writing prior to ordering the material and performing installation work.

2.2  RIGID NONMETALLIC CONDUIT (RNC) AND FITTINGS / ELECTRICAL PVC CONDUIT (EPC) / SCHEDULE 40 AND SCHEDULE 80

A.  Application: products and assembled system shall be suitable for underground direct burial or encased applications, in accordance with the NEC, Article 352.

B.  Conduit and fittings shall be homogeneous polyvinylchloride (PVC) material free from visible cracks, holes or foreign inclusions. The conduit bore shall be smooth and free of blisters, nicks or other imperfections which could mar cables.

C.  Conduit, fittings, and accessories shall be UL Listed, and shall bear (stamped or molded on conduit and fittings) the UL label. Markings shall be permanent.

D.  Conduit, fittings, and accessories shall be from a single manufacturer to assure system integrity.

E.  Conduit:
   1.  Conduit shall comply with UL 651 and NEMA TC 2 types EPC-40 (schedule 40) or EPC-80 (schedule 80).
   2.  Conduit shall include an integral bell fitting at one end.

F.  Fittings:
   1.  Fittings (and couplings, adaptors, transition fittings, etc.) shall comply with UL 514B and NEMA TC 3.
   2.  Fittings, couplings, adaptors, transition fittings, etc., shall be slip-on type and solvent weld type.
3. Factory fittings and bends bend radius shall be 1.2 m (48"), minimum.

G. Duct Spacers/Supports: Duct spacers shall provide minimum duct spacing and shall support ducts during backfill and/or concrete pour (encasement).

H. End Caps: Pre-manufactured water-tight end caps

I. PVC Solvent Cement
   1. Application: For use in outdoor and underground installations to permanently join PVC sections (conduit ends, couplers, etc.).
   2. Cement shall withstand temperature of 300 degrees F without slump.
   3. Cement shall be safe for human skin contact and not deleterious to cable sheathing, metallic conduits, conduit coatings, concrete, etc.
   4. Workable temperatures range: from 40 to 100 degrees F

J. Duct Supports / Spacers: to provide minimum duct spacing and to support ducts during backfill.

K. Manufacturers, or equal:
   1. Allied Tube & Conduit
   2. Carlon
   3. JM Eagle
   4. Ridgeline Pipe Manufacturing

2.3 GALVANIZED RIGID STEEL (GRS) CONDUIT / ELECTRICAL RIGID STEEL CONDUIT (ERSC)

A. Application: products and assembled system shall be suitable for underground exposed/direct burial applications, in accordance with the NEC, Article 347.

B. Conduit:
   1. Conduit shall be rigid conduit fabricated from high-strength high-quality prime steel, hot dipped galvanized inside and out, precision-rolled, with a clean homogeneous weld structured for a smooth, burr-free interior surface
   2. Conduit shall be UL Listed to UL 6, and shall conform to ANSI C80.1 as Electrical Rigid Steel Conduit (ERSC).
   3. Conduit shall be recognized as an equipment grounding conductor by NEC Article 250.

C. Fittings:
   1. Fittings (factory-manufactured) shall be UL Listed to UL 6, and shall conform to ANSI C80.1 as Electrical Rigid Steel Conduit (ERSC).
   2. Fittings, couplings, and adaptors shall be recognized as an equipment grounding conductor by NEC Article 250.
   3. Factory elbows shall have 48-inch radius.
   4. Factory-cut threads shall be hot dipped galvanized.

D. Duct Supports / Spacers: to provide minimum duct spacing and to support ducts during backfill.

E. Manufacturers, or equal:
   1. Allied Tube & Conduit
   2. Republic Conduit
   3. Western Tube & Conduit
2.4 PRECAST CONCRETE STRUCTURES—MAINTENANCE HOLES

A. Maintenance hole shall be a rectangular precast structure designed to be buried with the top flush to the finished grade and fully exposed. Maintenance hole shall be large enough for a technician to stand within but not deep enough to fully enclose the technician. Maintenance hole shall be suitable for small, medium, and large cables, and shall be suitable for storing cable splicing apparatus. Maintenance hole shall have ports for ducts on two opposing ends.

B. Fabrication
   1. Pull boxes and extensions shall be cast formed using concrete mix and reinforcing in accordance with ACI 318.
      a. Concrete: 5000 psi compressive strength at 28 days
      b. Rebar: ASTM A615 Grade 60 or ASTM A706 Grade 60
      c. Mesh: ASTM A1064 Grade 70
   2. Joints: Joints (e.g., between base and extension) shall be tongue-and-groove type, shall firmly interlock adjoining components, and shall be waterproof.
   3. Duct Ports and Knock-Out Panels: Pull boxes shall include duct ports (Oldcastle “Term-A-Duct”, M.A. Industries, or similar) or knock-out panels for conduit connections.
   4. Lifting Anchors: Pull boxes shall have lifting irons cast into the top and/or each section for proper handling and lifting. Lifting anchors shall be bent steel rod, hot dipped galvanized.
   5. Pulling Irons: Pull boxes shall have 1 pulling iron per end cast into the interior at the floor-wall chamfer or in the wall. Pulling irons shall be bent steel rod, hot dipped galvanized, with an exposed triangular opening, stress relieved after forming, and fastened to reinforced rod. Ultimate yield strength: 40,000 pounds shear and 60,000 pounds tension.
   6. Provide maintenance holes cast in a PCI Certified Plant.

C. Size: As shown on the drawings

D. Cover:
   1. Cover shall be split (2-piece) slip resistant galvanized steel, with torsion-assist opening.
   2. Cover shall be H20 traffic rated.
   3. Covers shall include “TELEPHONE”, “COMMUNICATIONS”, or other appropriate identification, on the upper side. Letters shall be no less than 2 inches high.

E. Racking
   1. Rack Stanchions: Pull boxes shall come equipped with rack stanchions either attached onto or cast into the interior side of each long wall, spaced at no greater than 457 mm (18") apart. Stanchions shall be hot-rolled, hot-dipped, galvanized "T" section steel, 57 mm (2.25") size, punched with 14 holes on 38 mm (1.5") centers for cable arm attachment. Stanchions may also be non-metallic.
   2. Refer to “Concrete Anchors” in this section for fasteners used for attachment to concrete (e.g., rack stanchions) after casting.
   3. Cable Support Arms: Pull boxes shall come equipped with cable support arms attached to rack stanchions at 762 (30") intervals. Cable arm supports shall be hot-rolled, hot-dipped, galvanized sheet steel, 4.7 mm (3/16") thick pressed to channel shape, 304 to 355 mm (12 to 14") long. Cable support arms may also be non-metallic.

F. Manufacturers, or equal:
   1. Oldcastle Precast
2.5 PRECAST CONCRETE STRUCTURES – HANDHOLES

A. Handholes shall be precast rectangular concrete monolithic structures with lift-off covers designed for in-grade applications with the top flush to the finished grade and the cover fully exposed and may or may not have a manufactured bottom. Handholes are intended for smaller or ‘drop’ cables and other tertiary routes and to not house splice apparatus.

B. Handholes shall meet (or exceed) ASTM D1693.

C. Fabrication
   1. Handholes and extensions shall be cast formed using concrete mix and reinforcing in accordance with ACI 318.
      a. Concrete: 5000 psi compressive strength at 28 days
      b. Rebar: ASTM A615 Grade 60 or ASTM A706 Grade 60
      c. Mesh: ASTM A1064 Grade 70
   2. Provide Handhole cast in PCI certified plant.

D. Size: As required for application.

E. Cover:
   1. Cover shall be either 1-piece or 2-piece precast concrete or composite concrete.
   2. Cover shall include “TELEPHONE”, “COMMUNICATIONS”, or other appropriate identification, on the upper side.

F. Configuration: Through only

G. Manufacturers, or equal:
   1. Christie (Oldcastle Precast)

2.6 JOINT SEALANT – FOR PREFORMED CONCRETE STRUCTURES

A. Application: Sealant applied to joints in sectional vaults, intercept boxes, risers, extensions, collars, and other joints of preformed concrete for the purpose of waterproofing.

B. Sealant shall meet ASSHTO M-198 and ASTM C990.

C. Sealant shall provide excellent strength and adhesion.

D. Sealant should be cold-applied.

E. Manufacturers, or equal:
   1. Henry Company #BN109; Butyl-Nek® joint sealant

2.7 CONCRETE ANCHOR

A. Application: Anchors for attachment to precast concrete structures (after concrete is cast).

B. Description: Expansion wedge type anchor, zinc-plated carbon steel with stainless-steel expander cup

C. Size: 12.7 mm (1/2") bolt size

D. Strength: 5000 pound (minimum) rated pull-out strength, and 6,800 pound rated shear strength minimum.
E. Manufacturers, or equal:
   1. Hilti
      a. KWIK Bolt TZ (ICC ESR-1917)

2.8 MORTAR
A. Application: Mortar to fill interstitial spaces of precast concrete structures and seal conduit entrance into maintenance hole through knock-out ports.
B. For applications less than 2.0 cubic ft, mortar shall conform to ASTM C270, Type M; for applications larger than 2.0 cubic ft, mortar shall conform to ASTM C387, Type M.

2.9 MARKING / WARNING TAPE
A. Application: Suitable for direct burial placed above a duct bank to mark the duct bank’s existence below (marking/protection during future digs/trenching/etc.).
B. Material: 5 mil thick tape, 0.35 solid aluminum foil, 0.8 mil print tape (laminated to foil), 3.75 mil clear outer film.
C. Width, according to the following table:

<table>
<thead>
<tr>
<th>Burial Depth</th>
<th>Tape Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>6” to 12”</td>
<td>2”</td>
</tr>
<tr>
<td>12” to 24”</td>
<td>3”</td>
</tr>
<tr>
<td>24” to 30”</td>
<td>6”</td>
</tr>
</tbody>
</table>
D. Color: orange.
E. Tape shall be detectable above finish grade using a locator.
F. Manufacturers, or equal:
   1. Carlon
      a. #MAT3T61; detectable underground marking tape, 3” W x 1000’, orange, print: “CAUTION TELEPHONE CABLE BURIED BELOW”
      b. #MAT6T61; detectable underground marking tape, 6” W x 1000’, orange, print: “CAUTION TELEPHONE CABLE BURIED BELOW”
      c. #MAT3O61; detectable underground marking tape, 3” W x 1000’, orange, print: “CAUTION FIBER OPTIC CABLE BURIED BELOW”
      d. #MAT6O61; detectable underground marking tape, 6” W x 1000’, orange, print: “CAUTION FIBER OPTIC CABLE BURIED BELOW”
      e. #MAT3T21; standard underground marking tape, 3” W x 1000’, orange, print: “CAUTION TELEPHONE CABLE BURIED BELOW”
      f. #MAT3O21; standard underground marking tape, 3” W x 1000’, orange, print: “CAUTION FIBER OPTIC CABLE BURIED BELOW”
      g. #MAT6O21; standard underground marking tape, 6” W x 1000’, orange, print: “CAUTION FIBER OPTIC CABLE BURIED BELOW”
      h. #MAT3O51; extra strength underground marking tape, 3” W x 1000’, orange, print: “CAUTION FIBER OPTIC CABLE BURIED BELOW”
   2. Presco Marking Products
      a. #D2105051-457; detectable underground marking tape, 2” W x 1000’, orange, print: “CAUTION BURIED FIBER OPTIC LINE BELOW”
b. #D3105051-457; detectable underground marking tape, 3” W x 1000’, orange, print: “CAUTION BURIED FIBER OPTIC LINE BELOW”

c. #D6105051-457; detectable underground marking tape, 6” W x 1000’, orange, print: “CAUTION BURIED FIBER OPTIC LINE BELOW”

3. Rhino Marking and Protection Systems

2.10 PULL TAPE / PULL ROPE

A. Application: Suitable for short-term and long-term placement into an underground duct for pulling cables into duct; pull rope/tape shall not degrade or weaken if left in underground duct over several years

B. Material: Pull Tape: low-stretch double-braided polyester or aramid yarn; Pull tape: woven polyester or aramid yarn, pre-lubricated, printed with sequential length markings

C. Break strength: 1,000 lb, minimum.

D. Manufacturers of pull tape, or equal:
   1. Carlon #TL14505; 1/2” woven polyester prelubricated tape, 1250 lbs
   2. Carlon #TL38203; 5/8” woven polyester prelubricated tape, 1800 lbs
   3. Condux
   4. Neptco

E. Manufacturers of pull rope, or equal:
   1. Carlon #SB14105; white diamond braid (polyethylene-over-polyester) rope
   2. Condux
   3. Greenlee
   4. Neptco

2.11 SUBDUCT – “FABRIC”

A. Application: Subduct suitable for an outdoor installation within an underground pathways system (conduits, maintenance holes, etc.) for the purpose of sub-ducting the pathways to support communications cables (primarily fiber optic cables).

B. Material: Flexible, multi-cell design, textile innerduct, with pull tape in each cell; factory lubricated

C. Finish: Packs shall be color-coded by printing and stitching; Cells shall be colored by pull tape stitching

D. Subduct shall contain a copper conductor within the wall of the duct for toning/locating.

E. Subduct should contain a pulling tape or rope; meeting the requirements of this specification. At a minimum, each subduct cell shall contain a pull string to place a pull rope/tape.

F. Manufacturers, or equal:
   1. TVC Communications’ “MaxCell”
      a. #MXE 86383 BL xxxx; 3” 3-cell textile Innerduct, blue
      b. #MXCIK31; Install kit for MaxCell innerduct (includes four swivels and one 3-way chain harness)
2.12 DUCT PLUGS

A. Application: Duct plugs suitable for installation into duct ends within underground structures (vaults, maintenance holes, pull boxes) for sealing ducts against water ingress and for securing innerducts and cables against recoil.

B. Manufacturers, or equal:
   1. Carlon
      a. #MAEPG7; blank plug for 4-inch duct (3.94”-4.33”)
   2. Tyco
      a. #377850 (JM-BLA-40D402U); blank plug for 4-inch duct (3.94”-4.17”)
   3. Condux International, Inc

PART 3 - EXECUTION

3.1 GENERAL

A. Comply with section 27 00 00 Execution requirements.

B. Codes and Standards: Complete work in conformance to applicable federal, state and local codes, and telephone standards.

C. Manufacturer's Instructions: Complete work in conformance to manufacturer's installation instructions, product data, technical bulletins, and packaging instructions.

D. Use only listed products.

E. Maintain proper access to the site for facilitate hauling, storage, and proper handling of the precast concrete products.

F. Maintain access to call boxes, fire hydrants, etc., throughout work. Maintain access to public premises, street crossings, sidewalks and other points to prevent interruption of travel.

G. Provide barricades surrounding open work, trenching, or open maintenance holes to prevent potential injury from non-crew persons.

H. Coordinate with the local Fire Department when trenching close to or temporarily blocking a roadway or fire access pathway. Review with the local Fire Department on a daily basis, planned road/pathway closures and alternate access roads/pathways in the event of an emergency.

I. If boring, cutting, or coring to existing structures is required, obtain prior approval from the Owner’s Representative. Conform to approval requirements.

J. Protection
   1. Protect existing utilities and structures during underground work activities.
   2. Protect installed products and finish surfaces from damage during construction.

K. Replace or repair work completed by others that you deface or destroy.

3.2 EXAMINATION AND PREPARATION

A. Prior to preparation of shop drawings:
   1. Obtain and review drawings showing underground utility facilities and other underground infrastructure at and around the site.
2. Thoroughly survey the installation area and access to the area to thoroughly determine and understand the work, and to determine the location of existing underground utilities, facilities and structures such as gas, water, sewer, power, telephone cables, etc., in the vicinity of the proposed trenching and excavation work. Study the soil structure to determine proper shoring, sloping, and/or other measures are properly planned.

3. The shop drawings shall be based on the contract documents and the results of this survey, and shall show existing utilities and facilities (at least to the extent related to or affected by the work of this section).

B. Prior to the start of work:
   1. Commence installation only after satisfactory conditions are met.
   2. Verify the site, the area, and access to the area is ready for excavation and duct and maintenance hole installation.
   3. Verify utilities and other owners have placed markings that locate underground utilities, facilities and structures such as gas, water, sewer, power, telephone cables, etc. Notify utilities and owners if markings appear incomplete.
   4. Verify no obstacles will interfere with crane operations and precast concrete maintenance hole installation, or will create a safety hazard, such as overhead wires, building structures, work progress, etc.
   5. Mark the proposed routing of trenches and maintenance holes using chalk or other approved means for review and approval by inspector.

3.3 EARTHWORK

A. Trenching, excavation, and backfill shall conform to Division 31, “Earthwork”.

B. Make every effort to avoid damage to the facilities of others. If any damage occurs, immediately notify the owner of the damaged facility.

C. Excavation and Trenching Coordination
   1. Conform to elevations and dimensions where shown on drawings.
   2. Tolerances: Excavate to within 1.5 inches, plus a sufficient distance to permit placing and removal of concrete formwork, installation or services, other construction, and for inspection.
   3. Within drip-line of large trees, excavate areas by hand. Protect the root system from damage and dry-out. Wrap burlap over exposed roots to maintain moist conditions for root system. Paint root cuts of 1 inch in diameter and larger with emulsified asphalt tree paint.
   4. Where a new duct bank or conduit run must cross an existing utility, excavate by hand to expose the specific utility line prior to employing mechanical excavation equipment.
   5. Excavate by hand to final depth just before concrete reinforcement is placed.
   6. Minimize disruption to the bottom of excavations.
   7. Avoid overloading. Keep surcharge sufficient distance back from edge of excavation to prevent slides or caving. Maintain and trim excavated materials in such a manner to be as little inconvenience as possible to public.

D. Trenching (Excavation and Trench Prep) for Duct Banks
   1. Excavate trenches to uniform depth and width, sized for the duct back to be placed into the trench and with sufficient working room – 6 to 9 inches – on both sides of ducts and equipment.
   2. Pitch the trench uniformly towards manholes or both ways from high points between
manholes for the required duct line drainage. Avoid pitching the ducts toward building wherever possible
4. Limit the length of open trench to that in which installations can be made and the trench backfilled within the same day.
5. Where the route crosses an existing utility, excavate by hand to expose the specific utility line prior to employing mechanical excavation equipment.
6. Where rock is encountered, excavate a minimum of 6 inches below required elevation. Backfill to minimum depth with a layer of crushed stone or gravel prior to installation of duct banks.
7. Where the underlying material appears to be wet or soft or where it deflects under wheel loads, employ excavation and work techniques that do not worsen the subgrade condition.

E. Pit Excavation for Vaults, Maintenance Holes, Pull Boxes, and/or Handholes
1. Excavate earth at approved locations to create pits for precast concrete structures sized as required by the manufacturer for the size and type of structure and to meet this specification’s requirements.
2. Tolerances: Plus or minus 0.10 foot, plus a sufficient distance to permit placing and removal of concrete formwork, installation or services, other construction, and for inspection.
3. Take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed.
4. Excavate pit to required depth, width, and length, and with sufficient space for working and backfill (6 to 9-inch clearance, minimum, on all sides of precast structures).
5. Shoring: Shore compliant to federal, state, and local regulations.
6. Provide a bed of gravel or crushed stone to a level and evenly distributed 6- to 12-inch thickness compacted to 95% of ASTM D558 density.

3.4 DUCT BANK (CONDUIT) INSTALLATION AND ENCASEMENT

A. Prior to the start on duct bank installation, verify trenches and excavations conform to manufacturer and specification tolerances.

B. Slope duct banks to drain towards vaults, and away from buildings and equipment room entrances. Pitch not less than 4-inches per 100 feet.

C. Where duct bank route changes direction, sweep ducts using a minimum radius of 25 feet. The use of factory bends is limited to building entrances and equipment stub-ups.

D. Installation of Ducts into Trench
1. Install spacers at 1- to 5-foot intervals for conduits to securely support the duct bank assembly, to maintain uniform duct-to-duct spacing, and to maintain a 3-inch, minimum, clearance above bottom of trench during backfill. Tie together using non-ferrous tie wires to prevent displacement.
2. Make joints in ducts and fittings watertight according to manufacturer's instructions. Stagger joints so those of adjacent ducts do not lie in the same cross-sectional plane.

E. Interface with Buildings and with Vaults and Maintenance Holes
1. Transition to GRS conduit and factory bends to within 20 feet of buildings.
2. Slope ducts away from buildings and equipment room entrances with a pitch not less than 4 inches per 100 feet. Slope ducts towards vaults and maintenance holes with a pitch not less than 4 inches per 100 feet.
3. Complete transition of duct trench spacing to box-connection spacing approximately 10 feet from vaults and maintenance holes without reducing duct slope and without forming a trap in the duct.
4. Terminate ducts at vaults and maintenance holes into the manufactured termination ports. Grout the conduits into ports from both sides to provide watertight entrance.
5. Arrange ducts to enter and exit vaults and maintenance holes on directly opposite ends (to facilitate for straight-through cable pulls).
6. When arranging ducts in vaults and maintenance holes, use the lower ports first, starting with the bottommost port and working upward. Ensure that the pattern of ducts (i.e., 1, 2, 3, 4, etc.) remains the same on both ends of a duct run. For example, on a north-south duct run, the lowest duct on the east side leaving one vault would also be the lowest duct on the east side at the next vault.
7. Existing Buildings: Do not core-drill existing perimeter walls to enter a building without written permission from the Owner or Owner’s Representative.
8. Existing Vaults and/or Maintenance Holes: Do not core-drill existing vaults or utilize a knock-out/conduit terminator without written permission from the Owner or Owner’s Representative.

F. Marking / Warning Tape
1. Install continuous warning tape 12 inches above duct banks.

G. Backfilling and Compaction
1. After settings the ducts in place backfill the trench to grade with earth. While backfilling, exercise care to avoid displacing ducts and joints either horizontally or vertically and to avoid damaging ducts.
2. Do not water flush for consolidation.
3. Place soil materials in layers to required sub-grade elevations for each area classification, using materials and methods specified in Division 31 “Earthwork”. Grade backfill as necessary to provide a uniform pavement thickness.
4. Hand or pneumatic tamp backfill around and over pipe in lifts not exceeding 8 in. loose thickness.
5. Compact backfill to a minimum of 95 percent of the surrounding soil. Perform compaction testing in accordance with either Cal TM 216 and 231 or ASTM D-1557, D-2922 and D-3017. Remove segregated loose material.
6. Prepare top of backfill for the type of grade finish/paving (i.e., concrete, asphalt, vegetation, pavers) to be installed.
   a. Under building slabs, use drainage fill materials.
   b. Under concrete and/or asphalt paving, provide aggregate base material.

H. Duct Cleaning: Upon completing the system (ducts, pull boxes, handholes, etc.) installation and prior to placing pull tapes/ropes, pull a brush mandrel through full length of ducts as a means to clean debris from the inside of the ducts. The brush mandrel shall be round bristle type with a diameter approximately 1/2-inch greater than internal diameter of duct.

I. Integrity Verification: After duct cleaning and prior to placing pull ropes/tapes and/or cables, pull a hard mandrel through ducts. Mandrel shall be 1/2-inch trade size smaller than duct’s trade size. Where mandrelling indicates obstructions in ducts, remove the obstructions and retest

J. Pull Tape/Rope
1. After integrity verification, place a pull tape/rope within each duct.
2. Leave approximately 36 inches of tape/rope slack coiled at each end. Tie to blank duct plug or other item to prevent the rope/tape from recoiling back into the duct.

K. Restore surfaces to match the surrounding areas, including sodding and seeding

3.5 MAINTENANCE HOLE INSTALLATION

A. Do not place maintenance holes directly at a 90-degree change of direction in the duct bank without written approval to do so.

B. Do not add duct openings where no duct ports exist without written approval to do so (doing so complicates cable racking and splice case placement on larger cable sizes).

C. Install maintenance hole level and such that the top is flush with finished grade or surface.

D. Install hardware and accessories, including pulling eyes, rack stanchions, cable arms, and insulators, as required for installation and support of cable and conductors and as indicated.

E. Do not drill deeper than 3-7/8 inches for anchor bolts installed in the field. Use a minimum of 2 anchors for each rack stanchion.

F. Seal duct penetrations through walls such that they are watertight.

G. Labeling
   1. Label each conduit terminated into each maintenance hole. Attach labels using recommended pin shot with powder actuated tool; do not attach labels to vault wall using adhesive.
   2. Stencil inside of the vault neck with vault name as indicated on the Drawings.

3.6 HANDHOLE INSTALLATION

A. Coordinate orientation of handhole in advance and arranged to minimize connecting duct bends and deflections.

B. Install handhole on a level 6-inch bed of well-tamped gravel or crushed stone.

C. Install handhole level and such that the top is flush with finished grade or surface.

D. Clean internal surfaces of handholes. Remove foreign material.

3.7 POST-INSTALLATION TESTING

A. Duct Testing:
   1. Pressure test conduits per ASTM F1417-92. Conduits shall hold air at 3.5 psi for 3 minutes and 45 seconds.
   2. Test Performance Requirements of Mechanical Couplings for Conduit
      a. The conduit coupling/joint shall not leak when subjected to sustained internal pressure testing as noted in ASTM F 2176.
      b. The conduit coupling/joint shall not leak when subjected to sustained external pressure testing as noted in ASTM F 2176.
      c. The conduit coupling/joint assemblies tested shall comply with tensile loading requirements as specified in ASTM F 2176.
      d. The conduit coupling/joint shall not separate when loaded to axial tensile load requirements as specified in ASTM F 2176.
e. The conduit coupling/joint shall not fail when conditioned at low temperature condition of 10° F and tested by an impact with a force of 20 ft-lbf using Tup “B” as described in Test Method ASTM D 2444, as specified in ASTM F 2176.

3. Duct Integrity: Rod ducts with a mandrel 1/4-inch smaller in diameter than internal diameter of ducts. Where rodding indicates obstructions in ducts, remove the obstructions and retest.

B. Vault Testing:
1. Vacuum Testing: Prior to backfilling, test vaults using the vacuum test method in accordance with ASTM C1244 guidelines to demonstrate the integrity of the installed materials and the construction procedures. Plug all lift holes and temporarily plug and securely brace pipes entering the vault prior to testing. The vault is acceptable if the measured time (for a 10 inch vacuum of mercury to drop from 10” Hg to 9” Hg) meets or exceeds the values presented in Table 1 of ASTM C1244.
2. Hydrostatic Testing: After backfilling, fill vaults to the normal water level, let stand for 24 hours. Refill to the original water line and measure the water level change over a 24 hour period. Leak shall not exceed 5% of volume.
3. Grounding: Test vault grounding to ensure electrical continuity of bonding and grounding connections. Measure ground resistance at each ground rod and report results.

3.8 SUBDUCTING / INNERDUCT

A. Place subducting/innerducts per duct simultaneously (all at the same time).
B. Place subducting/innerducts using a pulling harness with a pulling swivel.
C. Leave approximately 24 inches of subducting/innerducts slack at each end.

3.9 FINAL INSPECTION AND SYSTEM ACCEPTANCE

A. Cleaning. Prior to punch walk:
1. Clean installed products in accordance with manufacturer’s instructions.
2. Remove temporary coverings and protection of adjacent work areas. Remove unused, excess, and left over products, debris, spills, or other excess materials. Remove installation equipment.
3. Leave finished work and adjacent surfaces in neat, clean condition with no evidence of damage.
4. Legally dispose of debris.
B. Prior to punch walk, repair defective work and replace damaged installed products.
C. Execute a punch walk with the Engineer and the Owner/Owner’s Representative to observe Work. Develop a punch list for items needing correction. Issue this punch list to Engineer.
D. Repair defects and correct punch list items prior to system acceptance.
E. Execute follow up punch walk with the Engineer and the Owner/Owner’s Representative to verify punch list items have been corrected.
F. On successful punch walk completion, submit system acceptance certificate to the Owner/Owner’s Representative requesting their signature and return of the certificate. Issue copies of the signed certificate back to the Owner/Owner’s Representative with copy to the Engineer.
SECTION 31 10 01 - PLANT PROTECTION

PART I - GENERAL

1.1 DESCRIPTION

A. Preserve and protect existing trees, shrubs and other plant materials to remain, including protecting plants on adjoining properties during site preparation work and construction.

B. Provide tree and shrub pruning and removal in accordance with these Specifications if required by the Contract Documents.

C. Layout and review of utility and irrigation trenches that occur in the Tree Protection Root Zone.

1.2 QUALITY ASSURANCE

A. Reference Standards:
   1. Ordinances and Regulations: All local, municipal and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes, regulations or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard than is required by the above mentioned codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.


B. Pre-installation Conference:
   1. Conduct conference at the project site. Contractor shall review and identify with the District’s Representative the limits of Work and extent of plant materials and other improvements to be protected. Notify District's Representative of discrepancies between existing conditions and Drawings before proceeding with Work.

   2. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:
      a. Tree-service firm's personnel, and equipment needed
      b. Arborist's responsibilities.
      c. Quality-control program.
      d. Coordination of Work and equipment movement with the locations of protection zones.
      e. Trenching by hand or with air spade within protection zones.

C. At the District’s discretion, an Arborist may represent the District to review the work of the Contractor in regards to plant protection. Arborist Qualifications: ISA Certified Arborist licensed to work in the State of California.

D. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.
1.3 PROJECT CONDITIONS

A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.

B. Nuisances: Keep dirt, dust, noise and other objectionable nuisance to a minimum. Use temporary enclosures, coverings and sprinkling, and combinations thereof, as necessary to limit dust to lowest practicable level, except do not use water to the extent that it causes flooding or contaminated run-off.

C. Traffic: Conduct work to ensure minimum interference with vehicular and pedestrian traffic, and to permit unencumbered access to site and adjacent properties.
   1. Do not close or obstruct streets, sidewalks, alleys 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.

D. The following practices are prohibited within protection zones:
   1. Storage of construction materials, debris, or excavated material.
   2. Moving or parking vehicles or equipment.
   3. Foot traffic.
   4. Erection of sheds or structures.
   5. Impoundment of water.
   6. Excavation or other digging unless otherwise indicated.
   7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

E. Do not direct vehicle or equipment exhaust toward protection zones.

F. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

1.4 DEFINITIONS

A. Diameter breast height (DBH): diameter of a trunk as measured at a height 54 inches above the ground line.

B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and as identified on the drawings or otherwise by a certified arborist.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

E. Structural Root Zone: A circular area with the tree trunk at the center and a radius equal to 3 times the diameter of the tree trunk measured at breast height (4.5 feet above ground line). This zone, where most of the structural roots exist, is based upon tree failure research conducted by E.T. Smiley at the Bartlett Tree Research Laboratory. Any structural (buttress) root, which has been severed or is rotten within this zone, can no longer provide adequate support to the tree and must be considered missing.

F. Dripline: The area of the ground directly beneath the vertical projection (shadow) of the trees foliage canopy.
1.5 SUBMITTALS

A. Product Data: For each type of product.

B. Soil Analysis Report:
   1. Provide soil analysis report for any top soil to be removed and stockpiled for reuse as planting soil. Soils analysis report to be performed by a certified soil analysis laboratory (Waypoint Analytical 408-727-0330, or equal) and include agricultural suitability analysis and recommendations for amending the soil. Subsoil will not be approved as planting soil.

C. Samples: For each type of the following:
   2. Planting Soil: 1-quart of soil; in sealed plastic bags; for soils to be used within the protection zones.

D. Shop Drawings:
   1. Include plans and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones. Indicate extent of trenching by hand or with air spade within protection zones.
   2. Protection-Zone Signage

E. Qualification Data: For arborist and tree service firm.

F. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

G. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

H. Survey of Existing Conditions: Provide to District a Survey of Existing Conditions. Record existing conditions, including underground utilities, etc. on As Built Drawings by use of field measurements and preconstruction photographs. Make permanent record of measurements, materials, and construction details required to make exact reproduction.

I. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
   1. Species and size of tree.
   2. Location on site plan. Include unique identifier for each.
   3. Reason for pruning.
   4. Description of pruning to be performed.
   5. Description of maintenance following pruning.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Soil: Approved planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.
B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
   1. Type: Wood and bark chips
   2. Size Range: ½'-2"

C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements:
   1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch- diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- OD line posts, and 2-7/8-inch- OD corner and pull posts; with 1-5/8-inch- OD top and bottom rails; with tie wires, hog ring ties, and other accessories for a complete fence system.
      a. Height: 72 inches
   2. Gates: Swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones.

D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:
   1. Text: “Tree Protection Zone. No Heavy Equipment.”
   2. Lettering: 3-inch-high minimum, black characters on white background.

E. Tree Branch & Trunk Protection: for branches trunks exposed to, or at risk of exposure to impact by construction equipment.
   1. 2x lumber
   2. 1/2"-wide steel straps

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas in which work is to be performed. Report in writing to the District's Representative all prevailing conditions that will adversely affect the existing plant materials to remain. Do not proceed with work until a solution acceptable to the District’s Representative has been arrived at.

B. Survey of Existing Conditions: Record existing conditions, including underground utilities, etc. by use of measured drawings and preconstruction photographs.

C. 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.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain an/or relocated. Tie a 1-inch blue vinyl tape around each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.
1. Apply 4-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.

D. Install and maintain temporary fencing and other required protective devices and exclude construction activities from tree/shrub zones except as supervised by the Arborist / District’s Representative.

E. If tree/plant protection zones cannot be protected with fencing, a four inch layer of mulch with minimum 1.25 inch thick, metal strap linked plywood shielding shall be maintained in the tree/shrub zone where heavy equipment will be operated.

3.3 PROTECTION ZONES

A. Protect trees and shrubs against cutting, breaking, skinning and bruising of bark; permit no traffic or stockpiling within drip line.

B. Do not change earth surface within drip line of trees and shrubs except as approved in writing by the Owner.

C. Do not park vehicles or store materials, supplies and construction equipment within Tree Protection Zone.

D. Verify details of protection-zone fencing before retaining last option in "Protection-Zone Fencing" Paragraph below.

E. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.

2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to District. Post may be steel driven type, or self-supporting type.

3. Access Gates: Install where required; adjust to operate smoothly, easily, and quietly; free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

F. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by District. Install one sign spaced approximately every 20 feet on protection-zone fencing, with signs each facing a different direction.

G. Where tree branches & trunks are exposed to, or at risk of exposure to impact by construction equipment, secure 2x lumber radially around tree branches and/or trunk to prevent damage. Secure lumber with steel strapping.

H. Maintain protection zones free of weeds and trash.
I. Maintain protection-zone fencing and signage in good condition as acceptable to District and remove when construction operations are complete and equipment has been removed from the site.
   1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
   2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION & TRENCHING

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312300 "Excavation" unless otherwise indicated.

B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.

C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.

D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as approved by certified arborist.
   1. Generally cutting of roots two inches or greater shall be avoided. Roots one inch and greater in diameter that must be cut shall be cut cleanly and obliquely with the cut surface facing down.
   2. Exposed and pruned roots shall be covered with light well-drained soil backfill and mulch over. The area shall be kept moist.
   3. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
   4. Cut Ends: Do not paint cut root ends
   5. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
   6. Cover exposed roots with burlap and water regularly.
   7. Backfill as soon as possible according to requirements in Section 312300 "Excavation."

B. Root Pruning at Edge of Protection Zone: Prune tree roots 6 inches outside of the protection zone by cleanly cutting all roots to the depth of the required excavation.
C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-line spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.6 AIR SPADING:

A. Air spading, or hand removal of soil or tunneling is required for excavation in the Tree Protection Zone of any trees for the installation of infrastructure where roots 2 inches in diameter and larger are encountered. The “critical root zone” is defined as any area around a tree in which a two inch diameter root is encountered. The Arborist / District’s Representative shall define the critical root zone and the Contractor shall excavate using a pneumatic excavator (Air-SPADE or equivalent) as follows:

B. Trenching for utility lines or other infrastructure may be done mechanically outside the Tree Protection Zone. As the equipment operator approaches the canopy radius, or for certain species up to 1.5 times the canopy radius out from the base of the tree (Oaks, Poplars, Redwoods, etc.) the operator shall be assisted by a spotter who shall inspect the excavation for roots. If a root of two inches diameter is encountered the spotter shall halt mechanical excavation and pneumatic excavation shall proceed. If no other two inch or greater diameter root is encountered in an excavation of two feet forward and two feet deep, the single two inch root may be cleanly cut proximal to (on the tree side of ) any fracture or torn bark. Mechanical excavation may continue until a two inch diameter root is encountered, and the pneumatic excavation, exploration is then repeated.

C. The Contractor shall control dust and the spread of soils excavated. The air-spade operator shall moisten the soil to field capacity and to a minimum probe depth of 2.5 feet with a watering needle (hydro-spear) 48 hours prior to pneumatic excavation. The spread of excavated soil shall be contained to the area adjacent to the trench path with upright plywood sheeting.

D. These specifications shall not be considered operating instructions or a requirement to use a specific pneumatic excavation product. It is the responsibility of the Contractor to read and understand the pneumatic excavator operation instructions and safety procedures (including the proper and safe use of air compressor, hoses, excavation tools, etc.) prior to operations.

3.7 TREE PRUNING

A. Obtain specific instruction from Arborist / District's Representative for pruning of trees, shrubs, roots or disturbance of soil within spread of tree branches. The Contractor shall utilize protection measures as outlined by Arborist / District's Representative, which may include directional drilling, or hand clearing to expose the roots.

B. Provide periodic watering for all planting within Contract limit and any adjacent areas affected by the work. Maintain moisture to a minimum 6" depth, minimum.

C. Using an approved pruning saw, provide selective tree limb pruning as accepted by the District if branches interfere with new construction. Limb diameter shall be limited to 5" diameter and shall be pruned just outside the branch collar in accordance with American National Standards Institute, (ANSI 300) and International Society of Arboriculture, (ISA) standards.

D. Approved branches to be shortened must be cut just above a fork with another living branch which is plus or minus 1/2 the diameter of the removed branch as shown in the pruning figure herein. Branches to be removed which exceed 2" in diameter shall be severed with a 3-step cut
to prevent bark peeling. Final cuts must not injure the branch collar or branch bark ridge of the remaining branches and trunk.

E. Prune branches that are affected by temporary and permanent construction.

1. Prune to remove only injured, broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
3. Pruning Standards: Prune trees according to ANSI A300 (Part 1)
3.8 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.

1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

D. Minor Fill within Protection Zone: Where existing grade is 6 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.9 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.10 TREE & PLANT REMOVAL & REPLACEMENT

A. Field Verification: Before removing non-designated trees, shrubs, stumps, bushes, vines, rubbish, undergrowth and deadwood as shown on the Drawings and as specified, obtain verification from Owner's Representative.

B. Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by District.

1. Submit details of proposed pruning and repairs.

2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.

3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by District.
C. Backfill and compact areas excavated and open pits and holes resulting from removal operations. Comply with requirements herein and as specified in Section 312333 “Utility Trenching and Backfilling” for backfill materials, compaction and installation methods.

D. Remove all stumps and roots in their entirety. Tree trunks shall be removed minimum depth of 2 1/2 feet below existing grade or finish grade, whichever is deeper. Stump grinding is an acceptable method of removal of roots and stumps of trees and shrubs; however, the chip contaminated soil shall be replace with approved clean planting soil in planting areas and with approved clean fill soil in all other areas.

E. Backfill and compact voids excavated and open pits and holes resulting from removal operations. Comply with Earthwork Specification for backfill materials, compaction and installation methods. Unless required otherwise, in planting areas backfill holes with clean approved planting soil compacted to 90% relative compaction to a minus 12 inches below finish grade and 85% relative compaction for the top 12 inches, except as required elsewhere to a greater degree by Civil or Structural Engineer. In non-planting areas backfill holes with approved fill soil compacted to 95% relative compaction.

F. Remove and replace trees indicated to remain that are more than 25% dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that District determines are incapable of restoring to normal growth pattern.

G. Plant Replacement: Contractor shall replace trees cut or severely damaged due to the Contractor’s work as follows:
   1. An ISA Certified Arborist may be retained by the District to determine the condition of trees in question as to their ability to survive in a healthy condition and in their original shape, or a pruned aesthetically pleasing shape acceptable to the District. Comply with recommendations to rehabilitate as recommended by the Arborist, or to replace in accordance with the requirements below.
   2. Trees size shall be determined by Diameter at Breast Height (DBH). Replacement of trees and shrubs shall also include providing acceptable plant installation, automatic irrigation system and a minimum maintenance period of 120 days. If plant(s) is not acceptably maintained and is not healthy and thriving at the end of the 120 day maintenance period, the Contractor shall continue the maintenance work until such time that healthy tree(s) and/or shrub(s) is achieved.
   3. Replace any damaged planting in kind using "specimen" plants as follows and at no cost to Owner:
      a. Trees up to 3” DBH: Replace with 36” box size.
      b. Trees 3” to 6” DBH: Replace with 72” box size.
      c. Trees 6” to 12” DBH: Replace with 84” box size.
      d. Trees 12” DBH and larger: Tree value shall be determined by Arborist using Council of Tree and Landscape Appraisers (CTLA) method. Replace damaged tree with largest available nursery boxed tree and cash difference between value of damaged tree and nursery stock replacement cost.
      e. Shrubs: Replace with 15-gallon can size.
   4. Plant and maintain new trees as specified

H. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 3-inch uniform thickness to remain.

I. Soil Aeration: Where directed by arborist, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch- diameter holes a minimum of 12 inches (300 mm) deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.
3.11 CLEANUP AND DISPOSAL, per the District’s General Conditions.

A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner’s property.

B. Clean excess soil may be distributed on site as accepted by District's Representative, if it does not adversely affect specified finish grades or percolation of water into planting soil.

C. Upon completion of work under this Section, remove all tools, equipment and temporary protections, enclosures and structures.

END OF SECTION
SECTION 31 11 00 - CLEARING & GRUBBING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes all work necessary to successfully complete demolition, clearing & grubbing to prepare site for the phasing and new construction, including the following:
   1. Protecting existing trees and vegetation to remain.
   2. Trimming tree limbs and roots.
   3. Removing trees as designated.
   4. Clearing vegetation, debris, trash and other materials within limits indicated.
   5. Grubbing of vegetation within limits indicated.
   7. Removing above-grade site improvements within limits indicated.
   8. Disconnecting, capping or sealing, and abandoning site utilities in place.
   9. Disconnecting, capping or sealing, and removing site utilities.
  10. Disposing of objectionable material off site.
  11. Clean line saw cutting of existing asphalt pavement, concrete sidewalks, concrete curb/gutter, etc., as specified herein.
  13. Protection from injury or defacement of trees and other vegetation and objects to be preserved.
      a. Removal of surface debris and deleterious materials such as rubbish.
      b. Removal and stockpile of materials for landscaping use at approved location.
      c. Disposal of unwanted materials off site.

1.2 REGULATORY REQUIREMENTS

A. No burning shall be allowed.

B. Comply with the following California Code of Regulations:
   1. Title 8: CAL/OSHA, Chapter, Subchapter 4 -- Construction Safety Orders
   2. Title 24: Part 2, California Building Code, Chapter 33, Protection of Pedestrian during Construction or Demolition.
   3. Bay Area Air Quality Management District
1.3 DEFINITIONS


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

C. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2-inches in diameter; and free of weeds, roots, and other deleterious materials.

D. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

A. Except for stripped topsoil or other materials indicated to remain District's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

A. Submittal procedure shall be as outlined in Division 1 – General Requirements.

1.6 PROJECT CONDITIONS

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

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

C. Unidentified Materials;

1. If unidentified materials are discovered, including hazardous materials that will require additional removal other than is required by the Contract Documents, immediately report the discovery to the District.

2. If necessary, the District will arrange for any testing or analysis of the discovered materials and will provide instructions regarding the removal and disposal of the unidentified materials.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Backfill excavations resulting from demolition operations with on-site or import materials
conforming to structural backfill defined in Section 31 23 33 Utility Trenching and Backfill.

1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

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

B. Locate and clearly flag trees and vegetation to remain or to be relocated.

C. Protect existing site improvements to remain during construction.
   1. Restore damaged improvements to their original condition, as acceptable to the District. Prior to restoration the contractor shall notify the District of the damaged improvements.

3.2 TREE REMOVAL

A. Remove trees designated for removal prior to the construction of new improvements.

B. Perform tree removal work in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.

C. Remove or grind stumps to a minimum of 18-inches below finish subgrade. Remove surface roots to this depth within 24-inches of the tree trunk. Trees, plants and roots that are below proposed building footprint or slabs on grade shall be removed in its entirety.

3.3 RESTORATION

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

B. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, as directed by the District.
   1. Employ a qualified arborist, licensed in jurisdiction where the Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
   2. Replace trees that cannot be repaired and restored to full-growth status, as determined by the District. Clear and grub existing areas only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

3.4 BACKFILL

A. Place and compact material in excavations and depressions remaining after site clearing in conformance with Section 31 23 33.
3.5 DISPOSAL

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off the District’s property.

3.6 CONSTRUCTION WASTE MANAGEMENT

A. To the greatest extent possible, separate reusable and recyclable products from contaminated waste and debris in accordance with the General Contractor’s Waste Management Plan. Place recyclable and reusable products in designated containers and protect from moisture and contamination.

END OF SECTION
SECTION 31 23 00 - EXCAVATION AND FILL

PART 1 - GENERAL

1.1 SUMMARY
   A. This Section describes the requirements for earthwork operation, as shown on the Drawings and specified:
      1. Excavation and/or embankment from existing ground to subgrade, including soil sterilant, for parking areas, walks, paths, and any other site improvements called for on the Plans.
         a. Aggregate base.
         b. Dispose off-site waste, excess or unsatisfactory material.

1.2 RELATED DOCUMENTS
   A. Geotechnical Report: “Geotechnical Engineering Investigation Report, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California.” Kleinfelder Project No.: 20181569.001A, Dated: October 17, 2017, including:
      1. Addendum Letters No. 1 and No. 2 dated March 2 and March 4, respectfully.
   B. Caltrans Standard Specifications:
      1. Section 17, Watering.
      2. Section 19, Earthwork.
      3. Section 26, Aggregate Bases.

1.3 RELATED SECTIONS
   A. Section 31 11 00 – Clearing and Grubbing

1.4 REGULATORY REQUIREMENTS
   A. State of California, Department of Transportation (Caltrans), Standard Specifications
   B. ASTM
      1. D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
      2. D1557-70 for testing in compaction.
      3. D 1586, Method for Penetration Tests and Split-Barrel Sampling of Soils.
      4. D 2487, Classification of Soils for Engineering Purposes.

D. CAL/OSHA, Title 8.

1.5 DEFINITIONS

A. Borrow: Approved soil material imported from off-site for use as Structural Fill or Backfill.
B. Excavation: Removal of material encountered above subgrade elevations.
   1. Authorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions as shown on plans or authorized by the District’s Representative.
   2. Unauthorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions without authorization by the District’s Representative. Unauthorized excavation shall be without additional compensation.
C. Structural Backfill: Soil materials approved by the District’s Representative and used to fill excavations resulting from removal of existing below grade facilities, including trees.
D. Structural Fill: Soil materials approved by the District’s Representative and used to raise existing grades.
E. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material ¾-cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2-inches.
F. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below grade.
G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below base or topsoil materials.
H. Unsuitable Material: Any soil material that is not suitable for a specific use on the Project. The District’s Representative will determine if a soil material is unsuitable.
I. Utilities: onsite underground pipes, conduits, ducts and cables.

1.6 SUBMITTALS

A. Submittal procedure shall be as outlined in Division 1 – General Requirements.
B. Submit material certificates signed by the material producer and the Contractor, certifying that each material item complies with, or exceeds the specified requirements.

1.7 QUALITY ASSURANCE

A. Conform all work and materials to the recommendations or requirements of the District’s Representative.

B. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

C. Excavate and backfill existing areas only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations. Backfill as necessary to achieve rough grade elevations as indicated per plan.

D. Perform excavation, filling, compaction and related earthwork under the observation of the District’s Representative. Materials placed without approval of the District’s Representative will be presumed to be defective and, at the discretion of the District’s Representative, shall be removed and replaced at no cost to the District. Notify the District’s Representative at least 24-hours prior to commencement of earthwork and at least 48 hours prior to testing.

E. The District’s Representative will perform observations and tests required to enable him to form an opinion of the acceptability of the Project earthwork. Correct earthwork that, in the opinion of the District’s Representative, does not meet the requirements of these Technical Specifications.

F. Upon completion of the construction work, certify that all compacted fills and foundations are in place at the correct locations, and have been constructed in accordance with sound construction practice. In addition, certify that the materials used are of the types, quality and quantity required by these Technical Specifications. The Contractor shall be responsible for the stability of all fills and backfills constructed by his forces and shall replace portions that in the opinion of the District’s Representative have been displaced or are otherwise unsatisfactory due to the Contractor’s operations.

G. Do not mix or place cement treated base when the temperature is below 36 degrees F or when the ground is frozen.

H. Identify and protect existing utilities.

I. Finish soil grade tolerance at completion of grading:
   1. Paved areas: +0.05 feet.
   2. Other areas: ±0.10 feet.

1.8 PROJECT CONDITIONS

A. Promptly notify the District and the District’s Representative of surface or subsurface conditions differing from those disclosed in conformance with Division 1 General Requirements.

B. Protect open excavations, trenches, and the like with fences, covers and railings to maintain
safe pedestrian and vehicular traffic passage.

C. Prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

D. Temporarily stockpile fill material in an orderly and safe manner and in a location approved by the District.

E. Provide dust and noise control in conformance with Division 1 General Requirements.

F. Environmental Requirements: When unfavorable weather conditions necessitate interrupting earthwork operation, areas shall be prepared by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion. After interruption, compaction specified in last layer shall be re-established before resuming work.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from on-site excavations.

B. Obtain approval of on-site soil materials and borrow materials to be used for structural fill or structural backfill from the District’s Representative.

C. On-Site Structural Fill and Structural Backfill: Soil or soil-rock mixture from on site excavations, free from organic matter or other deleterious substances. On-site structural fill and backfill shall not contain rocks or rock fragments over 3 inches in greatest dimension.

D. Imported Structural Fill and Structural Backfill: Conform to the requirements of on-site structural fill. Material shall also be non-expansive with a plasticity index of 12 or less, has a liquid limit less than 30, and has an expansion index less than 20. Gradation should meet the criteria in the following table:

<table>
<thead>
<tr>
<th>Fill Requirement</th>
<th>Test Procedures</th>
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<tbody>
<tr>
<td></td>
<td>ASTM&lt;sup&gt;1&lt;/sup&gt;</td>
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<tr>
<td>Sieve Size</td>
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<td>3 inch</td>
<td>100</td>
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<tr>
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<td>70-100</td>
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<td>No. 200</td>
<td>20-50</td>
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</tbody>
</table>

2.2 SOIL STERILANT

A. Commercial chemical for weed control, registered by EPA. Provide granular, liquid or wet-able powder form.
2.3 AGGREGATE BASE

   1. Class 2, 1-1/2-inch Maximum: Section 26-1.02B.
   2. Class 2, 3/4-inch Maximum: Section 26-1.02B.
   3. Class 3: Section 26-1.02C.

PART 3 - EXECUTION

3.1 GENERAL

A. Conform to Section 19, Earthwork, Caltrans Standard Specifications as modified by the Contract Documents.

B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.

C. The use of explosives will not be permitted.

3.2 WET WEATHER CONDITIONS

A. Do not prepare subgrade, place or compact soil materials if above optimum moisture content.

B. If the District’s Representative allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the District’s Representative and the project Geotechnical Report.

3.3 EXCAVATION

A. Excavate earth and rock to lines and grades shown on drawings as prepared by a licensed professional engineer and to the neat dimensions indicated on the Plans, required herein or as required to satisfactorily compact backfill.

B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.

C. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.

D. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements.

3.4 REMOVAL OF EXISTING FILLS AND UNSUITABLE MATERIAL

A. Over-excavate areas of existing fills and other unsuitable material encountered during mass grading as directed by the District’s Representative.
B. Conform with Division 1 General Requirements.

3.5 GRADING

A. Uniformly grade the Project to meet existing conditions.

B. Finish ditches, gutters and swales to the sections, lines and grades indicated and to permit proper surface drainage.

C. Round tops and bottoms of slopes as indicated or to blend with existing contours.

3.6 SUBGRADE PREPARATION

A. Prepare subgrades under paved areas, curbs, gutters, walks, structures, other surface facilities and areas to receive structural fill. A 6-inch layer of 3/4-inch crushed rock or slab capillary break material shall be underlain with at least 12 inches of “non-expansive” fill material. The material shall be placed beneath exterior flatwork and extend at least five feet beyond the slab edges. Slab subgrade soils will also need to be properly moisture-conditioned prior to the placement of the “non-expansive” material. In a similar fashion, exterior concrete flatwork should be underlain by 6-inches of “non-expansive” material along with proper moisture conditioning of the subgrade soil.

B. Prepare subgrades for paved areas, curbs and gutters by plowing or scarifying surface at least 12 inches in one lift below final subgrade elevations and a minimum of 2 feet beyond edge of pavement unless specified otherwise by the District's Representative. Uniformly moisture condition to obtain optimum moisture contents. Break clods and condition surface by harrowing or dry rolling. Remove boulders, hard ribs and solid rock. Prepare earth uniform for full depth and width of subgrade.

1. Subgrade should be moisture-conditioned to at least two percent above optimum moisture content, and compacted to 90 percent relative compaction per ASTM D1557 to reduce its expansion potential.

C. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.

D. Obtain the District's Representative's approval of subgrades prior to placing pavement.

3.7 PLACEMENT OF STRUCTURAL FILL

A. Obtain the District's Representative’s approval of surface to receive structural fill prior to placement of structural fill material.

B. Place structural fill on prepared subgrade.

C. Spread structural fill material placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 90 percent of the maximum dry density.

D. Place structural fill material to suitable elevations above grade to provide for anticipated settlement and shrinkage.
E. Overbuild fill slopes, as required by the District’s Representative, to obtain required compaction. Remove excess material to lines and grades indicated.

F. Do not drop fill on structures. Do not backfill around, against or upon concrete or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.

3.8 AGGREGATE BASE

A. Watering, Spreading and Compacting: Section 26-1.03, of Caltrans Standard Specifications.

3.9 COMPACTION AND TESTING

A. Do not compact by ponding, flooding or jetting.

B. Compact soils at optimum water content. Onsite clayey fill should be uniformly moisture-conditioned to a moisture content of at least 2 percent above the optimum moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and compacted to between 90 and 93 percent of the maximum dry density as determined by ASTM Test Method D 1557. Imported granular fill should be uniformly moisture-conditioned to a moisture content to near the optimum moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 90 percent of the maximum dry density.

C. Aerate material if it is too wet. Add water to material if it is too dry. Thoroughly mix lifts before compaction to ensure uniform moisture distribution.

D. Perform compaction using rollers, pneumatic or vibratory compactors or other equipment and mechanical methods approved by the District’s Representative.

E. Compaction requirements:
   1. Compact structural fills less than 5-feet thick to 90 percent compaction.
   2. Compact structural fill 5-feet thick or greater to 95 percent compaction.
   3. Compact the upper 6 inches of subgrade soils beneath pavements, curbs and gutters to 95 percent compaction. Extend compaction 2-feet beyond pavement edges unless specified otherwise by the District’s Representative.
   4. Compact the upper 6-inches of subgrade soils under walks, structures and areas to receive structural fill to 90 percent compaction.

3.10 SOIL STERILIZATION

A. Apply soil sterilant to areas indicated, such as beneath asphalt concrete pavement, brick pavement, concreter pavement and at grade concrete slabs, including sidewalks, curbs and gutters. Also where indicated apply soil sterilant below expansion and control joints and at areas where pipes, ducts or other features penetrate slabs.

B. Apply soil sterilant uniformly and at the rates recommended by the manufacturer.
C. Apply soil sterilant to prepared subgrade, or after installation of aggregate base as recommended by the manufacturer.

3.11 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the District.

END OF SECTION
SECTION 31 23 19 - DEWATERING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes the requirements for construction dewatering.

1.2 PERFORMANCE REQUIREMENTS

A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water to permit excavation and construction to proceed on dry, stable subgrades.

1. Delegated Design: Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation does not flood, and that damage to subgrades and permanent structures is prevented.

3. Prevent surface water from entering excavations by grading, dikes, or other means.

4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.

5. Remove dewatering system when no longer required for construction.

1.3 RELATED SECTIONS:

A. Section 31 23 00, Excavation and Fill.

B. Division 01 - General Requirements - Section 01813 – Sustainable Design Requirements

1.4 REGULATORY REQUIREMENTS


B. California Regional Water Quality Control Board

1.5 SUBMITTALS

A. Shop Drawings: For dewatering system. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, and discharge lines; and
means of discharge, control of sediment, and disposal of water. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.

B. Include a written plan for dewatering operations including control procedures to be adopted if dewatering problems arise.

C. Delegated-Design Submittal: For dewatering system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

D. Qualification Data: For qualified Installer.

E. Field quality-control reports.

F. LEED Submittals: Indicate location of manufacturing facility including name, address and distance between manufacturing facility and the project site. Provide manufacturer’s documentation indicating location where the base materials were extracted, mined, quarried, harvested, etc. and the distance between this location and the project site. Also include material costs, excluding cost of installation.

G. LEED Product Data Submittal Form: Submit completed product data form provided by Architect; certified by vendor, installer, subcontractor, and/or manufacturer as appropriate.
   1. Electronic file (.pdf) of LEED Product Data Submittal Form is available from the Architect

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer that has specialized in design of dewatering systems and dewatering work as determined by the authorities having jurisdiction.

B. Regulatory Requirements: Comply with governing EPA and California Regional Water Quality Control Board notification regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Review methods and procedures related to dewatering with the College including, but not limited to, the following:
   1. Inspection and discussion of condition of site to be dewatered including coordination with temporary erosion control measures and temporary controls and protections.
   2. Geotechnical report.
   3. Proposed site clearing and excavations.
   4. Existing utilities and subsurface conditions.
   5. Coordination for interruption, shutoff, capping, and continuation of utility services.
   6. Construction schedule. Verify availability of Installer’s personnel, equipment, and facilities needed to make progress and avoid delays.
   7. Testing and monitoring of dewatering system.
1.7 PROJECT CONDITIONS

A. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer.

B. Make additional test borings and conduct other exploratory operations necessary for dewatering.

C. The geotechnical report is referenced elsewhere in the Project Manual.

D. Survey Work: Engage a land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

E. During dewatering, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

F. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by the College or others unless permitted under Division 1.

PART 2 - PRODUCTS

2.1 Not Applicable

PART 3 - EXECUTION

3.1 PREPARATION:

A. Protect structures, utilities sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.
   1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site and surrounding area.
   2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

B. Provide temporary grading to facilitate dewatering and control of surface water.

C. Monitor dewatering system continuously and report in a weekly log of dewatering performance.

D. Promptly repair damages to adjacent facilities caused by dewatering to the satisfaction of the Architect and/or College.

E. Protect and maintain temporary erosion and sedimentation controls, which are specified in Section 31 25 00 "Erosion and Sedimentation Control" during dewatering operations.
F. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.

3.2 INSTALLATION:

A. Install dewatering system to ensure minimum interference with roads, streets, walks and other adjacent occupied and used facilities.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

B. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.
   1. Space well points or wells at intervals required to provide sufficient dewatering.
   2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.

C. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.
   1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.

D. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
   1. Maintain piezometric water level a minimum of 48 inches (600 mm) below surface of excavation.

E. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.

F. Contractor shall make provisions for emergency standby equipment available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to the College.
   1. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches (900 mm) below overlying construction.

G. Damages: Promptly repair damages to adjacent facilities caused by dewatering operations. Submit proposed repair plan to Architect for review and approval.

H. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.
3.3 FIELD QUALITY CONTROL

A. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.

B. Observation Wells: Provide, take measurements, and maintain at least the minimum number of observation wells or piezometers indicated; additional observation wells may be required by authorities having jurisdiction.
   1. Observe and record daily elevation of ground water and piezometric water levels in observation wells.
   2. Repair or replace, within 24 hours, observation wells that become inactive, damaged, or destroyed. In areas where observation wells are not functioning properly, suspend construction activities until reliable observations can be made. Add or remove water from observation-well risers to demonstrate that observation wells are functioning properly.
   3. Fill observation wells, remove piezometers, and fill holes when dewatering is completed.

3.4 CONSTRUCTION WASTE MANAGEMENT

A. General: Comply with General Contractor’s Waste Management Plan in Division 01.

B. To the greatest extent possible, separate reusable and recyclable products from contaminated waste and debris in accordance with the General Contractor’s Waste Management Plan. Place recyclable and reusable products in designated containers and protect from moisture and contamination.

END OF SECTION
SECTION 31 23 33 - UTILITY TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Excavation, bedding, and backfill of underground storm drain, sanitary sewer and water piping and associated structures.

B. The CONTRACTOR shall provide all materials, equipment, and labor necessary to perform and complete all utility earthwork as shown on the Drawings and as specified herein.

C. The work of this Section includes all utility earthwork required for construction of the project. Such earthwork shall include, but may not necessarily be limited to, the loosening, removing, loading, transporting, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the work, which shall include, but not necessarily be limited to, the furnishing, placing, and removing of sheeting, shoring and bracing necessary to safely support the sides of all excavations; all pumping, ditching, draining and other required measures for the removal or exclusion of water from the excavation; the supporting of structures above and below the ground; all backfilling around structures and all backfilling of trenches and pits; the disposal of excess excavated materials; borrow of materials to make up deficiencies for fills; and all other incidental earthwork.

D. Hazardous materials shall be handled in accordance with all regulatory agency requirements. Asbestos cement pipe (ACP) exists within the project area and replacement of existing ACP is anticipated but shall be abandoned in place unless otherwise noted in the plans. The contractor shall make every attempt to protect all asbestos containing items during the execution of this contract. However, there will be instances where ACP or asbestos containing material will need to be removed, handled, cut, disturbed, or disposed of and the contractor shall comply with all local, state and federal regulations regarding construction activities near asbestos containing materials.

1.2 SECTION EXCLUDES

A. Drainage fill material and placement around subdrains.

B. Power, telecommunications, and low voltage scope of work.

1.3 RELATED DOCUMENTS

A. Geotechnical Report: “Geotechnical Engineering Investigation Report, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California.” Kleinfelder Project No.: 20181569.001A, Dated: October 17, 2017, including:
   1. Addendum Letters No. 1 and No. 2 dated March 2 and March 4, respectfully.

B. ASTM:
   1. C 33, Specification for Concrete Aggregates.
7. D 2487, Classification of Soils for Engineering Purposes.


D. CAL/OSHA, Title 8.

1.4 RELATED SECTIONS
A. Section 31 11 00, Clearing and Grubbing.

1.5 DEFINITIONS
A. AC: Asphalt Concrete.
C. Bedding: Material from bottom of trench to bottom of pipe.
D. CDF: Controlled Density Fill.
E. DIP: Ductile Iron Pipe.
F. Initial Backfill: Material from bottom of pipe to 12-inches above top of pipe.
G. PCC: Portland Cement Concrete.
H. RCP: Reinforced Concrete Pipe.
I. Springline of Pipe: Imaginary line on surface of pipe at a vertical distance of ½ the outside diameter measured from the top or bottom of the pipe.
J. Subsequent Backfill: Material from 12-inches above top of pipe to subgrade of surface material or subgrade of surface facility or to finish grade.
K. Trench Excavation: Removal of material encountered above subgrade elevations and within horizontal trench dimensions.
  1. Authorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions as shown on plans or authorized by the Geotechnical Consultant.
  2. Unauthorized Trench Over-Excavation: Excavation below trench subgrade elevations or
beyond indicated horizontal trench dimensions without authorization by the Geotechnical Consultant. Unauthorized excavation shall be without additional compensation.

L. Utility Structures:
   1. Storm Drain Manholes, vaults, etc.
   2. Sanitary sewer manholes, vaults, etc.
   3. Water vaults, etc.

1.6 SUBMITTALS

A. Submittal procedure shall be as outlined in Division 1 – General Requirements

B. Product Data:
   1. Grading and quality characteristics showing compliance with requirements for the Work.
   2. Certify that material meets requirements of the Project.
   3. Aggregate for Structural Soil Mix.

C. Samples:
   1. If required by the Geotechnical Consultant, provide 40-pound samples of all imported trench bedding and backfill material sealed in airtight containers, tagged with source locations and suppliers of each proposed material. Do not import materials to Project without written approval of the Geotechnical Consultant.
   2. Provide materials from same source throughout work. Change of source requires approval of the Geotechnical Consultant and the District’s Representative.

D. Material Test Reports: Provide, from a qualified testing agency, the following test results showing compliance with the project requirements:
   1. Classification according to ASTM D 2487 of each imported trench bedding and backfill material.
   2. Laboratory compaction curve in conformance with ASTM D 1557 for each imported trench bedding and backfill material
   3. Structural Soil Mix Testing: Provide a two-gallon representative sample to laboratories for an analysis of the structural soil mix indicating the following:
      Particle size analysis, including the following gradients of mineral content (USDA Designated Size in mm):
      1) 3” (76mm)
      2) 2 ½” – 3” (63-76mm)
      3) 2” – 2 ½” (50-63mm)
      4) 1 ½” – 2” (37-50mm)
      5) 1” (25-37mm)
      6) ¾” (19-25mm)
      7) Fine gravel – 1/8” – ¾” (2-19mm)
      8) Sand – 0.05 -2mm
      9) Silt – 0.002-0.05mm
      10) Clay – minus 0.002mm
      Provide manufacturer’s analysis of the following:
      1) Loose and rodded unit weight.
      2) Bulk specific gravity and absorbance.
      3) Gravel dimension and surface texture description.
      4) Aggregate soundness and L.A. abrasion.

Sample Collection Procedure:
   1) Collect a minimum of eight samples to make up the composite sample.
2) Take samples from random locations in the stockpile varying from the top to the bottom and around the stockpile.
3) Take at least half the samples from the lower third of the stockpile into a clean bucket.
4) Thoroughly mix material after samples are taken.
5) Remove 2 gallon of material from bucket and fill a zip-lock plastic bag.
6) Double bag the composite sample and label the bag with a permanent marker indicating the material name and date sample was taken.

1.7 QUALITY ASSURANCE

A. Provide an independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock definition testing, as documented according to ASTM D 3740 and ASTM E 548.

B. Conform all work and materials to the recommendations or requirements of the Geotechnical Report and meet the approval of the Geotechnical Consultant.

C. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

D. The Geotechnical Consultant will perform observations and tests required to enable him to form an opinion of the acceptability of the trench backfill. Correct the trench backfill that, in the opinion of the Geotechnical Consultant, does not meet the requirements of these Technical Specifications and the Geotechnical Report.

1.8 PROJECT CONDITIONS

A. Promptly notify the District’s Representative of surface or subsurface conditions differing from those disclosed in the Geotechnical Report. First notify the District’s Representative verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents and disclosed in the Geotechnical Report will be allowed unless Contractor has notified the District’s Representative in writing of differing conditions prior to contractor starting work on affected items.

B. Protect open, trenches, and utility structure excavations with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.

C. Stockpile on-site and imported backfill material temporarily in an orderly and safe manner.

D. Provide dust and noise control in conformance with Division 1.

E. Areas to receive structural soil mix shall be inspected by the Owner’s Representative before starting work.
PART 2 - PRODUCTS

2.1 PIPE BEDDING AND INITIAL BACKFILL

A. ASTM D 2321, Class IA, IB or II.
   1. Clean and free of clay, silt or organic matter.

B. Class 2 Aggregate Base: Conform to Section 26 of Caltrans Standard Specifications, ¾-inch maximum.


2.2 SUBSEQUENT BACKFILL

A. Conform to on-site or imported structural backfill in Section 31 23 00, Excavation and Fill.

2.3 CONTROLLED DENSITY FILL (CDF) (IN TRENCHES)

A. Provide non-structural CDF, from bottom of trench to finish subgrade of subbase or base material, that can be excavated by hand and produce unconfined compressive 28-day strengths from 50-psi to a maximum of 150-psi. Provide aggregate no larger than 3/8-inch top size. The 3/8-inch aggregate shall not comprise more than 30% of the total aggregate content.

B. Cement: Conform to the standards as set forth in ASTM C-150, Type II Cement.

C. Fly Ash: Conform to the standards as set forth in ASTM C-618, for Class F pozzolan. Do not inhibit the entrainment of air with the fly ash.

D. Air Entraining Agent: Conform to the standards as set forth in ASTM C-260.

E. Aggregates need not meet the standards as set forth in ASTM C-33. Any aggregate, producing performances characteristics described herein will be accepted for consideration. The amount of material passing a #200 sieve shall not exceed 12% and no plastic fines shall be present.

F. Provide CDF that is a mixture of cement, Class F pozzolan, aggregate, air entraining agent and water. CDF shall be batched by a ready mixed concrete plant and delivered to the job site by means of transit mixing trucks.

G. The Contractor shall determine the actual mix proportions of the controlled density fill to meet job site conditions, minimum and maximum strengths, and unit weight. Entrained air content shall be a minimum of 4.0%. The actual entrained air content shall be established for each job with the materials and aggregates to be used to meet the placing and unit weight requirements. Entrained air content may be as high as 20% for fluidity requirements.

H. Mix design shall meet the Geotechnical Consultant’s approval.

2.4 CONCRETE STRUCTURE BEDDING AND BACKFILL

A. Precast Structures: Same materials to the same heights as specified for pipe bedding and
backfill, or other material approved by the Geotechnical Consultant.

B. Poured-in-Place Structures:
   1. Bedding: Bedding shall meet the approval of the Geotechnical Consultant. In general, bedding is not required, pour bases against undisturbed native earth in cut areas and against engineered fill compacted to 90% relative compaction in embankment areas.
   2. Side Backfill: On-site or imported structural fill meeting the requirements given in Section 31 23 00.
   3. Structural Soil Mix: TMT Enterprises, 1996 Oakland Road, San Jose, CA 915131; (408)432-9010

2.5 AGGREGATE FOR STRUCTURAL SOIL MIX

A. Aggregate for Structural Soil Mix:
   1. Aggregate shall be triangular.
   2. Aggregate shall not be limestone or sandstone.
   3. Aggregate shall pass a 3-inch screen and be retained on a 2-inch screen.
   4. Aggregate dimensions shall not exceed 1.5:1.0 for any two dimensions chosen.

2.6 SOIL FOR STRUCTURAL SOIL MIX

A. Soil for Structural Soil Mix:
   1. Soil shall be a “clay loam” or “clay” based on “USDA classification system” as determined by mechanical analysis and shall be of uniform composition, without admixture of subsoil.
   2. Soil shall be free of stones greater than one-half inch, plants, roots, debris and other extraneous matter larger than one inch in diameter or an excess of smaller pieces of same type materials as determined by Owner's Representative.
   3. Soil shall not contain toxic substances harmful to plant growth.
   4. Soil shall be obtained from naturally well drained areas which have never been stripped of topsoil before and have a history of satisfactory vegetative growth.
   5. Soil shall contain not less than 3% or more than 7% organic matter as determined by organic carbon and total nitrogen on oven-dried samples.
   6. Soil shall be the product of a commercial processing facility specializing in production of Structural Soil Mixes for a minimum of 5 years.
   7. Mechanical analysis:
      Textural Class: Based on material passing a 2 mm screen.
      Gravel: Less than 5%.
      Sand: 20 – 50%.
      Silt: 20 – 30%.
      Clay: 25- 60%.
   8. Chemical analysis:
      pH: Between 6.5 to 7.9.
      Percent organic matter: 3 – 7% by dry weight.
      Nutrient level:
      1) Fertility: The range of the essential elemental concentration in soil shall be as follows.
         Ammonium Bicarbonate/DTPA Extraction parts per million (mg/kolgram) dry weight basis.
         Phosphorous 10-40
2) Toxic elements and compounds and excessive nutrients below UC guidelines and soil testing laboratory guidelines. The maximum permissible elemental concentration in the soil.

Ammonium Bicarbonate/DTPA Extraction parts per million (mg/kg/gram) dry weight basis.

<table>
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<th>Element</th>
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<td>Vanadium</td>
<td>3</td>
</tr>
</tbody>
</table>

Soluble salt: Less than 3.0 Millimho per cm in saturation extract.
Boron: Less than 1 part per million in saturation extract.
Sodium Absorption Ratio: Less than 4.

2.7 STRUCTURAL SOIL MIX

A. Content:
1. 4 parts structural soil aggregate.
2. 1 part soil, treated with polymer.

B. Mixing:
1. Mix polymer (PAM) with soil 48 hours ahead of blending with aggregate to allow for proper bonding.
2. Cure polymer treated soil by allowing the soil to partially dry.
3. Based upon accepted mix design, blend materials off-site in a clean area using an experienced blending operator.
4. Uniformly blend materials so that they are evenly distributed throughout mixtures.
5. Maintain adequate soil moisture content during mixing process.
6. soils and mix components shall easily shred and break down without clumping.
7. Soil clods shall easily break down into a medium crumbly texture material.
8. Do not blend materials that are saturated or contain excessive water.
9. Measure and monitor amount of soils moisture at mixing site periodically during mixing process.

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10. Protect materials and mixtures from contamination prior to, during, and after mixing operations.
11. Store mixes in stockpiles prior to shipment to site in clean areas protected from contamination from other materials.
12. Reblend the mix if the components have separated.

2.8 FILTER FABRIC

A. Filter Fabric:
   2. Mirifi 140N (Mirifi Inc., Charlotte, NC) (Tel. 800-438-1855) or equal.

PART 3 - EXECUTION

3.1 TRENCHING AND EXCAVATION

A. Existing PCC or AC Areas: Cut PCC or AC to full depth at a minimum distance of 12-inches beyond the edge of the trench.
B. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.
C. Excavation Depth for Bedding: Minimum of 4-inches below bottom of pipe or as otherwise allowed or required by the Geotechnical Consultant, except that bedding is not required for nominal pipe diameters of 2-inches or less.
D. Excavation Width at Springline of Pipe:
   1. Up to a nominal pipe diameter of 24-inches: Minimum of twice the outside pipe diameter, or as otherwise allowed or required by the Geotechnical Consultant.
   2. Nominal pipe diameter of 30-inches through 36-inches: Minimum of the outside pipe diameter plus 2-feet, or as otherwise allowed or required by the Geotechnical Consultant.
   3. Nominal pipe diameter of 42-inches through 60-inches: Minimum of the outside pipe diameter plus 3-feet, or as otherwise allowed or required by the Geotechnical Consultant.
E. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.
F. Comply with the District’s Representative’s limitations on the amount of trench that is opened or partially opened at any one time. Do not leave trenches open overnight without the approval of the District’s Representative.
G. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.
H. Bottoms of trenches will be subject to testing by Geotechnical Consultant. Correct deficiencies as directed by the Geotechnical Consultant.
I. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.
3.2 CONTROL OF WATER AND DEWATERING

A. Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage to the satisfaction of the Geotechnical Consultant and the District's Representative until backfilling is completed.

B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.

C. Obtain the Geotechnical Consultant's approval for proposed control of water and dewatering methods.

D. Reroute surface water runoff away from open trenches and excavations. Do not allow water to accumulate in trenches and excavations.

E. Maintain dewatering system in place until dewatering is no longer required.

3.3 BRACING AND SHORING

A. Conform to California and Federal OSHA requirements.

B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the pipes and appurtenances being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.

C. Be solely responsible for all bracing and shoring and, if requested by the District's Representative, submit details and calculations to the District's Representative. The District's Representative may forward the submittal to the Geotechnical Consultant, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations in trench section or around structures shall precede a response to the submittal by the District's Representative.

D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the line, grade, or backfill compaction or operation of the utility being installed or adjacent utilities and facilities.

3.4 PIPE BEDDING

A. Obtain approval of bedding material from the Geotechnical Consultant.

B. Accurately shape bedding material to the line and grade called for on the Plans. Carefully place and compact bedding material to the elevation of the bottom of the pipe in layers not exceeding 8-inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction for sand and 95% relative compaction for fine gravel unless specified otherwise on the Plans or by the Geotechnical Consultant. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Consultant. Jetting or ponding of
bedding material will not be permitted.

C. Upon completion of bedding operations, and prior to the installation of pipe, notify the Geotechnical Consultant, who will inspect the bedding layer. Do not commence pipe laying until the Geotechnical Consultant has approved the bedding.

3.5 BACKFILLING

A. Obtain approval of backfill material from Geotechnical Consultant.

B. Bring initial backfill up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Carefully place and compact initial backfill material to an elevation of 12-inches above the top of the pipe in layers not exceeding 8-inches in loose thickness. Compact initial backfill material at optimum water content to 90% relative compaction for sand and 95% relative compaction for fine gravel unless specified otherwise on the Plans or by the Geotechnical Consultant. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Consultant. Jetting or ponding of initial backfill material will not be permitted.

C. Bring subsequent backfill to subgrade or finish grade as indicated. Carefully place and compact subsequent backfill material to the proper elevation in layers not exceeding 8-inches in loose thickness. Compact subsequent backfill material at optimum water content to 90% relative compaction, except in areas subject to vehicular traffic shall be compacted to at least 95% relative compaction, unless specified otherwise on the Plans or by the Geotechnical Consultant. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Consultant. Jetting or ponding of subsequent backfill material will not be permitted.

D. Do not use compaction equipment or methods that produce horizontal or vertical earth pressures which may cause excessive pipe displacement or damage the pipe.

E. Utility backfill shall be inspected and tested by the Geotechnical Consultant during placement. Cooperate with the Geotechnical Consultant and provide working space for such tests in operations. Backfill not compacted in accordance with these specifications shall be re-compacted or removed as necessary and replaced to meet the specified requirements, to the satisfaction of the Geotechnical Consultant and the District’s Representative prior to proceeding with the Project.

3.6 STRUCTURAL SOIL MIX INSTALLATION

A. Place mix carefully to avoid damage or displacement of other materials such as paving, drain rock, geotextile fabric and irrigation piping.

B. Do not mix subgrade soils on construction materials with mix.

C. Remove soil mix contaminated with subgrade soil, construction materials or debris.

D. Maintain mix in a moist, but not saturated, condition to prevent segregation of mix during placement.
E. Install mix in 6 inch lifts in locations indicated on the Drawings.

F. Compact lifts to 95 percent compaction in compliance with Geotechnical Investigation Report. Schedule the Geotechnical Engineer to perform nuclear density field tests after each lift of mix to confirm compaction.

G. Install final lift of mix to elevations indicated on the Drawings.

3.7 CLEANUP

A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the District’s Representative.

END OF SECTION
SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.1 SUMMARY
   A. This Section describes the requirements for providing and installing temporary erosion and sedimentation control structures as specified.

1.2 SUBMITTALS
   A. Follow Submittal procedure outlined in General Requirements (Division 1).

1.3 REGULATORY REQUIREMENTS:
   B. State Water Resources Control Board (SWRCB) standards.

PART 2 - PRODUCTS

2.1 Furnish and install the products as specified in the Storm Water Pollution and Prevention Plan and as required by the SWRCB required to eliminate potential erosion and sedimentation during construction works. Products which shall be installed, but are not limited to, are the following:
   A. Siltation fences
   B. Outlet structure, basins, ditches
   C. Filter fabric, and/or mesh
   D. Hydoseeding
   E. Wattle and/or Gravel bags

PART 3 - EXECUTION

3.1 GENERAL
   A. A Storm Water Pollution Prevention Plan (SWPPP) in accordance with the SWRCB application is to be prepared by the Engineer or the Contractor. The Contractor shall review the BMP’s selected
for the Project in the approved SWPPP, then prepare erosion and sediment control plans that are site specific that show the application of these approved BMPs. These site and increment specific erosion and sediment control plans shall be included in each increment package.

B. Erosion and sedimentation control measures are to be installed in areas only to extent required by new construction and as indicated or as directed by governing regulations.

C. The Contractor shall provide inspection and repair of established SWPPP applications and prepare maintenance reports of erosion control measures in accordance with approved SWPPP.

END OF SECTION
SECTION 31 50 00 - TEMPORARY EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes temporary excavation support and protection systems.

B. Temporary excavation support performance: Design, furnish, install, monitor, and maintain temporary excavation support and protection system capable of supporting temporary excavation sidewalls and of resisting soil, which will require a back drainage system as to eliminate hydrostatic pressures, and superimposed and construction loads.

1. Delegated Design: Design temporary excavation support and protection system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

2. Prevent surface water from entering temporary excavations by grading, dikes, or other means.

3. Install temporary excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to temporary excavation.


1.2 RELATED SECTIONS

A. Section 31 23 19, Dewatering

1.3 REGULATORY REQUIREMENTS

A. Geotechnical Report: “Geotechnical Engineering Investigation Report, C-4016 New Allied Science Building, Contra Costa College, 2600 Mission Bell Drive, San Pablo, California.” Kleinfelder Project No.: 20181569.001A, Dated: October 17, 2017, including:

1. Addendum Letters No. 1 and No. 2 dated March 2 and March 4, respectfully.

1.4 SUBMITTALS

A. Shop Drawings: For temporary excavation support and protection system.

B. Delegated-Design Submittal: For temporary excavation support and protection system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Other Informational Submittals:

1. Record Drawings: Identifying and locating capped utilities and other subsurface structural, electrical, or mechanical conditions.

   a. Note locations and capping depth of wells and well points.
1.5 QUALITY ASSURANCE

A. Preinstallation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to temporary excavation support and protection system including, but not limited to, the following:
      a. Geotechnical report.
      b. Existing utilities and subsurface conditions.
      c. Proposed temporary excavations.
      d. Proposed equipment.
      e. Monitoring of temporary excavation support and protection system.
      f. Working area location and stability.
      g. Coordination with waterproofing.
      h. Abandonment or removal of temporary excavation support and protection system.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by the College or others unless permitted under Division 1.

B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of the geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by the geotechnical engineer.
   1. Make additional test borings and conduct other exploratory operations necessary for temporary excavation support and protection.
   2. The geotechnical report is referenced elsewhere in the Project Manual.

C. Survey Work: Engage a land surveyor or professional engineer with a California license to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
   1. During installation of temporary excavation support and protection systems, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Furnish and install the following as specified herein and required to eliminate potential erosion and sedimentation during construction works.
   1. Structural steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.
2. Steel sheet piling with continuous interlocks: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks
3. Wood Lagging: Preservative treated Lumber, mixed hardwood, nominal rough thickness of size and strength required for application
4. Shotcrete: Comply with Division 03 Section "Shotcrete" for shotcrete materials and mixes, reinforcement, and shotcrete application.
5. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.
6. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
7. Tiebacks: Steel bars, ASTM A 722/A 722M.
8. Tiebacks: Steel strand, ASTM A 416/A 416M.

2.2 LEED REQUIREMENTS

A. Provide documentation necessary to satisfy the LEED requirements for Construction Activity Pollution Prevention Plan which will be part of the SWPPP.

PART 3 - EXECUTION

3.1 PREPARATION

A. Contractor to engage surveyor or engineer to survey adjacent existing structures and site improvements before and regularly during installation of temporary excavation support and protection system.

B. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during temporary excavation support and protection system operations.
   1. Shore, support, and protect utilities encountered.

C. Install temporary excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the College and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

D. Locate temporary excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.

E. Monitor temporary excavation support and protection systems daily during temporary excavation progress and for as long as temporary excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that temporary excavation support and protection systems remain stable.

F. Promptly repair damages to adjacent facilities caused by installing temporary excavation support and protection systems.
3.2 SOLDIER PILES AND LAGGING

A. Install steel soldier piles before starting temporary excavation. Extend soldier piles below temporary excavation grade level to depths adequate to prevent lateral movement. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging. Accurately align exposed faces of flanges to vary not more than tolerances as specified by a qualified professional engineer.

B. Install wood lagging within flanges of soldier piles as temporary excavation proceeds. Trim temporary excavation as required to install lagging. Fill voids behind lagging with soil, and compact.

C. Install wales horizontally at locations indicated on Drawings as prepared by a qualified professional engineer and secure to soldier piles.

3.3 SHEET PILING

A. Before starting temporary excavation, install one-piece sheet piling lengths and tightly interlock to form a continuous barrier. Accurately place the piling, using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to tolerances as specified by a qualified professional engineer. Accurately align exposed faces of sheet piling to vary not more than tolerances as specified by a qualified professional engineer. Cut tops of sheet piling to uniform elevation at top of temporary excavation.

3.4 TIEBACKS

A. Tiebacks: Drill, install, grout, and tension tiebacks. Test load-carrying capacity of each tieback and replace and retest deficient tiebacks.

1. Test loading shall be observed by a qualified professional engineer or designator responsible for design of temporary excavation support and protection system.

2. Maintain tiebacks in place until permanent construction is able to withstand lateral soil and a backdrainage system is in place as to eliminate hydrostatic pressures.

3.5 BRACING

A. Bracing: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.

1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.

2. Install internal bracing, if required, to prevent spreading or distortion of braced frames.

3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and a backdrainage system is in place as to eliminate hydrostatic pressures.
3.6 REMOVAL AND REPAIRS

A. Remove temporary excavation support and protection systems when construction has progressed sufficiently to support temporary excavation and bear soil and a backdrainage system is in place as to eliminate hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

1. Remove temporary excavation support and protection systems to a minimum depth of 48 inches (1200 mm) below overlaying construction and abandon remainder.

2. Fill voids immediately with approved backfill compacted to density specified in Section 31 23 00 Excavation and Fill."

3. Repair or replace, as approved by the College, adjacent work damaged or displaced by removing temporary excavation support and protection systems.

B. Leave temporary excavation support and protection systems permanently in place as directed by the Architect.

3.7 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the College.

3.8 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

A. General: Comply with General Contractor's Waste Management Plan and Division 1.

B. To the greatest extent possible, separate reusable and recyclable products from contaminated waste and debris in accordance with the General Contractor's Waste Management Plan. Place recyclable and reusable products in designated containers and protect from moisture and contamination.

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Site water distribution system for irrigation water, domestic water and fire protection service up to 5 feet of any on-site commercial building being served.

B. Irrigation water, domestic water and fire protection water transmission or distribution system within a roadway or street right-of-way.

C. Protective coating or wrap for metallic pipe, fittings, restraining, devices, and appurtenances

1.2 RELATED SECTIONS

A. Section 31 23 33, Utility Trenching and Backfilling.

1.3 RELATED DOCUMENTS

A. ASTM:
   2. B 88: Specifications for Seamless Copper Water Tube.
   3. D 1785: Specifications for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.

B. AWWA:
   3. C110: Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (76 mm Through 1,219 mm) for Water.
   9. C200: Steel Water Pipe-6 In. (150 mm) and larger.
  12. C207: Steel Pipe Flanges for Waterworks Service-Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).
  15. C210: Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipe-
lines.
19. C219: Bolted, Sleeve-type Couplings for Plain-End Pipe.
24. C507: Ball Valves 6 In. Through 8 In. (150 mm Through 1,200 mm).
25. C508: Swing-check Valves for Waterworks Service, 2 In. (50mm) Through 24 In. (600 mm) NPS.
27. C510: Double Check Valve Backflow-Prevention Assembly.
28. C511: Reduced-Pressure Principle Backflow-Prevention Assembly.
33. C606: Grooved and Shouldered Joints.
34. C651: Disinfecting Water Mains.
36. C900: Polyvinyl Chloride (PVC) Pressure Pipe and Fittings, 4 In. Through 12 In. (100mm Through 300mm) for Water Distribution.
37. C901: Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13mm) Through 3 In. (76mm) for Water Service.
38. C905: Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm) for Water Transmission and Distribution.
39. C906: Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) through 63 In (1,575 mm), for Water Distribution and Transmission.
40. C907: Polyvinyl Chloride (PVC) Pressure Fittings for Water – 4 In. through 8 In. (100 mm Through 200 mm).
44. M41: Ductile-Iron Pipe and Fittings.

1.4 DEFINITIONS

A. AASHTO: American Association of State Highway and Transportation Officials.
C. AWWA: American Waterworks Association
D. ACWD: Alameda County Water District
E. DI: Ductile iron.
F. DIP: Ductile iron pipe.
G. FM: Factory Mutual.


I. NSF: National Sanitation Foundation.


K. PE: Polyethylene.

L. PVC: Polyvinyl Chloride.

M. UL: Underwriters Laboratory.

1.5 SYSTEM PERFORMANCE REQUIREMENTS

A. Minimum Internal Pressures
   2. Test Pressure: 200-psi.

B. External Load: Earth load indicated by depth of cover plus AASHTO H20 live load unless indicated otherwise.

1.6 SUBMITTALS


B. Product Data: For the following:
   1. Piping materials and fittings.
   2. Pipe couplings.
   3. Flexible pipe fittings.
   4. Restrained pipe fittings.
   5. High deflection fittings/ball joints.
   7. Flexible expansion joints.
   8. Gate valves.
  10. Check valves.
  11. Air and vacuum relief valves.
  13. Pressure reducing valves.
  14. Pressure sustaining valves.
  15. Ball valves.
  16. Fire hydrants.
  17. Post indicator valves.
  18. Fire department connections.
  20. Precast valve boxes and box covers.

C. Shop drawings: Include plans, elevations, details and attachments.
   1. Precast and cast in-place vaults and covers.
2. Wiring diagrams for alarm devices.

D. Field test reports: Indicate and interpret test results for compliance with the Project requirements.

1.7 QUALITY ASSURANCE

A. Comply with requirements of utility supplying water. Do not operate existing valves or tap existing piping without written permission and/or presence of utility company representative.

B. Comply with the following requirements and standards:

C. Provide listing/approval stamp, label, or other marking on piping and specialties made to a specified standard.

1.8 MATERIAL DELIVERY, STORAGE AND HANDLING

A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
   1. Ensure that valves are dry and internally protected against rust and corrosion.
   2. Protect valves against damage to threaded ends and flange faces.

B. Deliver piping with factory-applied end-caps. Maintain end-caps through shipping, storage and handling to prevent pipe end damage and to prevent entrance of dirt, debris and moisture.

C. Handling: Use slings to handle valves and fire hydrants whose size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

D. During Storage: Use precautions for valves, including fire hydrants according to the following.
   1. Do not remove end protectors, unless necessary for inspection, then reinstall for storage.
   2. Protection from Weather: Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.

E. Do not store plastic pipe and fittings in direct sunlight.

F. Protect pipe, fittings, flanges, seals and specialties from moisture, dirt and damage.

G. Protect linings and coatings from damage.

H. Handle precast boxes, vaults and other precast structures according to manufacturer’s written instructions.
I. Protect imported bedding and backfill material from contamination by other materials.

1.9 COORDINATION

A. Coordinate connection to existing water mains with water utility supplying water.

B. Coordinate piping materials, sizes, entry locations, and pressure requirements with building domestic water distribution piping and fire protection piping.

1.10 HAZARDOUS MATERIAL – ASBESTOS CONCRETE PIPE AND ASBESTOS CONTAINING MATERIAL

A. Asbestos cement pipe (ACP) exists within the project area and replacement of existing ACP is anticipated but shall be abandoned in place unless otherwise noted in the plans. The contractor shall make every attempt to protect all asbestos containing items during the execution of this contract. However, there will be instances where ACP or asbestos containing material will need to be removed, handled, cut, disturbed, or disposed of and the contractor shall comply with all local, state and federal regulations regarding construction activities near asbestos containing materials.

PART 2 - PRODUCTS

2.1 LARGE SIZE SERVICE AND DISTRIBUTION PIPES

A. PVC Pipe: Sizes 4-inch through 48-inch.
   1. Pipe:
      a. 4-inch through 12-inch: AWWA C900.
      b. 14-inch through 48-inch: AWWA C905.
   2. Fittings: DI
   3. Unrestrained Joints:
   4. Restrained Joints:
      a. Push-On Bell and Spigot Joint: Harness assembly as manufactured by Ebaa Iron (Eastland, Tx) (Tel. 800-433-1716) or approved equal.
      b. Plain End PVC to DI Mechanical Joint: Ebaa Iron (Eastland, Tx) (Tel. 800-433-1716) or approved equal.
   5. Steel or Ductile Iron Couplings:
      a. Plain End Pipe to Plain End Pipe: Ductile iron or steel bolted couplings, manufacturer's shop coating with low alloy steel bolts and nuts. Steel couplings to conform to AWWA C219. Smith-Blair, Inc, (Texarkana, AR) (Tel. 501-773-5127), Dresser (Bradford, PA) (Tel.-814-368-3131) or approved equal.
      b. Plain End Pipe to DI or Steel Flanged Pipe: Ductile iron or steel bolted flanged coupling adapters, manufacturer's shop coating with low alloy steel bolts and nuts. Steel flanged couplings to conform to AWWA C219. Smith-Blair, Inc, (Texarkana, AR) (Tel. 501-773-5127), Dresser (Bradford, PA) (Tel.-814-368-3131) or approved equal.
   6. PVC Couplings:
      a. Unrestrained Plain End to Plain End Pipe: AWWA C900, as manufactured by CertainTeed (Valley Forge, PA) (Tel. 610 341-6820) or approved equal.
b. Restrained Plain End to Plain End Pipe: AWWA C900, "Certa-Lock" as manufactured by CertainTeed (Valley Forge, PA) (Tel. 610 341-6820) or approved equal.

2.2 CORROSION PROTECTION

A. All ductile iron fittings shall be protected against corrosion with the installation of corrosion protection wrapping.

B. POLY-WRAP AND POLYETHYLENE ADHESIVE TAPE

1. Poly-wrap shall be continuous tubing formed from 8-mil (0.2-mm) thick virgin polyethylene, in accordance with AWWA C105. Minimum polyethylene tube size shall be as follows:

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>POLY-WRAP FLAT TUBE WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 8 inches (100 to 200 mm)</td>
<td>(100 through 200mm)</td>
</tr>
<tr>
<td>21&quot; (530mm)</td>
<td></td>
</tr>
<tr>
<td>10&quot; through 12&quot;</td>
<td>(250 through 300mm)</td>
</tr>
<tr>
<td>29&quot; (735mm)</td>
<td></td>
</tr>
<tr>
<td>14&quot; through 16&quot;</td>
<td>(350 through 400mm)</td>
</tr>
<tr>
<td>37&quot; (940mm)</td>
<td></td>
</tr>
</tbody>
</table>

2. Adhesive tape shall be a general-purpose polyethylene adhesive tape, 2-inches (50-mm) wide and at least 8 mil (0.2mm) thick.

2.3 HIGH DEFLECTION FITTINGS/BALL JOINTS

A. Plain End Pipe: Xtra Flex Restrained Joint High Deflection Fittings, 4-inch through 24-inch, U. S. Pipe, (Birmingham, AL) (Tel. 205-254-7442) or approved equal.

B. Mechanical or Flanged Joint: Flex 900, 4-inch through 12-inch, Ebaa Iron Sales, (Eastland, TX) (Tel. 800-433-1716) or approved equal.

2.4 EXPANSION JOINTS

A. TR Flex Joints: TR Flex Telescoping Sleeve, 4-inch through 64 inch, U. S. Pipe, (Birmingham, AL) (Tel. 205-254-7442).

B. Mechanical or Flanged Joint: Ex-Tend 200, 4-inch through 36-inch, EBAA Iron Sales, (Eastland, TX) (Tel. 800-433-1716) or approved equal.
2.5 FLEXIBLE EXPANSION JOINTS

A. Plain End to Plain End Pipe: “Xtra Flex,” sizes 4-inch through 24-inch, U. S. Pipe, (Birmingham AL) (Tel. 205-254-7442) or approved equal.

B. Flanged or mechanical Joint: “Flex-Tend,” sizes 3-inch through 48-inch, Ebaa Iron (Eastland TX) (Tel. 800-433-1716) or approved equal.

C. Flanged Joint: Starflex, Series 500, Star Pipe Products, (Tel. 800-999-3009) or approved equal.

2.6 SERVICE LINE VALVES AND FITTINGS

A. General: AWWA C-800

B. Includes service lines, ½ inch through 2 inch, from main to meter valve, including corporation stops and curb stops.

2.7 GATE VALVES

A. Provide on lines 10-inch and smaller.

B. Valves, 3-Inch through 20-Inch: AWWA C509, resilient-seated, non-rising stem, gray or ductile-iron body and bonnet, with bronze or gray or ductile-iron gate, bronze stem and square stem operating nut unless noted otherwise. All bolts, nuts and washers, except operating nut, shall be stainless steel. Stem operating nut to be 2-inches square and open counter-clockwise. Stem extensions shall be installed to bring the stem operating nut to within 2-feet of finish grade where the depth from finish grade to the stem operating nut exceeds 4-feet. Equip valves in pump stations and other interior or vault installations with hand-wheels. Provide protective epoxy interior and exterior coating according to AWWA C550 and manufacturer’s recommendations.

C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Mueller Company (Decatur, IL) (Tel.800-423-1323).
   3. Clow

D. Valve Box and Cover: 9-inch minimum diameter PCC box with extensions of length required for depth of bury of valve, and cast iron or ductile iron cover with lettering “WATER”. Both the box and the cover shall be rated for AASHTO H20 loading.

2.8 AIR RELEASE, AIR/VACUUM AND COMBINATION AIR VALVES

A. AWWA C512, specific type of valve, size, details and valve box as indicated.

B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Apco Valves, Valve and Primer Corporation (Schaumburg, IL) (Tel. 708-529-9000).
   2. Crispin.
2.9 BLOW-OFF VALVES
A. Blow-off valve assemblies, details and boxes as indicated.

2.10 SWING CHECK VALVES
A. Valves 2-Inch through 24-Inch: AWWA C508, details as indicated.
B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Mueller Company (Decatur, IL) (Tel. 800-423-1323).

2.11 BALL VALVES
A. Valves 6-Inch through 48-Inch: AWWA C507, details as indicated.
B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:

2.12 PRESSURE-REGULATING VALVES
A. Valve: Automatic, pilot-operated, cast-iron body with interior coating according to AWWA C550. 250-psi Working-pressure, bronze pressure-reducing pilot valve and tubing, and means for discharge pressure adjustment. Details as indicated.
B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Cla-Val Company (Newport Beach, CA) (Tel. 714-548-2201).
   2. Bermad (Porterville, CA) (Tel. 209-781-6630).
   3. Ames Company (Woodland, CA) (Tel. 916-666-2493).

2.13 FLOW-REGULATING VALVES
A. Valve: Automatic, pilot-operated, cast-iron body with interior coating according to AWWA C550. 250-psi working-pressure, bronze pressure-reducing pilot valve and tubing, and means for flow adjustment. Details as indicated.
B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Cla-Val Company (Newport Beach, CA) (Tel. 714-548-2201).
   2. Bermad (Porterville, CA) (Tel. 209-781-6630).
   3. Ames Company (Woodland, CA) (Tel. 916-666-2493).

2.14 SERVICE CONNECTIONS AND WATER METERS
A. Service connections and water meter details and boxes per current Alameda County Water Dis-
2.15 FIRE HYDRANTS

A. Wet Barrel: AWWA C503, details as indicated.

B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Clow (800 Series) Model 860
   2. Clow (Ranger) Model 960
   3. Jones Model J-3760

C. Available Paint Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   1. Kelly Moore – Kel Guard Enamel “Sunburst/Safety Yellow” No 1700-63
   2. Sherman Williams – Metalex “Safety Yellow” No.B42Y37

2.16 REDUCED PRESSURE ASSEMBLY BACKFLOW PREVENTER – IRRIGATION AND DOMESTIC

A. Provide as indicated and as required by State or local agency.

B. General: AWWA C511, with OS gate valve on inlet and outlet, and strainer on inlet. Include test cocks and pressure-differential relief valve with ASME A112.1.2 air gap fitting located between 2 positive-seating check valves for continuous-pressure application.

C. Body:
   1. 2-Inch and Smaller: Bronze with threaded ends.
   2. 2-1/2-Inch and Larger: Bronze, cast iron steel, or stainless steel with flanged ends.

D. Interior Lining: AWWA C550, epoxy coating for cast iron or steel bodies.

E. Interior Components: Corrosion-resistant materials.

F. Manufacturer shall be approved by Alameda County Water District, Materials List Attached.

2.17 DOULBE DETECTOR CHECK BACKFLOW PREVENTER – FIRE

A. FM approved or UL listed, with OS&Y gate valve on inlet and outlet, and strainer on inlet. Include two positive-seating check valves and test cocks, and bypass with displacement-type water meter, valves, and double-check backflow preventer, for continuous pressure application.

B. Manufacturer shall be approved by Alameda County Water District. Materials List Attached.

2.18 POST INDICATOR VALVE

A. General: UL 789, FM approved, vertical-type, cast-iron body with operating wrench extension rod, and adjustable cast-iron barrel of length required for depth of bury of valve.
B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
1. Mueller Co. (Decatur, IL) (Tel. 800-423-1323).
2. Clow Corporation (Oskaloosa, IA).

2.19 FIRE DEPARTMENT CONNECTION

A. Exposed, Freestanding Fire Department Connection: UL 405, cast brass body with threaded inlets according to NFPA 1963 and matching local fire department hose threads and threaded bottom outlet. Include lugged caps, gaskets and chains; lugged swivel connections and drop clapper for each hose-connection inlet; 18-inch high brass sleeve; and round escutcheon plate. Two 2-1/2-inch NPS inlets and 4-inch NPS outlet.

2.20 UNDERGROUND VAULTS/PITS

A. General: Portland cement concrete, precast or cast-in-place as indicated.
B. Portland Cement Concrete and Reinforcing Steel: Section 32 05 23.
C. Access Openings: As indicated.
D. External Load: Earth load plus AASHTO H20 live load if located in traffic area.

2.21 TRACER WIRE

A. General: Minimum #12 AWG stranded copper wire with blue THW, THWN, or THHN rated insulation.

2.22 WARNING TAPE

A. General: Non-detectable 3-inch warning tape made of solid blue film with continuously printed black-letter message reading “CAUTION—WATER LINE BURIED BELOW.”

2.23 PCC THRUST BLOCKS

A. Portland Cement Concrete and Reinforcing Steel: Section 32 05 23.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer’s instructions, and in accordance with the following:
1. PVC pipe: AWWA M23 and AWWA C605.

B. Pipe Depth and Trench Configuration: Conform to elevations, profiles and typical trench sec-
C. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33.

D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with manufacturer’s recommendations.

E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Lay pipe on a bed of bedding material specified and prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout it’s entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.

F. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. If necessary, use shorter than the standard lengths of pipe to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.

G. Closure: Close open ends of pipes and appurtenance openings at the end of each day’s work or when work is not in progress.

3.2 CONNECTING TO EXISTING MAINS

A. Pressure Tap Connections: Perform in accordance with the requirements of the owner of the system being tapped. Maintain a positive pressure flow from the main being tapped to the tapping device to flush plastic chips, metal ribbons, etc. into the tapping devise and not into the pipe being tapped.

B. Other Connections: As indicated and in accordance with the requirements of the owner of the line being connected to.

3.3 ANCHORAGE INSTALLATION

A. Mechanically Restrained Joints: Install where indicated for lengths indicated in accordance with manufacturer’s instructions.

B. PCC Thrust Blocks: Install where required and as indicated. Bearing area indicated is to be against undisturbed earth. Allow a minimum of 24-hours curing time before introducing water into the pipeline and allow a minimum of 7-days curing time before pressure testing.

3.4 HIGH DEFLECTION FITTINGS/BALL JOINTS, EXPANSION JOINTS, AND FLEXIBLE EXPANSION JOINTS

A. Install as indicated and in accordance with the manufacturers recommendations.
3.5 VALVE INSTALLATION
A. Install all valves in accordance with the manufacturer’s instructions and the following:
   1. General:
      a. Gate Valves: Appendix A of AWWA C509.
   2. Joints:
      b. Valves on Steel Pipe: As indicated for buried locations. Flanged-end valves for installation in vaults/pits.

3.6 SERVICE CONNECTIONS INSTALLATION
A. Install as indicated and in accordance with the requirements of the owner of the system.

3.7 WATER METER INSTALLATION
A. Installed by Alameda County Water District. Contractor shall coordinate installation.

3.8 FIRE HYDRANT INSTALLATION
A. Install as indicated and in accordance with the requirements of the owner of the system and the fire department.

3.9 REDUCED-PRESSURE PRINCIPLE ASSEMBLY BACKFLOW PREVENTER INSTALLATION
A. Install as indicated and in accordance with the requirements of the owner of the system and the local health department requirements.

3.10 DOUBLE CHECK DETECTOR ASSEMBLY INSTALLATION
A. Install as indicated and in accordance with the requirements of the owner of the system and the fire department.

3.11 POST INDICATOR VALVE INSTALLATION
A. Install as indicated and in accordance with the requirements of the owner of the system and the fire department.

3.12 FIRE DEPARTMENT CONNECTION INSTALLATION
A. Install as indicated and in accordance with the requirements of the owner of the system and the fire department.
3.13 **UNDERGROUND VAULT/PIT INSTALLATION**

A. Install as indicated.

B. Excavation and Backfill: Section 31 23 33.

3.14 **TRACER WIRE INSTALLATION**

A. Place and secure to top of pipe and fittings at about 3-foot intervals with 6" length of 1" wide filament tape, Scotch brand No. 898 or equal.

B. Form a mechanically and electrically continuous line throughout the pipeline, extending to the nearest valve or other pipeline appurtenance designated by the owner of the system or the Owner’s Representative. Extend the wire up the outside of the valve box/riser and cut a hole that is 8-inches from the top, extend a 12-inch wire lead to the inside of the box. At other pipeline appurtenances, designated by the owner of the system or the Owner’s Representative, terminate the 12-inch wire lead inside the enclosure.

C. Splice wire with a splicing device consisting of and electro-tin plated seamless copper sleeve conductor. Install as recommended by the manufacturer. Wrap splices and damaged insulation with electrician’s tape.

3.15 **WARNING TAPE INSTALLATION**

A. Install tape approximately 1-foot above and along the centerline of the pipe.

B. Where tape is not continuous, lap tape ends a minimum of 2-feet.

3.16 **PLASTIC PROTECTIVE WRAPPING FOR DUCTILE IRON PIPING**

A. Cover underground ductile iron piping, including connecting galvanized steel spools, fittings, and like items with a loose, polyethylene plastic-film wrap to provide a continuous barrier between the pipe and the surrounding backfill.
   1. Wrap in accordance with AWWA¬C105.
   2. Wrapping isolates the pipe surfaces from contact with corrosive environments, and is not intended to provide complete sealing or to prevent ground water intrusion.

B. Cut poly-wrap tube to a length approximately 2-feet (600-mm) longer than the length of the pipe section.
   1. Slip the poly-wrap around the pipe, centering it to provide a 1-foot (300-mm) overlap of each adjacent pipe section and bunching it accordion fashion until it clears the pipe ends.
   2. Lower the pipe into the trench and make-up the pipe joint with the preceding section of pipe. Make a shallow bell hole at joints to facilitate installation of the poly-wrap.

C. After completing the joint, make the overlap.
   1. Pull the bunched-up poly-wrap from the preceding length of pipe, slip it over the end of the new length of pipe, and secure it in place with two circumferential turns of tape plus enough overlap to assure firm adhesion.
   2. Slip the end of the poly-wrap from the new pipe section over the end of the first wrap until it overlaps the joint at the end of the preceding length of pipe.
3. Tape it in place using three circumferential turns of tape. Take up the slack width to make a snug, but not tight, fit along the barrel of the pipe, securing the fold as necessary with adhesive tape at approximately 3-foot (900-mm) centers.

D. Repair any rips, punctures, or other damage to the poly-wrap with short length of poly-wrap tube cut open, wrapped around the pipe, and secured with tape.

E. Wrap the next section of pipe in the same manner.

F. Cover bends, reducers, and offsets with poly-wrap in the same manner as the pipe.

G. Wrap valves and other odd-shaped pieces, that cannot practically be wrapped in a tube, with a flat sheet obtained by splitting open a length of poly-wrap tube.
   1. Pass the flat sheet under the valve and bring it up around the body of the stem.
   2. Make the seams by bringing the edges together, folding over twice, and taping down. Slack width and overlaps at joints shall be handled as described above.
   3. Tape poly-wrap securely in place at valve stem and other penetrations.

H. Where poly-wrapped pipe joins a pipe that is not poly-wrapped, extend the poly-wrap tube to cover the unwrapped pipe a distance of 2 feet (600-mm), unless shown otherwise on the drawings. Secure the end with at least three circumferential turns of tape.

3.17 HYDROSTATIC PRESSURE AND LEAKAGE TEST

A. General:
   1. Provide all necessary materials and equipment, including water.
   2. Backfill all trenches sufficient to hold pipe firmly in position.
   3. Allow time for thrust blocks to cure prior to testing.
   4. Flush all pipes prior to testing to remove all foreign material.
   5. Perform pressure and leakage test concurrently.
   6. Test pressure: See Subsection titled “System Performance Requirements.”
   7. Apply test pressure by means of a pump connected to the pipe.
   8. Base test pressure on the elevation of the lowest point in the line.
   9. Fill each closed valve section or bulk-headed section slowly. Expel air from section being tested by means of permanent air vents installed at high points or by means of temporary corporation cocks installed at such points. Remove and plug the temporary corporation cocks at the conclusion of the test.

   10. Allow water to stand in the pipe for 24 hours before test pressure is applied.
   11. Allow the system to stabilize at the test pressure before conducting the leakage test.
   12. Do not operate valves in either the opening or closing direction at differential pressures above the valves rated pressure.
   13. Maintain test pressure as specified for type of pipe being tested.
   14. Pressure Test: Examine any exposed pipe, fittings, valves, hydrants and joints during the test, if no leaks are observed the section of line has passed the pressure test. If leaks are observed, repair any damaged or defective pipe, fittings, valves, or hydrants, and repeat the pressure test.

   15. Leakage Test: Perform as specified hereafter for the type of pipe being installed.

B. DIP Leakage Test: Perform in accordance with AWWA C600. Selected requirements of AWWA C600 are repeated as follows:
   1. Maintain the test pressure, +/- 5 psi, for a minimum of two hours.
2. No piping will be accepted if the leakage is greater than that determined by the following formula:

\[ L = \frac{(S \times D \times P^{1/2})}{133,200} \]

\( L \) = Allowable leakage, gallons per hour.
\( S \) = Length of pipe tested, feet.
\( D \) = Nominal diameter of pipe, inches.
\( P \) = Average test pressure during the leakage test, pounds per square inch (gauge).

C. PE Pipe Leakage Test: [The following leakage test for PE water pipe was taken from the Phillips Petroleum Company (Richardson, TX) (Tel. 800 527 0662) catalog for “Driscopipe.”]

1. Apply the test pressure and allow the pipe to stand, without makeup pressure, for sufficient time to allow for diametric expansion or pipe stretching to stabilize, approximately two to three hours.

2. After the above stabilization has occurred, return the section being tested to the test pressure. Hold the test pressure for one to three hours. If the pressure in the test section drops, and it is determined the drop may be the result of expansion resulting from increasing temperature, a limited amount of additional water may be added to bring the pressure back to the test pressure. Allowable amounts of make-up water, to compensate for expansion due to increasing temperature, are as shown in the following table. Makeup water is only allowed during this final test period and not during the initial stabilization described in the previous paragraph. If the additional water added is less than the allowable shown in the table and there are no visual leaks or significant pressure drops, the tested section passes the test.

<table>
<thead>
<tr>
<th>Nominal Pipe Size (in.)</th>
<th>Allowance for Expansion (U.S. Gals./100 Feet of Pipe)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-Hour Test</td>
</tr>
<tr>
<td>3</td>
<td>0.10</td>
</tr>
<tr>
<td>4</td>
<td>0.13</td>
</tr>
<tr>
<td>6</td>
<td>0.30</td>
</tr>
<tr>
<td>8</td>
<td>0.50</td>
</tr>
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<td>10</td>
<td>0.75</td>
</tr>
<tr>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>12</td>
<td>1.1</td>
</tr>
<tr>
<td>14</td>
<td>1.4</td>
</tr>
<tr>
<td>16</td>
<td>1.7</td>
</tr>
<tr>
<td>18</td>
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<td>20</td>
<td>2.8</td>
</tr>
<tr>
<td>22</td>
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<tr>
<td>24</td>
<td>4.5</td>
</tr>
<tr>
<td>28</td>
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</tr>
<tr>
<td>32</td>
<td>7.0</td>
</tr>
<tr>
<td>36</td>
<td>9.0</td>
</tr>
<tr>
<td>40</td>
<td>11.0</td>
</tr>
<tr>
<td>48</td>
<td>15.0</td>
</tr>
</tbody>
</table>

D. PVC Pipe Leakage Test: Perform in accordance with AWWA M23. Selected requirements of AWWA M23 are repeated as follows:
1. Maintain the test pressure, +/- 5 psi, for a minimum of two hours.
2. No piping will be accepted if the leakage is greater than that determined by the following formula:

\[ L = \frac{(N \times D \times P^{1/2})}{7,400} \]

- **L** = Allowable leakage, gallons per hour.
- **N** = Number of joints in the length of the pipeline tested.
- **D** = Nominal diameter of pipe, inches.
- **P** = Average test pressure during the leakage test, pounds per square inch (gauge).

E. Cement Mortar Lined and Coated Steel Pipe Leakage Test: Perform in accordance with AWWA M11. Selected requirements of AWWA M11 are repeated as follows:

1. Maintain the test pressure, +/- 5 psi, for a minimum of two hours.
2. There shall be no significant leakage for pipe with welded joints or mechanical couplings.
3. For pipe joined with O-ring rubber gaskets, a leakage of 25 gallons per inch of diameter per mile per 24-hours is allowed.

3.18 DISINFECTION

A. All New Pipelines shall be disinfected in accordance with one of the three methods specified in AWWA C651 and the following:

1. Disinfect after pressure and leakage test have been performed and accepted.
2. The method used shall be at the Contractor's option, unless specified by the owner of the water system.
3. Engage the services of a commercial testing laboratory, approved by the owner of the water system, to perform the bacteriological tests specified in Section 5.1 of AWWA C651. Direct the testing laboratory to send the original report of the bacteriological testing to the owner of the water system. Should the laboratory report show that any sample taken was not acceptable, repeat the sterilization process shall until a satisfactory sterilization is accomplished.
4. Lawfully dispose of the chlorinated water.

END OF SECTION
SECTION 33 31 00 - SANITARY SEWER SYSTEM

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Roadway and/or site sanitary gravity sewers and force mains up to 5 feet of any on-site building.

1.2 RELATED SECTIONS

A. Section 31 23 33, Utility Trenching and Backfill

B. Division 03, Portland Cement Concrete

1.3 RELATED DOCUMENTS

A. AASHTO:
   1. M 199: Precast Reinforced Concrete Manhole Sections.

B. ASTM:
   1. A 615/A615M: Deformed and Billet-Steel Bars for Concrete Reinforcement.
   2. A 674 Practice for Polyethylene Encasement for Ductile Iron Pipe for Water and Other Liquids.
   7. D 1785: Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
  12. D 3034: Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.

C. AWWA:
3. C110: Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (76 mm Through 1,219 mm) for Water.

D. Caltrans Standard Specifications.
   1. Section 51, Concrete Structures.
   2. Section 65, Concrete Pipe
   3. Section 75 Miscellaneous Metal.

1.4 DEFINITIONS

A. AASHTO: American Association of State Highway and Transportation Officials.
E. PVC: Polyvinyl Chloride.
F. NPS: Nominal pipe size.

1.5 SUBMITTALS

A. Submittal procedure shall be as outlined in Division 1 – General Requirements.
B. Product data for the following:
   1. Piping materials and fittings.
   2. Special pipe couplings.
   4. Cleanout plugs or caps.
   5. Sewage air relief valves.
C. Shop drawings: Include plans, elevations, details and attachments for the following:
   1. Precast concrete manholes, frames and covers.
   2. Precast concrete clean out boxes and box covers.
   3. Force main piping access openings.
D. Design Mix Reports and Calculations: For each class of cast in place concrete.
E. Field Test Reports: Indicate and interpret test results for compliance with performance.
1.6 DELIVERY, STORAGE AND HANDLING

A. Do not store plastic pipe and fittings in direct sunlight.

B. Protect pipe, fittings, and seals from dirt and damage.

C. Handle precast concrete pipe, manholes and other precast structures according to manufacturer’s written instructions.

D. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS FOR GRAVITY FLOW

A. PVC Pipe:
   1. Pipe:
   2. Fittings:
      a. 4-inch through 27-inch: ASTM F 1336.

2.2 GRAVITY PIPE CLEANOUTS

A. Piping: Same as sanitary sewer line if possible.

B. Top Cap: Threaded and of same material as piping if possible.

C. Box Size: As required to provide access and allow easy removal and reinstallation of cap.

D. Box Types:
   2. Traffic Areas: Portland cement concrete box and box cover or steel or cast iron cover, heavy duty, both box and cover to be rated for AASHTO H20 loading.

E. Box Cover Markings: “S.S.,” unless otherwise specified.

F. Available Manufacturers: Subject to compliance with requirements, box manufacturers offering products that may be incorporated into the Project include, but are not limited to the following:
   1. Associated Concrete Products, Inc. (Santa Ana, California) (Tel. 714-557-7470).
   2. Brooks Products Inc. (El Monte, California) (Tel. 818-443-3017).
   3. Christy Concrete Products, Inc. (Fremont, California) (Tel. 800-486 7070).

2.3 MANHOLES

A. General: Size, shape, configuration, depth, etc. of manhole and frame and cover shall be as indicated.
B. Portland Cement Concrete and Reinforcing:
   1. Poured-in-Place Portion: Section 32 05 23.
   2. Precast Portion: ASTM C 478. Rate for AASHTO H20 loading in traffic areas.

C. Frames and Covers: As indicated and in accordance with Caltrans Standard Specification Section 75-1.02B.

D. Steps: Manufacture from deformed, ½-inch steel reinforcement rod complying with ASTM A 615/A 615M and encased in polypropylene complying with ASTM D 4101. Include pattern designed to prevent lateral slippage off step. Acceptable manufacturer is Hanson Concrete Products, (Milpitas, CA) (Tel 408-262-1091) or equal.

E. Force Main Piping Access Openings:
   1. General: As indicated.

2.4 JOINT SEALANT FOR STRUCTURES AND MANHOLES

A. Mortar: Caltrans Standard Specification Section 51-1.03E.
   1. Use to seal around pipes at connections to structures and manholes. Also use to seal joints between precast sections of structures and manholes.

B. Gaskets: Preformed flexible rubber or plastic gasket.
   2. Plastic Gaskets: Federal Specification SS-S-00210 (GSA-FSS), Type I, Rope Form; or alternate standard which may exist. Acceptable material is “Ram-Nek,” as manufactured by the K. T. Snyder Company (Houston TX), or approved equal.

PART 3 - EXECUTION

3.1 GRAVITY PIPE INSTALLATION

A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer’s instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-2 for reinforced concrete pipe and chapter 11.3.3 of AWWA M41 for ductile iron pipe.

B. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.

C. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33.

D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with the manufacturer’s recommendations.

E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout its entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint
being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.

F. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.

G. Closure: Close open ends of pipes and appurtenance at the end of each day's work or when work is not in progress.

3.2 SPECIAL PIPE COUPLINGS

A. General: Use where required to join piping and no other appropriate method is specified. Do not use instead of specified joining methods.

B. Installation: Manufacturer's instructions.

3.3 CLEANOUT INSTALLATION

A. General: Install as indicated.

3.4 MANHOLE INSTALLATION

A. General: Install as indicated.

3.5 TESTING OF GRAVITY PIPING MAINS

A. Obstructions: After backfilling and compacting, but before paving or other surface improvements, test sewer for obstructions either by rodding or by the sewer ball method. Provide for intercepting all grit, rocks and other flushed debris to keep debris from entering the existing system.

B. At the option of the Contractor, either the following hydrostatic or air test shall be performed.

C. Hydrostatic Test:
   1. Test after backfilling to finish grade or pavement structural section subgrade in paved areas.
   2. Test sewer mains between successive manholes by closing the lower end of the sewer main to be tested and the inlet sewer main of the upper manhole with stoppers.
   3. Fill pipe and manholes with water to a point four feet below the ground surface of the upper manhole, but in no case less than four feet above the pipe invert. If ground water is present, the water surface at the upper manhole shall be at least four feet above the level of the ground water.
   4. Fill piping at least one hour prior to testing.
   5. Test piping at least two hours by maintaining the head specified above with measured
additions of water. The sum of these additions of water, in the two-hour test period, shall be the leakage amount.

6. The maximum allowable head of water above any portion of sewer being tested shall be 15-feet. Where the difference in elevation between successive manholes exceeds 15-feet, a test tee shall be installed between manholes, and the testing shall be carried on between the tee and the manhole.

7. The allowable leakage shall not exceed 0.1-gallons per minute per inch diameter, per 1000-feet of sewer main being tested.

8. If the leakage exceeds the above amount, determine the cause and remedy it prior to re-testing.

9. If the leakage is less than the allowable, but leaks are observed, repair the observed leaks.

D. Air Test:

1. Test after backfilling to finish grade or pavement structural section subgrade in paved areas.

2. Apply to each length between adjacent manholes.

3. Supply pressure gauge with minimum divisions of 0.10-psi and with an accuracy of +/- 0.04-psi. When requested by the Owner's Representative, provide certification that the gauge has been tested for accuracy within the last six months by a reliable testing firm.

4. Pressurize the test section to 3.5-psi, and then hold the pressure above 3.0-psi during a saturation period of at least 5 minutes. At the end of the saturation period, note the pressure, which must be a minimum of 3.0-psi, and begin the timed period. If the pressure drops 0.5-psi in less than the time given in the following table the section of pipe has not passed the test.

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Minimum Time Allowed for Pressure to Drop 0.5-PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>125 seconds</td>
</tr>
<tr>
<td>6&quot;</td>
<td>185 seconds</td>
</tr>
<tr>
<td>8&quot;</td>
<td>245 seconds</td>
</tr>
<tr>
<td>10&quot;</td>
<td>310 seconds</td>
</tr>
<tr>
<td>12&quot;</td>
<td>370 seconds</td>
</tr>
<tr>
<td>15&quot;</td>
<td>460 seconds</td>
</tr>
<tr>
<td>18&quot;</td>
<td>555 seconds</td>
</tr>
<tr>
<td>21&quot;</td>
<td>10 minutes</td>
</tr>
<tr>
<td>24&quot;</td>
<td>12 minutes</td>
</tr>
</tbody>
</table>

5. If the time for the pressure to drop 0.5-psi is 125% or less of the time indicated, the line shall immediately be re-pressurized to 3.0-psi and the test repeated. If, during the 5-minute saturation period, the pressure drops less than 0.5-psi after the initial pressurization and air is not added, the section undergoing the test shall have passed.

6. If the test did not pass, find and repair the leak to the satisfaction of the Owner's Representative.
7. When the prevailing ground water is above the line being tested the air pressure shall be increased 0.43-psi for each foot the water table is above the invert of the pipe at the highest manhole.

3.6 TESTING OF LATERALS

A. At the option of the Contractor, either the following hydrostatic or air test shall be performed.

B. Hydrostatic Test:
   1. Test laterals before backfilling.
   2. Plug lateral at its ends and fill with water through the cleanouts.
   3. Maintain the water level in the cleanouts as high as possible throughout the test period.
   4. One hour after filling with water, examine the lateral for leakage.
   5. Repair all leaks to the satisfaction of the Owner’s Representative.
   6. Do not backfill the trench until testing and repairs of the lateral are complete, and approved by the Owner’s Representative.
   7. Following approval of the Owner’s Representative, remove all plugs, dispose of the water and complete the connection to the main.

C. Air Test
   1. Test after backfilling to finish grade or pavement structural section subgrade in paved areas.
   2. Test in accordance with subsection above titled “Testing of Gravity Piping Mains,” paragraph titled “Air Test.”

3.7 TESTING OF MANHOLES ON GRAVITY LINES

A. At the option of the Contractor, either the following hydrostatic or vacuum test shall be performed.

B. Hydrostatic Test:
   1. Insert inflatable plugs in all sewer inlets and outlets.
   2. Fill the manhole with water to a point six inches below the base of the manhole frame.
   3. Maintain the water at this point for one hour to allow time for absorption.
   4. Begin one-hour test period. Measure the amount of water added in one-hour period to maintain the water level at six inches below the base of the manhole frame. Do not allow water level to drop more than 25% of the manhole depth.
   5. Determine the allowable leakage by the following formula.

   \[ L = 0.0002 \times D \times H^{1/2} \]

   - L = Allowable leakage, gallons per minute.
   - D = Depth of manhole from top to bottom, feet.
   - H = Head of water in feet as measured from the surface of the water in the manhole to the sewer line invert or to the prevailing ground water surface outside the manhole. The lesser height governs.
   6. If the leakage exceeds the allowable, determine the cause, take remedial action and re-test the manhole. If the leakage is less than the allowable and leaks are observed, repair the leaks.
C. Vacuum Test:
   1. General: Test in accordance with ASTM C 1244.
   2. Test prior to backfilling around the manhole.
   3. Test Preparation: Plug all lift holes and pipes entering or exiting the manhole.
   4. Place test head inside the top section of the manhole's cone section and inflate in accordance with the manufacturer's instructions.
   5. Draw a vacuum of 10-inches of mercury and shut the pump off.
   6. With the valve closed, the time for the vacuum to drop 9-inches shall be measured.
   7. The manhole shall pass the test if the time is greater than 60 seconds for a 48-inch diameter manhole, 75 seconds for a 60-inch diameter manhole and 90 seconds for a 72-inch diameter manhole.
   8. If the manhole fails the initial test, make necessary repairs with a non-shrink grout while the vacuum is still being drawn. Retest until a satisfactory test is obtained.

END OF SECTION
SECTION 33 41 00 - STORM DRAINAGE SYSTEM

PART 1 - GENERAL

1.1 SUMMARY
A. Provide and install all appurtenances as necessary to complete the storm drainage system and bioretention system, as shown on the plans, including piping and joints, flexible joints, manholes, catch basins, drain inlets, and area drains.

1.2 RELATED SECTIONS
A. Section 31 23 33, Utility Trenching and Backfill
B. Division 03, Portland Cement Concrete

1.3 RELATED DOCUMENTS:
A. AASHTO:
   1. M 199: Precast Reinforced Concrete Manhole Sections.
B. ASTM:
   1. A615/A615M: Deformed and Billet-Steel Bars for Concrete Reinforcement.
   2. C 443: Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
   6. D 1785: Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
   10. F 477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
C. AWWA:
3. C110: Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (76 mm Through 1,219 mm) for Water.

D. Caltrans Standard Specifications
   1. Section 52 Reinforcement
   2. Section 65 Reinforced Concrete Pipe

1.4 REGULATORY REQUIREMENTS:
   A. City, Standard Specifications and Details.
   B. Alameda County Flood Control District, Standard Specifications and Details.

1.5 Definitions
   A. AASHTO: American Association of State Highway and Transportation Officials.
   D. HDPE: High-density polyethylene.
   E. NPS: Nominal pipe size.
   F. PVC: Polyvinyl chloride.
   G. RCP: Reinforced concrete pipe.

1.6 SUBMITTALS
   A. Submittal procedure shall be as outlined in Division 1 – General Requirements.
   B. Product Data Shop Drawings, etc. for the following:
      1. Piping materials and fittings.
      2. Special pipe couplings.
      4. Plastic area drains.
5. Cleanout plugs or caps.
6. Precast manholes
7. Precast concrete catch basins, inlets, curb inlets, junction structures and area drains, including frames and grates.
8. Precast clean out boxes and box covers.
9. Bio-retention soil

C. Design Mix Reports and Calculations: For each class of cast in place concrete.

D. Field Test Reports: Indicate and interpret test results for compliance with performance.

1.7 DELIVERY, STORAGE AND HANDLING

A. Do not store plastic structures, pipe and fittings in direct sunlight.

B. Protect pipe, fittings, and seals from dirt and damage.

C. Handle precast concrete pipe, manholes and other precast structures according to manufacturer’s written instructions.

D. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS FOR GRAVITY FLOW

A. PVC Pipe and Fittings: Pipes 12” and smaller in diameter shall be SDR 26 PVC conforming to ASTM D3034 using elastomeric gasket joint in a bell and spigot assembly system or as shown on plans. Minimum 2 feet cover, maximum 15 feet cover.
   1. Fittings: Shall conform to ASTM F 1336.

B. Reinforced Concrete Pipe: Pipes greater than 12” in diameter shall be Class III, Type II Portland Cement conforming to ASTM C76 and C150 or as shown on plans.

C. HDPE Pipe and Fittings: (As alternate to PVC only) pipes can be HDPE (High Density Polyethylene Pipe) DR-11 (160 psi), conforming to ASTM F714 and AASHTO designation M-294.

D. Manholes
   1. General:
      a. Size, shape, configuration, depth, etc. of manhole and frame and cover shall be as indicated.
   2. Portland Cement Concrete and Reinforcing:
      a. Poured-in-Place Portion: Division 03 – Portland Cement Concrete.
b. Precast Portion:
   1) Pre-cast Concrete manhole conforming to ASTM C478 and shall be Type II modified cement with a minimum compressive strength of 4,000 psi at 28 days. Iron Castings for manhole covers and frames shall conform to ASTM A48, Class 25
   2) ASTM C 478. Rate for AASHTO H20 loading in traffic areas.

3. Frames and Covers: As indicated and in accordance with Caltrans Standard Specification Section 75-1.02.

4. Steps: Manufacture from deformed, ½-inch steel reinforcement rod complying with ASTM A 615/A 615M and encased in polypropylene complying with ASTM D 4101. Include pattern designed to prevent lateral slippage off step.
   a. Acceptable manufacturers include:
      1) Hanson Concrete Products, (Milpitas, CA) (Tel 408-262-1091)
      2) Or approved equal.

E. Concrete Trench Drains

1. Modular system of concrete channel sections, grates, and appurtenances; designed so grates fit into channel recesses without rocking or rattling. Include number of units required to form total length required.

2. Include the following components:
   a. Channel Sections: Interlocking-joint, precast modular units with end caps. Inside width as indicated with deep, rounded bottom, with built in slope or flat invert as indicated and outlets in number, sizes, and locations indicated. Include extension sections necessary for required depth.
   b. Frame and Grate: Ductile iron as indicated. Where drain is located in traffic areas, rate for AASHTO H20 loading.

3. Locking Mechanism: Manufacturer’s standard device for securing grates to channel sections.

4. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   a. “Polydrain” by ABT Inc. (Troutman, NC) (Tel 704-528-9806).
   b. “ACO Drain” by ACO Polymer Products Inc. (Chardon, OH) (Tel. 800-543-4764).
   c. Or approved equal.

F. Cleanouts

1. Piping: Same as storm drain line if possible.

2. Top Plug or Cap: Same material as piping if possible. Plug or cap to be secure but removable, threaded or non-threaded.

3. Box Size: As required to provide access and allow easy removal and reinstallation of plug or cap.

4. Box Types:
b. Traffic Areas: Portland cement concrete box and box cover or steel or cast iron cover, heavy duty, both box and cover to be rated for AASHTO H20 loading.

5. Box Cover Markings: "S.D.,” unless otherwise specified.

6. Available Manufacturers: Subject to compliance with requirements, box manufacturers offering products that may be incorporated into the Project include, but are not limited to, the following:
   a. Associated Concrete Products, Inc. (Santa Ana, California) (Tel. 714-557-7470).
   b. Brooks Products Inc. (El Monte, California) (Tel. 818-443-3017).
   c. Christy Concrete Products, Inc. (Fremont, California) (Tel. 800-486-7070).

G. Area drains shall only be used on 6 inch in diameter or smaller storm drain lines.
   1. Area drains shall be polyvinyl chloride.
   2. Grates shall be brass and comply with accessibility requirements.
   3. Rate for AASHTO H20 loading in traffic areas.

H. Catch Basins shall be pre-cast or cast-in-place with 3,000 psi concrete and 1-1/2 inch max aggregate size.

I. Frames, Grates and Covers for Catch Basins: Caltrans Standard Specification Section 75-1.02, 75-1.03 and 75-1.05.
   1. Galvanize steel frames, grates and covers.
   2. Grates and covers shall be non-rocking.
   3. Rate for AASHTO H20 loading in traffic areas.

2.2 Special Pipe Couplings
   1. Gravity Piping: ASTM C 1173. Rubber or elastomeric sleeve and band assembly fabricated to match outside diameters of pipes to be joined.

2.3 Joint sealant for precast structures and manholes
      1. Use to seal around pipes at connections to structures and manholes. Also use to seal joints between precast sections of structures and manholes.
   B. Gaskets: Preformed flexible rubber or plastic gasket.
      2. Plastic Gaskets: Federal Specification SS-S-00210 (GSA-FSS), Type I, Rope Form; or alternate standard which may exist.
PART 3 - EXECUTION

3.1 Gravity PIPE INSTALLATION

A. Construct all storm drainage utilities to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Install pipe, fittings, and appurtenances utilizing best practices, manufacturer’s instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-1.07 for reinforced concrete pipe, and chapter 11.3.3 of AWWA M41 for cast iron and ductile iron pipe.

C. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.

D. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 – Utility Trenching and Backfill

E. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with manufacturer’s recommendations.

F. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout its entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.

G. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.

H. Closure: Close open ends of pipes and appurtenance openings at the end of each days work or when work is not in progress.

3.2 SPECIAL PIPE COUPLINGS

A. General: Use where required to join piping and no other appropriate method is specified. Do not use instead of specified joining methods.

B. Installation: Manufacturers instructions.
3.3 CLEANOUT INSTALLATION
A. General: Install as indicated.

3.4 INSTALLATION OF CURB INLETS, CATCH BASINS, DROP INLETS, JUNCTION STRUCTURES, AREA DRAINS, ETC. AND MANHOLES
A. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 – Utility Trenching and Backfill
B. Poured in Place Structures: Install as indicated and Caltrans Standard Specification Section 51.
   1. Shape bottoms to convey flows as indicated.
C. Precast Structures: Install as indicated.
   1. Seal all joints and pipe entrances and exits.
   2. Place concrete in bottom and shape to convey flows as indicated.

3.5 CONCRETE TRENCH DRAIN INSTALLATION
A. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 – Utility Trenching and Backfill
B. Install: As indicated and in accordance with the manufacturer’s instructions.
C. Valve shall be installed in accordance with manufacturer’s written Installation and Operation Manual and approved submittals.

3.6 TRENCHING AND EXCAVATION
A. Existing PCC or AC Areas: Cut PCC or AC to full depth at a minimum distance of 12-inches beyond the edge of the trench.
B. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.
C. Excavation Depth for Bedding: Minimum of 4-inches below bottom of pipe or as otherwise allowed or required by the District’s Representative, except that bedding is not required for nominal pipe diameters of 2-inches or less.
D. Excavation Width at Springline of Pipe:
   1. Up to a nominal pipe diameter of 24-inches: Minimum of twice the outside pipe diameter, or as otherwise allowed or required by the District.
   2. Nominal pipe diameter of 30-inches through 36-inches: Minimum of the outside pipe diameter plus 2-feet, or as otherwise allowed or required by the District.
   3. Nominal pipe diameter of 42-inches through 60-inches: Minimum of the outside pipe diameter plus 3-feet, or as otherwise allowed or required by the District.
E. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.

F. Comply with the District limitations on the amount of trench that is opened or partially opened at any one time. Do not leave trenches open overnight without the approval of the District.

G. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.

H. Bottoms of trenches will be subject to testing by District. Correct deficiencies as directed by the District.

I. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.

3.7 BACKFILLING

A. Backfill per Section 31 23 33, Utility Trenching and Backfill.

3.8 CLEANUP

A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the District.

3.9 TESTING

A. General: Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
   1. Do not enclose, cover, or put into service before inspection and approval.
   2. Test completed piping systems according to authorities having jurisdiction.
   3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours advance notice.
   4. Submit separate reports for each test.
   5. Where authorities having jurisdiction do not have published procedures, perform tests in accordance with latest edition of the Uniform Plumbing Code (UPC) Section 1109.0, Testing.
   6. Leaks and loss in test pressure constitute defects that must be repaired.
   7. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

B. Storm Drain Pipe:
   1. Storm drain pipe, shall be hydrostatically joint tested, (air test is not to be used), in the field for water-tightness in accordance with ASTM Standard C 1103.
   2. Perform test after pipe is bedded but prior to any backfill.
3. Testing may be done by manufacturing pipe with double gasket joints, or by utilizing a joint tester. Contractor shall obtain the District’s Representative’s approval of details of the Contractor’s selected method prior to performing the testing.

4. Inspect all joints for leakage.

5. If the pressure holds, or drops less than 1 psi in 5 seconds, the joint is acceptable.

6. After backfill of storm drain, the Contractor shall video inspect the pipeline. The video shall be supplied to the District for review.

3.10 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the District.

3.11 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

A. Construction Waste shall be managed in accordance with provisions of Standard Construction Waste Management and Disposal Practices. Documentation shall be submitted to satisfy the requirements of that section.

END OF SECTION