Peralta Community College District

Project Manual for:

Bid No. 11-12/22

Merritt College
Electrical Connection to Building - L

(Project No.: 2355A)

Located at:
Merritt College
12500 Campus Drive
Oakland, CA 94619

April 10, 2012

Peralta Community College District
Department of General Services
Johnnie Fudge, Facilities Project Manager
(510) 377-0748

Architect / Engineer:
Salas O'Brien
305 South 11th St.
San Jose, California 95112
Monterey- Oakland- Sacramento- Long Beach- Bloomington
INVITATION FOR BID

Bid No.: 11-012/22
Electrical Connection to Building - L at Merritt College
(Project # 2355A)

The Peralta Community College District, Oakland, California, through the Office of Purchasing Department, is hereby requesting sealed bids for the above mentioned work.

The successful bidder (Contractor) will be required to furnish all labor, material, equipment, and supplies to complete the work. The Contractor must also pay all applicable taxes and provide required insurance, permits and bonding.

General Bid Information

<table>
<thead>
<tr>
<th>Bid Description</th>
<th>Electrical Connection to Building - L at Merritt College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Type</td>
<td>Public Works (Prevailing Wage and Project Labor Agreement)</td>
</tr>
<tr>
<td>Bid Number</td>
<td>11-012/22</td>
</tr>
<tr>
<td>Project Number</td>
<td>2355A</td>
</tr>
<tr>
<td>Bid Issued</td>
<td>June 30, 2012</td>
</tr>
<tr>
<td>Department</td>
<td>Capital Projects</td>
</tr>
<tr>
<td>Mandatory Site Visit Date</td>
<td>June 19, 2012 at 10:00 a.m.</td>
</tr>
<tr>
<td>Site Visit Location</td>
<td>12500 Campus Drive, Oakland, CA 95619</td>
</tr>
<tr>
<td>Project Duration</td>
<td>90 Calendar days</td>
</tr>
<tr>
<td></td>
<td>This project is to be completed within the above number of calendar days from the date that the District issues a Notice to Proceed.</td>
</tr>
<tr>
<td>Liquidated Damages</td>
<td>$2000 per day</td>
</tr>
<tr>
<td></td>
<td>The Contractor agrees to pay the District the above amount per calendar day in the event that the Contractor fails to complete the Contract within the Project Duration indicated above.</td>
</tr>
<tr>
<td>Scheduled Publication Dates</td>
<td>June 5, 2012; June 12, 2012</td>
</tr>
<tr>
<td>Bid Due Date</td>
<td>July 9, 2012 at 2:00 p.m.</td>
</tr>
<tr>
<td></td>
<td>Bids are opened at the bid submittal address 15 minutes after they are due. See “Instructions for Submitting Bids” later in this document.</td>
</tr>
</tbody>
</table>
Instructions for Submitting Bids

| Submittal Address | Peralta Community College District  
Purchasing Department  
Attn: **David Imada**  
501 5th Avenue  
Oakland, CA 94606  
(510) 466-7225 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Submittal Copies</td>
<td>One (1) Original</td>
</tr>
</tbody>
</table>
| Submittal Envelope Requirements | Bids must be sealed and have the following information clearly marked and visible on the outside of the envelope:  
  • Bid Number  
  • Name of Your Company  
  • Address  
  • Phone Number |
| Late Submittals   | Proposals received after the time and date stated above shall be returned unopened to the vendor. |

Questions about the Bid or Requests for Information

Questions and or Requests for Information (RFI) must be submitted in writing and can be submitted by fax or email as follows:

| Primary Contact | Johnnie Fudge, Facilities Project Manager  
Peralta Community College District  
Email: jfudge@peralta.edu |
|-----------------|---------------------------------------------------------------------|
| Question/ RFI Due Date | **June 26, 2012 at 4:00 p.m.**  
Please submit questions as soon as possible. No questions regarding the specifications will be responded to after the above date. All pertinent questions will be responded to and answered in writing no later than the Response Date listed below. All prospective bidders will receive copies of the questions and answers. |
| Response Date   | **July 2, 2012**  
All pertinent questions will be responded to via **addendum** faxed or emailed to all prospective bidders, and or posted at the District’s website. All addendums must be acknowledged on the bid form. |
How to Obtain Bid Documents

Bid documents may be obtained from the location(s) indicated in the table below:

<table>
<thead>
<tr>
<th>Available</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No</strong></td>
<td>Peralta Community College District Purchasing Department 501 5th Avenue</td>
</tr>
<tr>
<td></td>
<td>Oakland, CA 94606 Monday through Friday 9:00 AM to 4:00 PM</td>
</tr>
<tr>
<td></td>
<td>(510) 466-7225</td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>Website: <a href="http://www.peralta.edu">www.peralta.edu</a></td>
</tr>
<tr>
<td></td>
<td>Click “Service Centers”, then click “Purchasing” and then click</td>
</tr>
<tr>
<td></td>
<td>“List of Current RFPs/Bids” to download the bid packet.</td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>ARC Northern California 1700 Jefferson Street, Oakland, CA 94612</td>
</tr>
<tr>
<td></td>
<td>Tel. (510) 287-5485 Fax (510) 444-1264 <a href="http://www.e-arc.com">www.e-arc.com</a></td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:oakland@e-arc.com">oakland@e-arc.com</a> Attn: Christina</td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>Builders Exchange of Alameda 3055 Alvarado Street San Leandro, CA 94577</td>
</tr>
<tr>
<td></td>
<td>Tel. 510-483-8880 Fax 510-352-1509 Email: <a href="mailto:beac@beac.com">beac@beac.com</a> Attn: Jan Sanchez</td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>McGraw Hill Construction 11875 Dublin Blvd., Suite A118 Dublin, CA 94565</td>
</tr>
<tr>
<td></td>
<td>Tel. 925-833-9750 Fax 925-833-9754 Email: <a href="mailto:Gerry_mccarthy@mcgraw-hill.com">Gerry_mccarthy@mcgraw-hill.com</a></td>
</tr>
<tr>
<td></td>
<td>Attn: Gerry McCarthy</td>
</tr>
</tbody>
</table>

Full Opportunity

The Peralta Community College District hereby affirmatively ensures that Disadvantaged Business Enterprises (DBE), Small Local Business Enterprise (SLBE) and Small Emerging Local Business Enterprise (SELBE) shall be afforded full opportunity to submit bids in response to this notice and will not be discriminated against on the basis of race, color, national origin, ancestry, disability, gender, transgender status, political affiliation or religion in any consideration leading to the award of contract.

No qualified disabled person shall, on the basis of disability, be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award.

Peralta Community College District reserves the right to reject any or all bids, to waive any irregularities or informalities not affected by law, to evaluate the bids submitted and to award the contract according to the proposal which best serves the interests of Peralta Community College District.

John Banisadr, Purchasing Compliance Manager

Revised 9-23-09 Invitation for Bid, Page 3 of 4
## Attachments

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Must Be Returned with Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Instruction to Bidders</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Prevailing Wage Determination and Project Labor Agreement</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bid Form</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Subcontractor List Form</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Bid Bond</td>
<td>Yes, or a Check</td>
</tr>
<tr>
<td>6</td>
<td>Non-Collusion Affidavit</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Small Local Business Enterprise/Small Emerging Local Business Enterprise Program</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>SLBE/SELBE Self Certification Affidavit</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td>Vendor’s Questionnaire And Certificate By Compliance</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>Environmentally Sustainable Procurement---Construction</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Certificate Regarding Workers’ Compensation</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td>Statement of Equal Employment Opportunity</td>
<td>Yes</td>
</tr>
<tr>
<td>13</td>
<td>Performance Bond</td>
<td>Required after Award</td>
</tr>
<tr>
<td>14</td>
<td>Payment Bond</td>
<td>Required after Award</td>
</tr>
<tr>
<td>15</td>
<td>Contract</td>
<td>Required after Award</td>
</tr>
<tr>
<td>16</td>
<td>Bid Protest Procedures</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>PCCD Construction Debris Reporting Requirements</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Construction Protocol Procedures</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Final Cleaning Requirements</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Post Bid Interview</td>
<td>Require after selection of Bidder</td>
</tr>
</tbody>
</table>

## Enclosures

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Scope of Work</td>
</tr>
<tr>
<td>B</td>
<td>Construction Project Labor Agreement (dated 07-21-2009)</td>
</tr>
<tr>
<td>C</td>
<td>General Conditions (79 pages)</td>
</tr>
<tr>
<td>D</td>
<td>Specifications &amp; Drawings</td>
</tr>
</tbody>
</table>
INSTRUCTIONS TO BIDDERS

Bid Proposals:

No bid proposals shall receive consideration by the Peralta Community College District (hereinafter "District") unless made in accordance with the following instructions:

1. Deadline For Receipt of Proposals. Bid proposals must be sealed and filed at the office of the Director of Purchasing located at 501 5th Avenue, Oakland, California, 94606 no later than the time specified in the invitation. The District suggests that bids be hand delivered in order to ensure their timely receipt. Any bids received after the time stated shall not be opened and shall be returned, sealed, to the bidder.

2. Bidders Conference. A mandatory bidders conference will be held on the date specified in the invitation, for the purpose of acquainting all prospective bidders with the bid documents. It is imperative that all prospective bidders attend this conference. Failure to attend the conference may disqualify a non-attending bidder from the bid. Following this meeting, a mandatory site review will be conducted to acquaint bidders with the project.

3. Requests for Information.

Any questions relative to the bid should be in writing and directed to the Architect or his or her designee at the address specified for receipt of bid proposals.

4. Bid Proposal Forms. Bid proposals must be made on a form obtained from the District. All items on the form should be filled out. Numbers should be stated in figures, and the signatures of all individuals must be in long hand. The completed form should be without interlineations, alterations, or erasures.

5. Execution of Forms. Each bid must give the full business address of the bidder and must be signed by the bidder with his or her authorized signature. Bids by partnerships must furnish the full names of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters. Bids by corporations must be signed with the legal name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation in this matter. The name of each person signing shall also be typed or printed below the signature. When requested by the District, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished. A bidder's failure to properly sign required forms may result in rejection of the bid. All bids must include the bidder's California contractor's license number and expiration date.

6. Bid Security. Bid proposals should be accompanied by a cashier's check or bidder's bond for an amount not less than ten percent (10%) of the bid amount. The cashier's check or bid bond shall be made payable to the order of the District. If the bid bond accompanies the proposal, the bond shall be secured by an admitted surety company, licensed in the State of California, satisfactory to the District. The cashier's check or bond shall be given as a guarantee that the bidder will enter into the contract if awarded the work, and in the case of refusal or failure to enter into the contract within ten (10) calendar days after notification of the award of the contract, the District shall have the right to award to another bidder. If the bidder fails or refuses to timely enter into the contract, the District reserves the right to declare the bid bond forfeited and to pursue all other remedies in law or equity relating to such breach including, but not limited to, seeking recovery of damages for breach of contract. Failure to provide bid security, or bid security in the proper amount, will result in rejection of the bid.

7. Withdrawal of Bid Proposals. Bid proposals may be withdrawn by the bidders prior to the time fixed for the opening of bids, but may not be withdrawn for a period of forty-five (45) calendar days after the opening of bids.
8. **Addenda or Bulletins.** Any addenda or bulletins issued during the time of bidding shall form a part of the drawings and specifications issued to bidders for the preparation of their proposals and shall constitute a part of the Contract Documents. No addendum will be issued on such requests received later than five (5) calendar days before the scheduled opening of bids.

9. **Award of Contract.** The District reserves the right to reject any and all bid proposals to contract work with whomever and in whatever manner the District decides, to abandon the work entirely and to waive any informality or non-substantive irregularity as the interest of the District may require.

10. **Bonds.** The successful bidder shall be required to submit payment and performance bonds as specified in the Contract Documents. All required bonds shall be calculated on the maximum total purchase price. A bidder's failure to submit the bonds requested shall result in rejection of the bid proposal.

11. **Rejection of Bids and Award of Contract.** The District reserves the right to waive any irregularities in the bid and the right to accept or reject any and all bids, or to accept or reject any portion or combination thereof, or award on the basis of the total bid, when to do so is in its own best interest. The Contract will be awarded within forty-five (45) calendar days after opening of Bids to the lowest responsible Bidder complying with the requirements of the Contract Documents, subject to Governing Board approval. The time for awarding the Contract may be extended by the District with the consent of the lowest responsible Bidder.

12. **Execution of Contract.** The successful bidder shall, within ten (10) calendar days of notice of award of the contract, sign and deliver to the District, without exception, the executed District contract along with the bonds and certificates of insurance required by the Contract Documents. In the event the bidder to whom an award is made fails or refuses to execute the contract within ten (10) calendar days from the date of receiving notification that the contract has been awarded to the bidder, or fails to provide the required bonds and certificates, the District may declare the bidder's bid deposit or bond forfeited as damages caused by the failure of the bidder to enter into the contract, and may award the work to the next lowest responsible bidder, or may reject all bids and, at its sole discretion, call for new bids.

13. **Drawings and Specifications.** Each bidder shall be required to return to the District all drawings and specifications in an unmutilated condition and without any marks or annotations. All drawings, specifications and other documents used or prepared during the project shall be the exclusive property of District.

14. **Evidence of Responsibility.** Upon the request of the District, a bidder shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by the District, the bidder's organization and workforce available for the performance of the contract and any other required evidence of the bidder's qualifications to perform the proposed contract. The District may consider such evidence before making its decision awarding the proposed contract. Failure to submit evidence of a bidder's responsibility to perform the proposed contract may result in rejection of the bid.

15. **Taxes.** Taxes shall be included in the bid prices.

16. **Bid Exceptions.** The taking of bid exceptions or providing false, incomplete or unresponsive statements may result in the disqualification of the bid.

17. **Discounts.** Any discounts which the bidder desires to provide the District must be stated clearly on the bid form itself so that the District can calculate properly the net cost of the bid proposal. Offers of discounts or additional services not delineated on the bid form will not be considered by the District in the determination of the lowest responsible bidder.

18. **Quantities.** The quantities shown are approximate. The District reserves the right to increase or decrease quantities as desired.
19. **Prices.** Bidders must quote prices F.O.B. unless otherwise noted. Prices should be stated in the units specified and bidders should quote each item separately.

20. **Samples.** On request, samples of the products being bid shall be furnished to the District at no cost to the District.

21. **Special Brand Names.** In describing any item, the use of a manufacturer or special brand, except in those instances where the product is designated to match others in use on a particular public improvement either completed or in the course of completion, does not restrict bidding to that manufacturer or special brand, but is intended only to indicate quality and type of item desired. Bidders may furnish any material, product, thing or service of comparable quality or utility. If a bidder is requesting substitution of "an equal" item, the make and grade of the article on which the bid is submitted must be stated in the bid proposal and illustrations and catalogue information submitted. The District reserves the right to make all decisions on product and vendor selection.

22. **Container Costs and Delivery.** All costs for containers shall be borne by the bidder. All products shall conform to the provisions set forth in the federal, county, state and city laws for their production, handling, processing and labeling. Packages shall be so constructed to ensure safe transportation to point of delivery.

23. **Bid Negotiations.** A bid response to any specific item of this bid with terms such as "negotiable", "will negotiate" or similar, will be considered as non-compliance with that specific term.

24. **Prevailing Law.** In the event of any conflict or ambiguity between these instructions and state or federal law or regulations, the latter shall prevail. Additionally, all equipment to be supplied or services to be performed under the bid proposal shall conform to all applicable requirements of local, state and federal law, including, but not limited to, California Labor Code Sections 1771, 1778 and 1779.

25. **Governing Law and Venue.** In the event of litigation, the bid documents, specifications and related matters shall be governed by and construed in accordance with the laws of the State of California. Venue shall be with the appropriate state or federal court located in Alameda County, California.

26. **Subcontractors.** Pursuant to the Subletting and Subcontracting Fair Practices Act, Public Contract Code Sections 4100-4114, inclusive, every bidder shall, on the enclosed form set forth:

   (a) The name, location of the place of business, and all information required on the Subcontractor List for each subcontractor who will perform work or labor or render service to the bidder in or about the work in an amount in excess of one-half (1/2) of the one percent (1%) of the bidder's total bid.

   (b) The portion of the work which will be done by each subcontractor. If the bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half (1/2) of one percent (1%) of the bidder's total bid, bidder agrees that bidder is fully qualified to and will perform that portion of the work. The successful bidder shall not, without the consent of the District, and in compliance with Public Contract Code Sections 4100 - 4114, either:

   (1) Substitute any person as subcontractor in place of the subcontractor designated in the original bid;

   (2) Permit any subcontract to be voluntarily assigned or transferred or allow the work to be performed by anyone other than the original subcontractor listed in the bid; or

   (3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid as to which the bidder's original bid did not designate a subcontractor.
27. **Examination of Contract Documents and Work Site.** Before submitting a bid proposal, bidders shall examine the contract, the drawings, the specifications and other Contract Documents. Bidders shall visit the site of the proposed work and shall fully inform themselves of all conditions in and about the work site, the building or buildings, if any, and any work that may have been done thereon. However, no bidder shall visit the site without prior authorization. All bidders are requested to contact the Physical Plant Department or designee for coordination of site visits. Submission of a bid proposal constitutes acceptance of the terms of this provision.

28. **Form of Contract.** The bidder selected by the District will be required to execute, without exception, a contract included in the bidding package. The contract and other documents are subject to the approval of the District and its legal counsel.

29. **Licenses.** Each bidder, and their subcontractors, if any, must possess all appropriate and required licenses or other permits to perform the work as identified in contract documents. Upon request, each bidder shall furnish the District with evidence demonstrating possession of the required licenses or permits. Failure to submit such evidence to the District’s satisfaction may result in rejection of the bid.

30. **Denial of Right to Bid.** Contractors or subcontractors who have violated state law governing public works shall be denied the right to bid on this public work contract as set forth in California Labor Code Section 1777.7.

31. **Bidders Interested in More Than One Bid.** No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one bid unless alternate bids are specifically called for. A person, firm, or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or make a prime proposal.

32. **Contractors State License Board.** Contractors are required by law to be licensed and regulated by the Contractors State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors State License Board, P. O. Box 26000, Sacramento, California 95826.

33. **Additive and Deductive Items: Method of Determining Lowest Bid.** Pursuant to Public Contract Code section 20103.8, should this bid solicitation include additive and/or deductive items, the checked [X] method shall be used to determine the lowest bid:

- (a) The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

- (b) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation [see bid proposal form] as being used for the purpose of determining the lowest bid price.

- (c) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items, depending upon available funds as identified in the solicitation.

- (d) The lowest bid shall be determined in a manner that prevents any information that would identify any of the bidders from being revealed to the public entity before the ranking of all bidders from lowest to highest has been determined.

If no method is checked, sub-paragraph (a) shall be used to determine the lowest bid.

Notwithstanding the method used by the District to determine the lowest responsible bidder, the District retains the right to add to or deduct from the contract any of the additive or deductive items included in the bid solicitation.
Peralta Community College District

**Prevailing Wage Determination**

The Governing Board has obtained from the Director of the Department of Industrial Relations, the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft, classifications or type of worker needed to execute the contract, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are Internet accessible at [http://www.dir.ca.gov/DLSR/statistics_research.html](http://www.dir.ca.gov/DLSR/statistics_research.html) or shall be made available at the District’s Purchasing office to any interested party upon request during regular business hours. For this bid, wage determination 2010-1 shall be used.

The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work shall be at least time and one half.

It shall be mandatory upon the contractor to whom the contract is awarded, and upon any subcontractor under him, to pay not less than the specified rates to all workers employed by them in the execution of the contract. It is the contractor’s responsibility to determine any rate change, which may have or will occur during the intervening period between each issuance of published rates by the Director of Industrial Relations.

**Project Labor Agreement**

The Peralta Community College District has entered into a Project Labor Agreement (PLA) for all its Public Works construction projects, which requires that the successful General Contractor, and its field Subcontractors to sign the applicable Letter of Assent (LOA). The complete text including the terms and conditions, and the LOA, are included in the bid package for review by all Contractors bidding on this project. Contractors contemplating bidding on this project are strongly encouraged to review the complete PLA documents, but should at minimum be aware of the following:

- No work stoppages, strikes, sympathy strikes, slowdowns or lockouts are allowed during the execution of the work.
- There are provisions for alternative dispute resolution, depending on affected crafts.
- Based on a formula and certain basic requirements, a Contractor may use up to five (5) “core” workers, but all workers must be dispatched through the applicable union halls.
- There are goals for the utilization of local workers, utilizing the normal hiring hall procedures for dispatch.

A Contractor is not required to become signatory to a union to work on a project covered by the PLA, but is required to sign a Letter of Assent (LOA) agreeing to work under the terms of the PLA, on a project by project basis. Workers are not required to join a union but must be dispatched through a union hiring hall and must pay union initiation fees and dues when working on a project covered by the PLA.

The District’s PLA Program Manager for this project is:

Mr. Jake Sloan
Davillier-Sloan—Labor Management Consultants

Please direct all PLA questions to the Primary Contact listed in the “Questions about the Bid or Requests for Information” section of the Invitation For Bid, and the Primary Contact will forward your question to the PLA Program Manager, to be answered as part of the formal Addendum for this bid.
The undersigned having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Invitation for Bid, the General Conditions and Instructions to Bidders, the Peralta Community College District (District) Contract, the Specifications and all of the contract documents for this project, and accurately completed the Vendor’s Questionnaire, proposes to perform the contract, including all of its component parts, and to furnish any and all required labor, materials, equipment, insurance, permit, bonding, transportation and services required for the construction of the project in strict conformity with the plans and specifications prepared, including any Addenda, within the time specified for the lump sum price of (including all taxes):

**Total Bid Price**

<table>
<thead>
<tr>
<th>Total lump sum bid price of</th>
<th>$___________________ (Numeric amount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________________________</td>
<td>________________________________</td>
</tr>
<tr>
<td>Written amount prevails if any discrepancy exists.</td>
<td></td>
</tr>
</tbody>
</table>

**Bid Elements**

(This Total Bid Price is composed of the following elements)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All Base Bid Items</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>All Allowances (see page 3 of this bid form )</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong> (equating to the Total Bid Price value shown above)</td>
<td></td>
</tr>
</tbody>
</table>

Peralta Community College District reserves the right to award a contract to multiple Contractors, based on the lowest responsive, responsible bid, for each Bid Element, or to award the entire bid to the lowest responsive, responsible bidder, depending on which best serves the interests of the District.

**Agreement Terms**

1. If awarded the contract, the undersigned hereby agrees to sign said contract and furnish the necessary Payment Bond, Performance Bond, and Certificates of Insurance within 10 calendar days after the Notice of the Award of this contract and agrees to commence construction within 10 calendar days after the Notice to Proceed is issued by the District.

2. The undersigned has checked carefully all the above figures and understands that the District will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

Contractor Name: ___________________________  Initials: ________________
Agreement Terms Continued

3. Peralta Community College District reserves the right to reject any or all bids, to waive any irregularities or informalities not affected by law, to evaluate the bids submitted and to award the contract according to the proposal which best serves the interests of the District.

4. All pages of this Bid Form must be completed and signed in ink. The bid will be awarded to the lowest responsive, responsible bidder.

Bid Bond

Each bid shall be accompanied by a cashier's check payable to the Peralta Community College District, or a bidder's bond executed by an admitted surety insurer, licensed to do business in the State of California as a surety, made payable to the Peralta Community College District in an amount not less than ten percent (10%) of the maximum amount of the bid. The check or bid bond shall be given as a guarantee that the bidder to whom the contract is awarded shall execute the contract documents and shall provide the required payment and performance bonds as specified therein within ten (10) days after the notification of the award of the contract.

Amount - Bidders must enclose an amount of not less than 10 percent of the entire bid as either:

- _____ Cashier's Check:  Check Number:  ________________________________  
  Issuing Bank:  _________________________________________  
  Amount:  $ ____________________________________________

- _____ Bidder's Bond:  Surety Company:  ________________________________  

Addendum Acknowledgement

The following addendum(s) are acknowledged in this bid: _________________________

Bidder Information and Signature

Contractor Name:  ________________________  Title:  ______________________________

Contact Person (print name):  ________________________________________________

Address:  ______________________________________________________________________

Telephone:  _____________________________  Fax:  ________________________________

Contractor License #:  _____________________  Expiration Date:  ____________________

Authorized Signature:  ________________________________  Date:  ________________
ALLOWANCES
All allowances shall be used at the discretion of the District. Any allowances not approved through a formal change order procedure shall be credited back to the District as a deductive change order. Contractor shall be aware that all allowances are for work not included in the base bid work as called out, specified or shown on the contract documents.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Amount</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL-01</td>
<td>Unforeseen Site Conditions</td>
<td>50,000.</td>
<td>LS</td>
</tr>
<tr>
<td>AL-02</td>
<td>Unforeseen Site Hazardous Materials Abatement</td>
<td>5,000.</td>
<td>LS</td>
</tr>
<tr>
<td>AL-03</td>
<td>Owners Trades</td>
<td>5,000.</td>
<td>LS</td>
</tr>
</tbody>
</table>


UNIT PRICING
All unit pricing shall include all General Conditions, General Requirements, Overhead & profit. Contractor shall also include scaffolding or other lift devices where required. Contractor shall be aware that this unit pricing is for work outside of all work required under the base bid work – all costs for work shown in the contract documents shall be included in the base bid price.

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Amount of Units</th>
<th>Price per Unit</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-01</td>
<td>Excavation and backfill associated with removed rock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U-02</td>
<td>Rock - By weight in $/Ton or by volume in yards</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


5. Contractor Name: _____________________________ Initials: __________________
   The undersigned has checked carefully all the above figures and understands that the District will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

Contractor Name: ___________________________ Initials: ________________
**No Subcontractors**

Check here and skip to the “Signature” section if you have no subcontractors who will perform contract work in an amount in excess of 1/2 of 1 percent of the total contract price.

**Subcontractors**

In accordance with the provisions of Public Contract Code section 4104, each bidder shall list below the name and location of place of business for each sub-contractor who will perform a portion of the contract work in an amount in excess of 1/2 of 1 percent of the total contract price. In each such instance, the nature of the work to be sublet shall be described. **All columns must be completed.**

<table>
<thead>
<tr>
<th>Subcontractor and Location</th>
<th>Type of Work or Trade Classification</th>
<th>Amount</th>
<th>License No.</th>
<th>Type of Business* (check one)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td>SLBE</td>
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<td>5.</td>
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<tr>
<td>6.</td>
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</tr>
</tbody>
</table>

*See the “Small Local Business Enterprise (SLBE)/Small Emerging Local Business Enterprise Program (SELBE)” document in this bid package for definitions and requirements.

**Signature**

Contractor Name: ___________________________ Title: ___________________________

Authorized Signature: ___________________________ Date: ___________________________
Knowledge men by these presents, that we _____________________________________________ as principal, and ________________________________, as surety are firmly bound unto the Peralta Community College District (hereinafter "District"), in the penal sum of TEN PERCENT (10%) of the Total Amount of the Bid of the Principal submitted to the said DISTRICT for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by the presents.

The condition of this obligation is such that whereas the Principal has submitted the accompanying bid dated ________________________________, for ________________________________, Now, therefore, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or if no period be specified within sixty (60) calendar days after said opening; and if the Principal is awarded the contract and shall within the period specified thereafter, or, if no period be specified, within five (5) calendar days after the prescribed forms are presented to him or her for signature, enter into a written contract with DISTRICT, in accordance with the bid as accepted or fail to give bond with good and sufficient surety or sureties as may be required, for the faithful performance and proper fulfillment of such contract and for the payment for labor and materials used for the performance of the work of installation under the contract, or in the event of the withdrawal of said bid within the period specified or the failure to enter into such contract and give such bonds within the time specified, if the Principal shall pay DISTRICT the difference between the amount specified in said bid and the amount for which DISTRICT may procure the required work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by DISTRICT in again calling for bids, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

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

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

In witness whereof the above-bounded Parties have executed this instrument under their several seals this day of ________________, the name and corporate seal of each corporate Party being hereunder affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

(Corporate Seal)

Principal

By ________________________________

Title ________________________________

(Corporate Seal)

Surety

By ________________________________

Title ________________________________

(To be signed by Principal and Surety and Acknowledgment And Notary Seal to be Attached.)
Peralta Community College District

NON-COLLUSION AFFIDAVIT
(To be executed by bidder and submitted with bid)

Bid No.: 11-012/22
Electrical Connection to Building – L at Merritt College
(Project # 2355A)

State of California, County of _____________

(Name) ____________________________________________, being first duly sworn, deposes and says
that he or she is (title)______________________ of (company)____________________________ 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,
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, 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 that the foregoing is true and correct.

Date: ____________________ Signature: ____________________________________________
Peralta Community College District

SMALL LOCAL BUSINESS ENTERPRISE and
SMALL EMERGING LOCAL BUSINESS ENTERPRISE PROGRAM

The District is committed to ensuring equal opportunity and equitable treatment in awarding and managing its public contracts and has established an annual overall program goal of twenty-five percent participation for small local businesses. To facilitate opportunities for small local business, the District will use a maximum 5% bidding preference for SLBE and SELBE firms. The preference is only used for computation purposes to determine the winning bidder, the contract is awarded at the actual bid amount. Please review the following guidelines to see if your firm qualifies for the preference.

The 5% bidding preference for an SLBE and SELBE firms are for construction, personal and professional services, goods and services, maintenance, repairs, and operations where responsibility and quality are equal. The preference will be 5% of the bid amount of the lowest responsive responsible bidder, and may not exceed $50,000.00 for any bid.

A Non-SLBE/SELBE Prime Contractor who utilizes 25% of total bid amount, with SLBE or SELBE subcontractors (who meet the District’s Definition of an SLBE and SELBE), can also receive a maximum of 4% bidding preference, not to exceed $50,000.00 for any bid. (See below Subcontractors section.)

Definitions:

**SLBE**: A Small Local Business Enterprise is a business that has not exceeded gross annual revenue of 8.5 million dollars for a construction firm, or 6 million dollars for goods and non-professional services firm, or 3 million dollars for architecture, engineering and professional services firm, for the past three consecutive years and meets the below geographic location requirements.

**SELBE**: A Small Local Emerging Business Enterprise is a business that has not exceeded gross annual revenue of 1.5 million dollars for the past three consecutive years and meets the below geographic location requirements.

**Commercially Useful Function**: Shall mean a business is directly responsible for providing the materials, equipment, supplies or services to the District as required by the contract solicitation. The business performs work that is normal for its business services and carries out its obligation by actually performing, managing, or supervising the work involved. The business is **not** commercially useful if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of SLBE or SELBE participation.

**Geographic Location Requirements**:

- The business must be located at a fixed, established commercial address located in the District’s market area of Albany, Alameda, Berkeley, Emeryville, Oakland, or Piedmont, and not a temporary or movable office, a post office box, or a telephone answering service.

- If the business has an office outside of the District’s market area as well as an office within the market area, the office within the District's market area must be staffed on a full time permanent basis with someone employed by the business.

- If requested, the business that has an office outside of the District’s market area must provide proof of one or more past contracts citing the business address (such as contracts to perform work, to rent space or equipment, or for other business services) was within the District’s market area at least one (1) year prior to the date of contract award. The one-year requirement does not apply to businesses whose sole establishment is located within the District’s market area.
**Subcontractors:**

Non-SLBE/SELBE Prime Contractors who use subcontractors, who meet the district definitions of SLBE and SELBE, may receive a maximum of 4% bidding preference if the following conditions are met:

1. 25% of total bid amount is with Subcontractors who meet the District's definition of an SLBE and SELBE. The Prime Contractor must list each Subcontractor on the Subcontractor List form, clearly identifying the SLBE and SELBE status and the Dollar Amount of work each subcontractor will perform.

2. The Subcontractors must provide a Commercially Useful Function.

3. The Prime Contractor must maintain the Subcontractor percentages (based on the quoted dollar amounts) indicated in the Subcontractor List form at the time the Contract is awarded and throughout the term of the Contract.

4. The Prime Contractor must fill out sign the SLBE/SELBE Self Certification Affidavit and return it with the bid documents, and 48 hours after the bid opening the Prime Contractor must submit signed SLBE/SELBE Self Certification Affidavit from each of the SLBE and SELBE subcontractors listed in the Subcontractor form. The Subcontractor must agree to provide the requested documentation to verify the SLBE/SELBE status.

5. No Substitutions can be made to the SLBE and SELBE subcontractor without the prior written approval of the District. The District will approve a subcontractor substitution on the following conditions:
   a. A written statement from the subcontractor agreeing to the substitution.
   b. When the subcontractor has been given a reasonable opportunity to execute the subcontract, yet fails to, or refuses to execute the subcontract, or refuses to satisfy contractual obligations.
   c. When the subcontractor becomes insolvent.
   d. When the District determines the work performed by the subcontractor is not in accordance with the contract agreement, or the subcontractor is substantially and unduly delaying or disrupting the progress of work.

Firms that meet the District criteria for an SLBE and SELBE can complete the below self-certification affidavit signed under penalty of perjury. Firms claiming SLBE and SELBE status in the self-certification affidavit will be required to submit proof of residency and revenue 48 hours after bid opening. Such proof shall consist of a copy of a contract to perform work, to rent space or equipment, or for other business services, executed from their local address, and the firm’s tax returns for the past three consecutive years.
SLBE/ SELBE SELF CERTIFICATION AFFIDAVIT

I certify under penalty of perjury that my firm meets the District's definition of a Small Local Business Enterprise or a Small Emerging Local Business Enterprise and resides in the geographic location of the District’s market area and qualifies for the below preference. The maximum preference will be five percent of the bid amount of the lowest responsible bidder, and may not exceed $50,000.00 for any bid. The preference is only used for computation purposes to determine the winning bidder; the contract is awarded at the actual bid amount. The District’s Contract Compliance Office will determine whether this requirement has been fulfilled. Bidders may only claim one of the below preferences.

<table>
<thead>
<tr>
<th>Certification Status</th>
<th>Preference</th>
<th>Preference Claimed (check only one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLBE</td>
<td>5% of lowest bid</td>
<td></td>
</tr>
<tr>
<td>SELBE</td>
<td>5% of lowest bid</td>
<td></td>
</tr>
<tr>
<td>25% of Subcontractors are SLBE/SELBE</td>
<td>4% of lowest bid</td>
<td></td>
</tr>
<tr>
<td>Not Applicable</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

1. I acknowledge and am hereby advised that upon a finding of perjury with the claims made in this self certification affidavit the District is authorized to impose penalties which may include any of the following:
   a) Refusal to certify the award of a contract
   b) Suspension of a contract
   c) Withholding of funds
   d) Revision of a contract for material breach of contract
   e) Disqualification of my firm from eligibility for providing goods and services to the Peralta Community College District for a period not to exceed five (5) years

2. I acknowledge and have been advised and hereby agree that my firm will be required to provide proof (and if applicable, my SLBE and SELBE Subcontractors will provide proof) of the status claimed on this self-certification affidavit 48 hours after bid opening. Proof of status claimed includes tax returns from the previous three years and past contracts to determine the size and geographical location of my firm.

3. I declare that the above provisions are attested to under penalty of perjury under the laws of the State of California.

Bid Number: _________________  Bid Name: ____________________________________

Signed _________________________  Date _________________________

Printed or typed name ___________________________  Title ___________________________

Name of Company ___________________________  Telephone ___________________________  Fax ___________________________

Attachment 8
VENDOR’S QUESTIONNAIRE AND CERTIFICATE BY COMPLIANCE

The following information is requested for information purposes only. It will not be used in determining bid award.

_____________________
Date

Firm Name

Telephone

Business Fax

Email Address

Website

Street Address

City/State

Zip Code+ 4®

Mailing Address

City/State

Zip Code + 4®

Type of Organization (Check one)  Individual □ Partnership □ Corporation □

Name of Owner(s)  State of Incorporation (if applicable)

Name of Partners (I) Indicate (G) General (L) Limited

Local Address

Amount of Annual Business

The District is identifying vendor ownership as follows:

<table>
<thead>
<tr>
<th></th>
<th>Asian-American (Chinese, Japanese, Korean, Vietnamese)</th>
<th>Black or African-American</th>
<th>Filipino</th>
<th>Latino (other than Mexican or Mexican-American)</th>
<th>Mexican or Mexican-American</th>
<th>Native American</th>
<th>Pacific Islander, other Asian</th>
<th>White</th>
<th>Disabled</th>
<th>Veteran</th>
<th>Women</th>
<th>Subcontractor</th>
<th>Employee</th>
<th>Apprentice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total #</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>% of assets</td>
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<td></td>
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</tbody>
</table>

The District is identifying vendor workforce as follows:

<table>
<thead>
<tr>
<th></th>
<th>Asian-American (Chinese, Japanese, Korean, Vietnamese)</th>
<th>Black or African-American</th>
<th>Filipino</th>
<th>Latino (other than Mexican or Mexican-American)</th>
<th>Mexican or Mexican-American</th>
<th>Native American</th>
<th>Pacific Islander, other Asian</th>
<th>White</th>
<th>Disabled</th>
<th>Veteran</th>
<th>Women</th>
<th>Subcontractor</th>
<th>Employee</th>
<th>Apprentice</th>
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<tbody>
<tr>
<td>Total #</td>
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<td>% of assets</td>
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</tr>
</tbody>
</table>

Attachment 9, Page 1 of 2
Explain whether current workforce is racially and ethnically proportionate to the area from which the workforce is drawn (national, state, or local). Use separate sheet if necessary.

Detail steps taken by vendor since inception to assure non-discriminatory recruiting, hiring, and apprenticeship, placement, promotion, demotion, layoff and termination practices. Use separate sheet if necessary.

What are you interested in providing the District? (e.g., construction, consulting, goods or services).

Main Headquarters Office(s)
Address/Telephone
(List all as applicable)

1. 
2. 
3. 

Total # of Employees _____

Local Office(s) Address/Telephone
(List all as applicable)

1. 
2. 
3. 

Total # of Employees _____

Name and list residential zip code for each employee, subcontractor, or apprentice for awarded contract
(Please use the Zip+4®)
Use separate sheet as necessary

1. 
2. 
3. 
4. 
5. 
6.
It is the policy of the Peralta Community College District (Board Policy 2.40, Environmental Sustainability), to purchase products or services that help to minimize the adverse effects on human health and the environment, when compared to other products and services that serve the same purpose with comparable efficacy. The District recognizes that environmentally responsible purchasing will help create and sustain markets for environmentally sustainable products, and is committed to encouraging the procurement of products with high recycled content, FSC certified lumber, Energy Star rated equipment, low and no VOC paints, low-toxicity cleaning supplies and Green Seal approved chemicals, and will promote contracting with businesses in close proximity, to reduce our carbon footprint and to promote the District's SLBE program.

For Operation and Construction services the District is committed to:

- Utilizing LEED (Leadership in Energy and Environmental Design) or equivalent certification criteria as follows:
  - All new building projects shall qualify for at least LEED NC Silver certification and shall strive for higher levels of certification, especially where overall long-term building operations, student learning, and worker productivity savings can be realized through doing so.
  - All renovation projects over 10,000 square feet shall meet basic “LEED Existing Building” certification standards.
- Maximizing energy efficiency throughout the District, in particular, heating, cooling, lighting, information technology, mechanical, and water systems. It is the goal of the District to reduce dramatically our energy consumption for existing buildings and for all new buildings to exceed the State of California Building Code Title 24 energy efficiency requirements by no less than 35%.
- Reduction of water consumption for all uses, including for irrigation and domestic purposes.
- Waste source reduction and the re-use of materials. The District encourages all contractors to re-use and recycle as much construction and demolition debris as possible, and only when it is not feasible to do so, dispose of it in a landfill. All contractors must adhere to the District's Construction Debris Reporting Requirements.
- Sustainable landscaping and grounds design, construction and maintenance practices which promote integrated pest management and use of drought tolerant, fire safe, and native vegetation types.

All public work projects must adhere to the District Environmental Sustainability Policy 2.40. The formal policy is available for download at www.peralta.edu; click on the District Services Center tab and then Purchasing to view the environmentally sustainable purchasing policy.

**Signature**

I acknowledge and agree to adhere to the District’s Environmental Sustainability policy.

Contractor Name: _______________________  Title: _______________________________

Authorized Signature: ________________________________  Date: ________________
CERTIFICATE REGARDING WORKERS' COMPENSATION

Labor Code Section 3700 in relevant part provides:

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

(a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.

(b) Be securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees."

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

___________________________________________
Contractor

By: ________________________________

(In accordance with Article 5 [commencing at Section 1860], Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.)
Peralta Community College District

Statement of Equal Employment Opportunity

I hereby certify that ________________________________________________________

(Legal Name of Vendor/Consultant/Contractor)

Will not discriminate against any employee or applicant for employment because of race, creed, sex, color or national origin and shall insure compliance with all provisions of Executive Order No. 11246 (as amended by Executive Order No. 11375).

The vendor’s questionnaire requests information for record keeping purposes only. The information requested will not be used as a basis for contract award.

However, after a contract is awarded to your company, the District requires your company to report:

a. Actual racial, gender and residential workforce composition of your company for the contract work.
b. Actual racial, gender and residential workforce composition of subcontractors for the contract work.
c. Number of apprenticeship workforce for the contract work.

This report must be submitted to the District Department of General Services on a quarterly basis.

I declare under penalty of perjury under the laws of the state of California that the information I have provided herein is true and correct and is of my own personal knowledge.

BY: __________________________________________

Date

Print Name
PERFORMANCE BOND

Know all men by these presents, that

WHEREAS, Peralta Community College District (hereinafter DISTRICT), at a regular Business Meeting on ______________________, have awarded to ________________________________, hereinafter designated as the Principal, a contract for _____________________________________
____________________________________________________________________________________________
____________________________________________________________________________________________
____________________________________________________________________________________________
_____________________________________________________________________________________
and
____________________________________________________________________________________________
____________________________________________________________________________________________
____________________________________________________________________________________________
_____________________________________________________________________________________
WHEREAS, said Principal is required under the terms of said contract to furnish a bond for the faithful performance of said contract;

NOW, THEREFORE, We, the Principal and ____________________________________, as Surety, are held and firmly bound unto the Peralta Community College District, hereinafter called the DISTRICT, in the penal sum of ______________________________________ DOLLARS ($_____________________) lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of the obligation is such, that if the above bounden Principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said contract and any alteration thereof made as therein provided, on his or their parts to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless DISTRICT, its officers and agents, as therein stipulated, then this obligation shall become null and void. Otherwise it shall be and remain in full force, virtue, and effect.

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

In the event suit is brought upon this bond by the District and judgment is recovered, Surety shall pay all costs incurred by the District in such suit, including reasonable attorney’s fees to be fixed by the court.

Surety further agrees that death of the Contractor shall not relieve the surety of its obligations hereunder.

In witness whereof, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named on the ________ day of ______________________, 20__.
(To be signed by Principal and Surety and acknowledgment and notary seal to be attached.)

Principal
By ________________________________

Title ______________________________

Surety
By ________________________________

Title ______________________________

The above bond is accepted and approved this ______ day of ____________________________, 20__.

By: ________________________________
Authorized District Signature

Required attachment: County Clerk’s Certificate pursuant to CCP section 995.640 or confirming information from Department of Insurance website within seven days before contract submittal.
attachment14-PaymentBond.pdf
The above bond is accepted and approved this day of ____________, 20__.

Required attachment: County Clerk’s Certificate pursuant to CCP section 995.640 or confirming information from Department of Insurance website within seven days before contract submittal.
CONTRACT

THIS CONTRACT is made by and between the Peralta Community College District, hereinafter called the District, and __________________________________________, hereinafter called the Contractor.

The District and the Contractor hereby agree as follows:

1. **Description of Work**

   The Contractor agrees to furnish all labor, materials, equipment, plant, tools, supervision, appurtenances, and services, including transportation and utilities, required to perform and complete
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________

   The Contract Documents consist of the Contract, any Amendment to Contract, Technical Specifications and Drawings, Supplementary General Conditions, General Conditions, Instructions to Bidders, Notice Inviting Bids, Bid Form, all addenda, completed bond and insurance forms, completed Bidder's Questionnaire, and
   ____________________________________________________________________
   ____________________________________________________________________
   ___________________________________________________________

   All Contract Documents are intended to coordinate so that any work called for in one document and not mentioned in another document is to be executed as if mentioned in all documents.

2. **Compensation**

   As full compensation for the Contractor's complete performance of the work in this Contract, the District agrees to pay the Contractor, and the Contractor agrees to accept the sum of ________________ which shall be paid to him according to the General Conditions Article on "Payments".

3. **Prevailing Wages**

   As required by Labor Code Section 1773.2, the District has in its office the general prevailing rate of per diem wages for workers employed on public works as determined by the Director of Industrial Relations. This document shall be available to any interested party on request during regular business hours and shall be posted at the job site by the Contractor.

4. **Time for Completion**

   The starting date of the Contract shall be the day listed by the District in the Notice to Proceed and the Contractor shall fully complete all the work before the expiration of ___________ calendar days from said starting date.

   Time is of the essence in the performance of this Contract.

   Liquidated damages for Contractor's failure to complete the Contract within the time fixed for completion are established in the amount of ___________ per calendar day.

Attachment 15, Page 1 of 2
5. **Contractors' State License Board**

Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P. O. Box 26000, Sacramento, California 95826.

IN WITNESS WHEREOF, the parties to these present have set their hands hereto on the day and year written below.

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<tr>
<th>District</th>
<th>Contractor</th>
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<tr>
<th>Resolution No.</th>
<th>(Contractor License No. and Expiration Date)</th>
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<th>Date</th>
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<th>Individual Signature</th>
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<td>By: Legal Counsel</td>
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<th>For: Corporation or Partnership</th>
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If Corporation, Seal Below.
Bid Protest Procedures

Any Bidder submitting a Bid Proposal to the District may file a protest provided that each and all of the following are complied with:

(i) The bid protest is relevant and in writing;

(ii) The bid protest is filed and received by the District’s Purchasing Manager not more than five (5) calendar days following the date of the bid opening;

(iii) The written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and credible evidence.

Any bid protest not conforming to the foregoing shall be rejected by the District without recourse.

Provided that a bid protest is filed in strict conformity with the foregoing, the District’s Vice Chancellor of General Services or such individual(s) as may be designated by him/her, shall review and evaluate the basis of the bid protest and make a determination.

If the determination is unacceptable to the bid protestor, the Chancellor shall review and evaluate the basis of the bid protest and make a secondary determination.

If the bid protestor chooses to appeal the Chancellor’s determination, the District’s Board of Trustees will render a final determination and disposition of a bid protest by taking action to adopt, modify or reject the disposition of a bid protest. Action by the District’s Board of Trustees relative to a bid protest shall be final and not subject to appeal or reconsideration by the District, any employee or officer of the District or the District’s Board of Trustees.

In the event that any legal or equitable proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as cost, all attorneys’ fees and cost incurred in connection with any such proceeding, including any appeal arising there from.
Peralta Community College District

Construction Debris Reporting Requirements

The District is committed to Environmental Sustainability as a matter of public policy and to the greatest extent possible reducing its ecological footprint. The District encourages all contractors to re-use and recycle as much construction and demolition debris as possible, and only when it is not feasible to do so, dispose of it in a landfill. Per State Law AB75, on an annual basis the District is required to report all re-use, recycle, and garbage disposal tonnage to the State of California.

As a condition for the completion of the construction project, the contractor must report all re-use, recycling, and disposal of construction materials at the completion of the project (or annually by January 31st of the following year if the project’s completion is more than one calendar year). The contractor may use the below form to report to the District all construction debris off-hauled from the District’s construction site, or may submit the below required information on the contractor’s letterhead. This form must be submitted by January 31st to the District at: Peralta Community College District, Department of General Services, 333 East 8th Street, Oakland, CA, 94606, Attention Facilities Project Coordinator.

Construction Debris Reporting for: January 1, 20____ to December 31, 20____.

<table>
<thead>
<tr>
<th>Project Number: ___________________</th>
<th>Project Name: ___________________</th>
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<tr>
<th>Material Type</th>
<th>Re-use (Tons)</th>
<th>Recycle (Tons)</th>
<th>Garbage Disposal (Tons)</th>
<th>Proposed Destination</th>
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</thead>
<tbody>
<tr>
<td>Example: Concrete</td>
<td>45</td>
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<td>ABC Concrete Recycling Company</td>
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**Totals**

I declare under penalty of perjury under the laws of the State of California that the above information is true and correct.

**Signed**

**Date**

**Printed or Typed Name**

**Title**

**Name of Contractor**

**Telephone**

**Fax**
Peralta Community College District

Construction Protocol Procedures

**Director of Physical Plant:**
1. Notify College Business Officer (in writing) at least 2 weeks in advance of any work to be done on campus, including dates, times, locations of work; provide name and cell phone # of project manager.

2. Receive from College Business Officer (in writing) a list of concerns, issues, problems that need to be addressed/taken into account as well as a list of faculty members and departments that will be affected by each project.

3. Collect/withhold an indemnity amount from the contractor for unanticipated cleaning costs, repairs, and replacement of any furniture, equipment, tools, etc. lost, damaged, or destroyed as a result of construction.

4. Direct the Project Manager to personally meet with the College Business Officer and faculty involved/affected with each project and sign-off on plan of operations.

5. Notify the faculty (in writing) that it is not their responsibility to clean, store, remove, replace, any equipment, furniture, tools, etc.

**College Business Officer:**
1. Notify the faculty (in writing) of any construction projects (including dates, times, locations) that will take place in their area.

2. Meet with the faculty to gather their concerns, issues, problems, and convey those (in writing) to the Vice Chancellor of General Services and the Project Manager; also convene a meeting with the Project Manager to convey these concerns in person.

3. Notify (in writing) the appropriate Dean(s) and the VP of Instruction of any needs to find alternate space for storage, equipment, furniture, tools, classrooms.

4. Notify (in writing) Locals 790 and 39 of the impending project and the need to remove, store, replace, protect, and clean as well as whatever is needed in the way of establishing alternate workspaces.

5. Convey all of the above information to the Director of Physical Plant and the Project Manager.

**Project Manager:**
1. Needs to meet on campus, on site, with the affected faculty to be sure all of the college's concerns have been addressed, understood, and agreed to in a written plan of operations; the written plan should be given to the contractor and the Vice Chancellor of General Services.

2. No project should begin without a written plan that has not been signed by the VP of Instruction, Academic Dean, College Business Officer, Faculty/Department Chair(s), Project Manager, Contractor, and Director of Capital Projects.
PART 1 - GENERAL

1.01 SUMMARY

A. The contractor is responsible for daily cleanup and a final cleaning prior to occupancy. This section only addresses the final cleaning required prior to punchlisting and occupancy.

B. Cleaning Program:
   1. The cleaning program shall include all construction areas and surrounding areas affected by the construction including site, exteriors of buildings / structures, roofs and interior of buildings.
   2. The areas to be cleaned shall be turned over to the owner in a "move-in" condition.
   3. All areas shall be free of all construction materials, dust, debris, markings and dirt.
   4. All surfaces shall be washed, cleaned and cleared of markings.
   5. All existing and new fixtures shall be cleaned, sanitized and ready for use.
   6. All new and existing hard surface floors will be stripped and waxed.

1.02 PROJECT CONDITIONS

A. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with PCCD Construction Debris Reporting Requirements.

B. Comply fully with Federal and local environmental and antipollution regulations.
   1. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.
   2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

PART 2 - PRODUCTS

2.01 MATERIALS AND METHODS

A. Use cleaning materials and methods which will not create hazards to health or property or cause damage to products and which are recommended by manufacturers of products to be cleaned.

PART 3 - EXECUTION

3.01 FINAL CLEANING

A. General: Provide final cleaning operations. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.
   1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and foreign substances.
   2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
   3. Remove petrochemical spills, stains, and other foreign deposits.
   4. Remove tools, construction equipment, machinery, and surplus material from the site.
5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
6. All walls not newly painted shall be washed to clean readily removable dirt, markings, dust, and grime.
7. Remove debris and surface dust from limited access spaces, including roofs, attics and similar spaces.
8. All existing floors shall be thoroughly stripped of old wax and have at least four (4) coats of a combination wax/sealer, or two (2) coats of sealer and four (4) coats of wax. Contractor shall submit for prior approval manufactures information on floor finish to be applied. All new floors shall have their factory seal stripped off and shall have a floor finish applied according to the recommendations of the manufacturer.
9. New carpeted areas shall be thoroughly vacuumed, including edges. Any spotting during construction shall be removed. Existing carpeted areas shall be thoroughly shampooed.
10. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces. Clean interior and exterior of all windows.
11. Clean all Toilet Rooms thoroughly and sanitized. All wall surfaces shall be free of grime, dirt, dust, markings and graffiti. All mirrors, fixtures, and partitions will be cleaned free of dirt and markings.
12. Scrub and seal all ceramic and terrazzo floors and walls.
13. Remove labels that are not permanent labels.
14. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
15. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
16. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
17. Replace disposable air filters and clean permanent air filters. Clean all exposed surfaces of diffusers, registers, and grilles.
18. Clean ducts, blowers, and coils if units were operated without filters during construction.
19. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned out bulbs; defective and noisy starters in fluorescent fixtures, and defective dimming switches.
20. Leave the Project clean and ready for occupancy.

C. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period. Repair any damage from removal.

D. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.
1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

End of Section
PERALTA COMMUNITY COLLEGE DISTRICT
Bid No.: 11-012/22
Electrical Connection to Building – L at Merritt College
(Project # 2355A)

POST BID INTERVIEW

DISTRICT PROJECT/CONSTRUCTION MANAGER
Name: Johnnie Fudge
Facilities Project Manager
333 E. 8th Street
Oakland, CA 94606
510-______________

BIDDER:

I. INTRODUCTIONS:
   A. Present ____________________ _______________________
      ____________________ _______________________
      ____________________ _______________________
      ____________________ _______________________

II. PROPOSED CONTRACT:
    ADDENDUM NO.

III. PURPOSE OF INTERVIEW IS TO ASSURE:
    A. Contractor acknowledgment of a complete and accurate bid.
    B. Contractor submission of a fair and equitable bid.
    C. Fair comparisons of bid.

IV. CONTRACTUAL REQUIREMENTS:
    A. Do you understand you are a prime contractor?    Yes ☐ No ☐
    B. Can you meet the specified insurance requirement listed in the
       General Conditions Section for GL, WC, Auto
       and Builders Risk (contract amount)?     Yes ☐ No ☐
    C. Are you a union company?                   Yes ☐ No ☐
    D. Are you a SLBE or SELBE?                   Yes ☐ No ☐
       If so in what county, city, state_____________________________
    E. Are any of your sub tier contractors SLBE or SELBE?   Yes ☐ No ☐
       If so in what county, city, state_____________________________
    F. You are required to obtain a Performance, and a Labor
       and Material Bond for 100% of the Contract price
       1. Will you provide bonds as stipulated?    Yes ☐ No ☐
       2. Cost for bond: _______ %     Yes ☐ No ☐
       3. Is your insurance company California licensed?   Yes ☐ No ☐
    J. Acknowledged Receipt of Addenda Number____________________
    K. Acknowledged Receipt of Pre-Bid Clarification Questions    Yes ☐ No ☐
    L. Additive and deductive costs for alternate items
       included in your proposal?     Yes ☐ No ☐
    M. Unit pricing and Allowances included in your proposal?     Yes ☐ No ☐

Who in your office is in charge of submitting the required Insurance and Bonds
PERALTA COMMUNITY COLLEGE DISTRICT

Bid No.: 11-012/22

Electrical Connection to Building - L at Merritt College
(Project # 2355A)

POST BID INTERVIEW

V. SCOPE OF WORK:

A. You have a complete understanding of your Scope of Work under the proposed Agreement and the Scope of Work (attached) Yes No

B. You are required to have the following personnel:
   1. Safety Coordinator w/sole responsibility to coordinate, report and Enforce safety Yes No
   2. Scheduling personnel or independent scheduler Yes No

C. You have re-reviewed the documents and understand the Scope of the Work. Are there any items that need to be identified or require clarification? Yes No

If yes, please identify item.

1. ______________________________________________________________

2. ______________________________________________________________

3. ______________________________________________________________

4. ______________________________________________________________

Is (are) the cost(s) for items listed above included in your proposal items? Yes No

C. Review bid alternatives (if applicable) Yes No

D. Review unit pricing Yes No

E. Review allowances Yes No

F. Are you offering any unsolicited alternates? Yes No

1. ______________________________________________________________

2. ______________________________________________________________

3. ______________________________________________________________

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

Attachment 20, Page 2 of 4
VI. VALUE ENGINEERING: (describe)  
1. ________________________________________________________________________  
   Add / Deduct
2. ________________________________________________________________________  
   Add / Deduct

REVISED TOTAL $_____________

VII. SCHEDULE:

A. Do you acknowledge and agree to the stipulated completion dates and milestones in the Contract?  
   Yes☐  No☐
   1. Will you provide a detailed construction schedule at the Preconstruction Conference per Section 01320 per the Contract?  
      Yes☐  No☐
   2. It is understood the Project schedule is critical. Can you accelerate any and all schedule activities if the requirement occurs?  
      Yes☐  No☐

      If not, what must change and why? ________________________________


B. Identify critical materials, deliveries and dependencies, including Owner Furnished items that could affect the completion of your work.
   1. ____________________________________________________________
   2. ____________________________________________________________
   3. ____________________________________________________________

C. You have reviewed the Contract and you understand your work must be completed in accordance with the Project Schedule. You further understand Construction Manager MAY assess liquidated damages if you fail to meet the Master Schedule requirements. You further understand delays by you may cause other contractors to be delayed, and that you WILL accelerate your work upon written direction by the Construction Manager.

VIII. CONTRACTOR COMMENTS / SUGGESTIONS:

1. ____________________________________________________________
2. ____________________________________________________________
3. ____________________________________________________________
IX. CONTRACTOR

NOTE: You agree the information contained herein is part of your contractual obligations. Your signature acknowledges your agreement to perform all work discussed herein, and that costs for all work are included in your proposal.

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

Company Name ______________________________________________________________

Signature: __________________________ Title: _____________

Date: ______________________________________

X. DISTRICT PROJECT/CONSTRUCTION MANAGER

Signature: __________________________ Title: _____________

Date: ______________________________________

END OF SECTION
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ARTICLE 1 - GENERAL PROVISIONS

1.01 THE CONTRACT DOCUMENTS

A. The Contract Documents consist of the Bid Documents (as defined in the Instructions to Bidders), Agreement, and Conditions of the Contract, Drawings, Specifications, Addenda, other documents listed in the Agreement, and Modifications issued after execution of the Contract. The Conditions of the Contract include these General Conditions and related documents.

B. Where provisions of the General Conditions relate to Project administration of work-related requirements of the Contract, some of those paragraphs are expanded in Division 1 - General Requirements of the Specifications.

C. Bidding Documents, Conditions of the Contract, and Division 1 - General Requirements contain information necessary for completion of every part of the Project and are applicable to each Section of the Specifications.

1. Where items of Work are done under subcontracts, each item shall be subject to these conditions.

1.02 THE CONTRACT

A. The Contract Documents form the Contract for Construction. 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 executed by the parties hereto.

B. The Contractor's signing of the Contract signifies its acceptance of the time limits as being sufficient for completion of the Work, as well as acceptance of the other terms and conditions of the Contract Documents.

1.03 BASIC DEFINITIONS OF TERMS USED IN THE CONTRACT DOCUMENTS

A. Basic Definitions of Terms Used in the Contract Documents:

1. Addenda: Written or graphic instruments issued prior to the opening of Bids which make changes, additions or deletions to the Bid Documents or the Contract Documents.

2. Accepted, Approved: Accepted or approved, or satisfactory for the Work, as determined in writing by the District, unless otherwise specified. Where used in conjunction with the District's response to submittals, requests, applications, inquiries, and reports by the Contractor, the term "approved" shall be held to limitations of the District's responsibilities and duties as specified in the Conditions of the Contract. In no case shall the District's approval be interpreted as a release of the Contractor from its responsibilities to fulfill the requirements of the Contract Documents.

3. Approved Equal, Accepted Equal: Approved in writing by the District as being of equivalent quality, utility and appearance. Equivalent means equality in the opinion of the authorized District representative. The burden of proof of equality is the responsibility of the Contractor.

4. Agreement: The Agreement or Contract between the District and the Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made part thereof as provided herein.
5. Architect: The person holding a valid state Architect's license, Whose firm has been designated within the Contract Documents as the Architect of Record to provide architectural services on this Project.

6. As Required: In accordance with the requirements of the Contract Documents.

7. By Others: Work on this Project that is outside the scope of Work to be performed by the Contractor under this Contract, but that will be performed by the District or other contractors, or other means or at other expense.

8. PCCD: Peralta Community College District, Owner, District.

9. Change Order: A written instrument prepared by the District and signed by the District and the Contractor, stating their agreement upon all of the following (1) a change in the Work; (2) the amount of the adjustment in the Contract Sum, if any; and (3) the extent of the adjustment in the Contract Time, if any, issued after the effective date of the Agreement.

10. Clarification: A document consisting of supplementary details, instructions or information issued by the District which clarifies or supplements the Contract Documents and becomes a part of the Contract Documents. Clarifications do not constitute a change in Contract Sum or an extension of Time except as otherwise approved by the District. Clarifications will be issued through the Request for Information (RFI) administrative system.

11. Concealed: Work not exposed to view in the finished Work, including within or behind various construction elements.

12. Construction Manager: An independent consultant hired by the District to monitor, manage the construction work on behalf of the District.

13. Contract: The legally binding agreement between the Owner and the Contractor, wherein the Contractor agrees to furnish the labor, materials, equipment, plant and appurtenances required to perform the work described in the Contract Documents, and the Owner agrees to pay the Contractor for such work.


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

16. Contractor: The person or entity holding a valid Contractor's License in the state of California with whom the District has executed the Agreement and is identified as such therein and referred to throughout the Contract Documents as if singular in number and neuter in gender. The term "Contractor" means the Contractor or its authorized representative.

17. Day: Calendar day, of 24 hours, measured from midnight to the next midnight, unless otherwise specifically stipulated.

18. Defective Work: Work that is unsatisfactory, faulty, or deficient, that does not conform to the Contract Documents or the general standards of workmanship of the particular industry or trade; that fails to perform to the reasonable expectation of the ultimate user, or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or work that has been damaged prior to the filing of the Notice of Completion by the District.
19. Delivery: In reference to any item specified or indicated shall mean to unload and store with proper protection at the Project site.

20. Designated, Determined, Directed: Required by the District, unless otherwise specified.

21. District: The Peralta Community College District, its Board of Trustees, and its Chancellor.

22. District-Furnished, Contractor-Installed: Items furnished and paid for by the District for installation by the Contractor pursuant to the Contract Documents.

23. Drawings: The graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

24. Effective Date of the Agreement: The date indicated in the agreement on which it was executed, but if no such date is indicated it shall mean the date on which the agreement is signed and delivered by the last of the two parties to sign and deliver.

25. Exposed: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.

26. Furnish or Supply: Purchase and deliver to the Project site, including proper storage only; no installation is included. The term “furnish” also means to supply and deliver to the Project site.

27. Indicated or As Shown: Shown or noted on the Drawings or written in the Specifications, whichever is more restrictive.

28. Inspector of Record: The person responsible for inspection of the work during fabrication and construction. Acts under the direction of the Architect but is responsible to the District and the Division of the State Architect, Structural Safety Section.

29. Install: Apply, connect or erect items that have been furnished; furnishing or supplying is not included. The term “install” also describes operations at the Project site, including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

30. Installer: The “installer” is the person engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular element of construction at the Project site, including installation, erection, application and similar required operations. It is a requirement that installers are experienced and licensed in the operations they are engaged to perform.

31. Modification: (a) A written amendment to the Contract signed by both parties, or (b) a written Change Order, or (c) a written order for a change in the Work (Unilateral Change Order and Force Account Change Order) issued by the District after the effective date of the Contract.

32. Notice to Proceed: The written notice issued by the District to the Contractor authorizing the Contractor to proceed with the Work and establishing the date of commencement of the Contract Time.

33. Notice of Completion: The legal document filed by the District, with the Division of the State Architect, after the Project has been fully completed as required by the contract documents.
34. Division of the State Architect (DSA): The enforcement arm of the Division of the State Architect, having jurisdiction over school building construction projects in lieu of the local building department.

35. Owner: The Peralta Community College District ("PCCD" also referred to herein as "District") identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number. The term "Owner" means the District, its governing board, employees, and its authorized agents or representatives. Also referred to as "District."

36. Partial Occupancy: The stage in the progress of the Work when the District finds the Work or designated portion thereof sufficiently complete in accordance with the Contract Documents to occupy and utilize the Work for its intended use.

37. Progress Report: A periodic (monthly, weekly, etc.) report submitted by Contractor to Owner with progress payment invoices comparing actual work accomplished to the Project Schedule. See Section 9.03 F of the GENERAL CONDITIONS titled PROGRESS PAYMENT. All reports to be verified as per Sections 4-335, 4-336, 4-337 and 4-343 of PART 1 of Title 24 of the California Code of Regulations.

38. Project: The Peralta Community College District Project and adjacent areas as indicated elsewhere in the Contract Documents.

39. Project Completion: Project Completion shall be the date of such acceptance of the Work by the District, as provided under California Civil Code Section 3086, when the Contract has been performed, including all remedial (punch-list) items, and when all contractual requirements are fulfilled.

40. Provide: Furnish and install or supply and install complete in place at the site.

41. Punch List: A list of corrections, replacements, installations, or touch-ups prepared by the Architect with the assistance of the Inspector of Record and issued to the Contractor with the Notice of Substantial Completion.

42. Regular Working Hours: 7:00 a.m. to 5:30 p.m., Monday through Friday, except District legal holidays and as allowed in Division 1.

43. Request for Change (RFC): See paragraph 2.06A and 2.07.

44. Request for Information (RFI): A document prepared by the Contractor or District requesting information from one of the parties regarding the Project or Contract Documents. The RFI system is also a means for the District to submit Contract Document clarifications or supplements to the Contractor.

45. School Building: Any building used for community college purposes and built according to the California State Building Code containing the regulations of the Division of the State Architect, Division of the State Architect/Structural Safety Section covering the construction of public schools.

46. Site or Project Site: Geographical location of the Project as shown elsewhere in the Contract Documents.

47. Specifications: The written portion of the Contract Documents, which includes requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

49. **Subcontractor**: A person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term “Subcontractor” is referred to throughout the Contract Documents as if singular in number and neuter in gender and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

50. **Substantial Completion**: The Work has progressed to the point where, as evidenced by the Certificate of Substantial Completion issued by the District, it is sufficiently complete in accordance with the Contract Documents as deemed by the District so that the entire Project could be occupied for the intended purpose and the Work utilized for its intended purpose.

51. **Work, The Work**: The excavation, construction and services required by the Contract Documents and provided to the Project site.

1.04 **EXECUTION, CORRELATION AND INTENT**

A. The intent of the Contract Documents is to include all labor and materials necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

B. Arrangement and titles of Drawings, and organization of the Specifications into divisions, sections and articles in the Contract Documents shall not be construed as segregation of the various units of material and labor, and shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. The Contractor may arrange and delegate its Work in conformance with trade practices and shall be responsible therefore. The District assumes no liability arising out of jurisdictional issues raised or claims advanced by trade organizations or other interested parties based on the arrangement or manner of subdivision of the content of the Drawings and Specifications. The District assumes no responsibility to act as arbiter to establish subcontract limits between any portions of the Work, but the District shall be promptly advised of obstacles encountered which might in any way affect the timely prosecution of the Work.

C. In interpreting the Contract Documents, words describing materials or Work with a well-known technical or trade meaning, unless otherwise specifically defined in the Contract Documents, shall be construed in accordance with such well-known meaning.

D. 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, the Contractor shall adapt such representative detail for application to such corresponding parts of the Work. The details of such adaptation shall be subject to prior approval by the District. Repetitive features shown in outline on the Drawings shall be in exact accordance with corresponding features completely shown.

E. If a conflict exists in the Contract Documents regarding the quality of a product, the highest quality product shall be provided as determined by the District.

F. The layout of mechanical and electrical systems, equipment, fixtures, piping, ductwork, conduit, specialty items, and accessories on the Drawings is shown in diagrams and symbols to illustrate the relationships existing between the parts of the Work, and all variations in alignment, elevation, and detail required to avoid interference and satisfy architectural and
structural limitations are not necessarily shown. If rerouting, i.e. relocating a duct, pipe, conduit or similar utilities from the indicated room or space to another room or space to avoid structural interference, causes an increase in linear footage which exceeds 25% of the indicated rout if the structural interference did not exist, then the Contractor will be compensated for the amount in excess of 25% under the provisions for Change Orders of Article 7. Actual layout of the Work shall be carried out without affecting the architectural and structural integrity and limitations of the Work and shall be performed in such sequence and manner as to avoid conflicts; provide clear access to all control points, including valves, strainers, control devices, and specialty items of every nature related to such systems and equipment, said clear access defined as arms reach without required use of special equipment or the dismantling of building systems or equipment; obtain maximum headroom; and provide adequate clearances as required for operation and maintenance unless specifically detailed otherwise.

G. The Drawings shall not be scaled for dimensions when figured dimensions are given, dimensions could be calculated, or field measured. When a true dimension cannot be determined from the Drawings or field measurement, the Contractor shall request same from the District, giving reasonable advance notice, but not less than 30 calendar days, so as not to delay or disrupt the Work.

H. 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.

I. When there is a conflict between existing on-site conditions and the Drawings, the existing condition shall govern. The Contractor shall provide the Work and adjust to the existing condition at no additional cost to the District.

1.05 CONDITIONS AS TO SPECIFICATIONS AND DRAWINGS

A. Interpretation of Drawings and Specifications: The Contractor shall check Drawings furnished by District and shall promptly notify the District in writing of any discrepancies. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Drawings or Specifications, the matter shall be referred to the District, who shall decide the true meaning and intent of the Drawings or Specifications, and the District's decision shall be binding on the Contractor at no additional cost to the District. Suitable instructions will be given when any such discrepancy or misunderstanding is discovered.

B. Interpretation of Phrases: Wherever the words "as directed," "as permitted," or words to the like effect are used, it shall be understood that the direction, requirement, or permission of the District, or governmental regulatory agency having jurisdiction is intended. The words "sufficient," "necessary," "proper," and the like shall mean sufficient, necessary, or proper in the judgment of the authorized District representative. Wherever the words "inspect," "approved," "acceptable," "satisfactory," or words of like import are used to describe a requirement, direction, review, or judgment of the District as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to observe and evaluate, in general, the completed work for compliance with the requirements of the Contract Documents, unless otherwise specifically stated and does not waive or alter the Contractor's responsibility for completion of the Work in compliance with the Project Documents.

C. Reasonably Implied Parts of Work Shall Be Done Though Absent From the Drawings or Specifications: Any part of the Work which is not mentioned in the Specifications but is shown on the Drawings, or any part not shown on the Drawings but described in the Specifications, but is necessary or normally required as a part of such Work, or is necessary or required to make each installation satisfactorily or legally operable, shall be performed by the
Contractor as incidental Work without extra cost to the District, as if fully described in the Contract Documents, and the expense thereof shall be included in the price bid.

1.06 AMENDING CONTRACT DOCUMENTS

A. The Contract Documents may be amended after execution of the Agreement to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

1. A Change Order, or
2. A Unilateral Change Order, or
3. Force Account Change Order.

B. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

1. District's written interpretation or clarification.
2. Architect’s supplemental instructions or notes added to shop drawings or samples.

1.07 PRECEDENCE OF DOCUMENTS

A. The Contract Documents are complementary and shall have no order or precedence. Anything mentioned in Specifications and not shown on Drawings, or shown on Drawings and not mentioned in Specifications, shall be of like effect as if shown or mentioned in both. In case of difference between Drawings and Specifications, if true intent is not obvious, the Contractor shall submit a Request for Information and a determination will be made by the District, as provided in Paragraph 1.05A hereinabove. Omissions from Drawings or Specifications or mis-description of details of work which are manifestly necessary to carry out the intent of Drawings and Specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or mis-described details of work; they shall be fully performed as if fully and correctly set forth and described in the Drawings and Specifications.

1.08 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

A. The Contract Documents were prepared for use for the Work of this Contract only and are owned by the District. No part of the Contract Documents shall be used for any other construction or for any other purpose except with the written consent of the District. Any unauthorized use of the Contract Documents is at the sole liability of the user.

1.09 CONFERENCES AND MEETINGS:

A. See INVITATION FOR BIDS on whether a Pre-bid Conference will be held or not. The site may be inspected at the times noted in the INVITATION FOR BIDS. Where an appointment is shown as required, Bidders shall follow the procedure stated. Questions regarding the extent, nature, and details of the work shall be directed to Facilities Planning & Construction, PCCD.

B. Upon notification to the Contractor that he/she is the lowest responsible bidder, an itemized summary, known as the Schedule of Values, must be submitted during the Pre-construction Conference. The Schedule of Values must reflect the Original Bid.
C. The Contractor and/or his representative shall attend a conference at the Project Site at the beginning of construction for the purpose of determining Contractor's access to, and use of the site, verifying utilities, and such other items as may be pertinent to the start of construction.

D. Progress meetings will be held at the frequency, (typically weekly) day and time as determined by the Owner's representative for this project. The Contractor and each Subcontractor will attend these meetings to discuss current issues and coordination. Architect, consultants, and Inspectors may also be required to attend as needed. The purpose of these meetings is to provide a formal and regular forum for the project team to coordinate and present questions, problems and issues that need to be addressed. It will also provide an opportunity to review the progress on previous issues and action items along with submittal and schedule review.

E Special meetings may be requested by the Owner and may include any members of the project team.

F. Contractor shall give a minimum of 48 hours prior notice to Owner, through Architect on Construction Project before expected work completion. Meeting and walk-through to be scheduled at site, wherein an inspection of work shall be made by all parties concerned on construction, to determine completeness and conformity of the work to the Contract. Deficiencies observed and noted shall be given to the Contractor in writing and as per SECTION 9.07 A of the GENERAL CONDITIONS titled PROJECT COMPLETION AND FINAL PAYMENT, all deficiencies shall be corrected to the satisfaction of the Owner.

ARTICLE 2 - DISTRICT'S RESPONSIBILITIES

2.01 INFORMATION AND SERVICES REQUIRED OF THE DISTRICT

A. The District shall furnish surveys and reports describing physical characteristics, legal limitations for the site of the Project, and a legal description of the site.

B. The District shall provide for approval by the California Division of the State Architect and shall pay all permanent utility service connection fees. All other permits, easements, approvals, and other charges required for construction shall be secured and paid for by the Contractor.

1. The District will furnish to the Contractor an approved set of plans and specifications.

2. The District's responsibility in respect of certain inspections, tests, and approvals is set forth in Paragraph 13.05.

C. The foregoing are in addition to other duties and responsibilities of the District enumerated herein in these General Conditions.

D. The Contractor will be furnished up to four (4) sets of Drawings and Specifications and one (1) reproducible set of Drawings and Specifications at no cost. The Contractor shall pay the reproduction costs of any additional sets required. Subsequent modifications, Change Orders, and Proposed Change Orders will be issued in the same manner.

2.02 DISTRICT'S RIGHT TO STOP THE WORK

A. The District may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated. Any District Stop Work Order shall be in writing, signed by an authorized District representative specifically so empowered by the District in writing.
B. However, the right of the District to stop the Work shall not give rise to a duty on the part of the District to exercise this right for the benefit of the Contractor or any other person or entity.

C. Reasons for Stop Work Order include, but are not limited to, the following:

1. If the Contractor fails to correct Work, which is not in accordance with the requirements of the Contract Documents.

2. If the Contractor fails to carry out Work in accordance with the Contract Documents.

3. If the Contractor disregards the authority of the authorized District representative.

4. If the Contractor disregards the Laws and Regulations of any public body having jurisdiction.

5. If the Contractor violates in any substantial way any provisions of the Contract Documents.

6. Failure to maintain current certificates of insurance on file with the District.

7. When original contract work is proceeding but will be modified by pending Contract Modification.

2.03 DISTRICT’S RIGHT TO CARRY OUT THE WORK

A. If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the District to commence and continue correction of such default or neglect with diligence and promptness, the District may after such seven-day period give the Contractor a second written notice to correct such deficiencies within a second seven-day period. If the Contractor within such second seven-day period after receipt of such second notice fails to commence and continue to correct any deficiencies, the District may, without prejudice to other remedies the District may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the District representative's additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the District.

2.04 NO WAIVER OF RIGHT

A. Neither the inspection by the District or its authorized agents or representatives, nor any order or certificate for the payment of money, nor any payment for, nor Acceptance of the whole or any part of the Work by the District, nor any extension of time, nor any position taken by the District or its authorized agents or representatives shall operate as a waiver of any provision of this Contract, or of any power herein reserved by the District or any right to damage herein provided, nor shall any waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach.

B. All remedies provided in this Contract shall be taken and construed as cumulative; that is, in addition to each and every other remedy herein provided; and the District shall have any and all equitable and legal remedies, which it would in any case have.

2.05 DISTRICT’S ADMINISTRATION OF THE CONTRACT
A. The District has designated the District Representative as its representative during construction. The designated authorized representatives of the General Services Office will have limited authority to act on behalf of the District. The District may at any time during the performance of this Contract, make changes in the authority of any representative or may designate additional representatives. These changes will be communicated to the Contractor in writing. The Contractor assumes all risks and consequences of performing the Contract in accordance with any order, including but not limited to instruction, direction, interpretation or determination, of anyone not authorized to issue such order.

B. The District will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. The District will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The District will not have control over or charge of and will not be responsible for the acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

C. The District will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data, Samples and other submittals, but only for the limited purpose of checking for general conformance with information given and the design concept expressed in the Contract Documents. The District's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Contractor or separate contractors, while allowing sufficient time in the District Consultant's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The District's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The District's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

D. Administration of construction per Title 24 shall include the following delineation of responsibilities: Duties of architect, structural engineer, or professional engineer per Section 4-341; Duties of contractor per Section 4-343; and Verified reports per Sections 4-336 and 4-343.

2.06 CLARIFICATION AND REQUEST FOR CHANGE (RFC) NOTIFICATION

A. If in the opinion of the Contractor, the Contract Documents are not sufficiently detailed or explained therein, or should any questions arise as to the meaning or intent of the Contract Documents, or should District's comments on submittals returned to the Contractor appear to change the requirements of the Contract, the Contractor shall request written clarification by submitting a Request for Information (i.e. RFI) within seven (7) calendar days of discovery. Should any clarification (e.g., response to the Contractor's RFI), in the opinion of the Contractor, exceed the requirements of the Contract Documents, a written notice in a form approved by the District (i.e. Request for Change) shall be given to the District, within seven (7) calendar days of receipt of the District's clarification, and before proceeding with the Work thereof. Non-receipt of such notice, or proceeding with Work pertaining to said notice shall be construed as relieving the District of any Request for Change or Claim for added cost or an extension of time arising there from.

2.07 RESOLUTION OF RFCs & CLAIMS

A. Request for Change
1. A Request for Change (RFC) is a document prepared by the Contractor to seek additional compensation and time from the District.

2. The Contractor and the District shall make good-faith attempts to resolve any and all RFCs that may arise during the performance of the Work of this Contract. Within seven (7) calendars of the written RFC to the District, the Contractor shall provide a written RFC narrative explaining its reasons for requesting additional compensation or time. The written RFC narrative shall reference all related schedule activities and contract specification sections and drawings directly pertaining to the RFC.

3. The District will review the Contractor's timely written RFC narrative, and provide a decision within thirty (30) calendar days after receipt of the Contractor's RFC written narrative. Unless otherwise directed by the District in writing, the Contractor shall diligently proceed with the Work in accordance with the District's decision.

B. Claim:

1. "Claim" means a written demand or written ascertain by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of Contract terms, or other relief arising under or relating to this Contract. A voucher, invoice, other routine request for payment, or an RFC submitted by the Contractor shall not be considered a claim under the Contract until it complies with the notification and documentation requirements of this Article. The Contractor hereby waives any evidentiary privilege, if any is applicable, that may attach to said claim and otherwise render it inadmissible as evidence in a court of law.

2. If, after receiving the District's decision in response to the Contractor's written RFC narrative, the Contractor still considers the Work required of it to be outside the requirements of the Contract Documents, it shall notify the District by submitting a written notice of potential claim within seven (7) calendar days after receiving the District's decision.

3. Within thirty days of receiving the District's decision in response to the Contractor's written RFC narrative, the Contractor shall submit a claim with all the documentation required by Article 2.07C and 2.07D. The Contractor hereby agrees that failure to provide written notice of potential claim to the District within seven (7) calendar days, and all required documentation within thirty (30) calendar days, will result in the Contractor waiving its right to additional compensation and time pertaining to said claim.

4. Upon receipt of the Contractor's claim and all documentation required by Article 2.07C and 2.07D, the District will review said claim and render a final decision in writing.

C. Certification:

1. The Contractor, under penalty of perjury, shall submit with the claim its and Subcontractors' certification that:

   a. The claim is made in good faith.

   b. Supporting data are accurate and complete to the best of the Contractor's and/or Subcontractor's knowledge and belief.

   c. The amount requested accurately reflects the Contract adjustment for which the Contractor believes the District is liable.

   d. That any privilege, if any is applicable, that would prevent the claim or its contents from being admitted as evidence in any judicial or quasi-judicial forum,
is waived by the contractor and any party involved in the presentation of the claim.

2. If the Contractor is an individual, the certification shall be executed by that individual.

3. 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.

4. If a false claim is submitted, it will be considered fraud and the Contractor will be subject to damages and criminal prosecution.

5. In regard to any claim or portion of a claim for Subcontractor work, the Contractor shall fully review said claim and certify said claim, under penalty of perjury, to have been made in good faith.

6. The Contractor hereby agrees that failure to furnish certification as required hereinbefore will result in the Contractor waiving its right to the subject claim.

D. Claim Format:

1. The Contractor shall submit the claim documentation in the following format:

   a. Summary of claim merit and quantum plus clause under which the claim is made.

   b. List of documents relating to claim:

      1) Specifications.
      2) Drawings.
      3) Clarifications/Requests for Information/Requests for Change.
      4) Schedules.
      5) Other.

   c. Chronology of events and correspondence.

   d. Analysis of claim merit.

   e. Analysis of claim cost.

   f. Cover letter and certification.

   g. Attachments:

      1) Specifications.
      2) Drawings.
      3) Clarifications/Requests for Information/Requests for Change.
      4) Correspondence.
      5) Schedules.
ARTICLE 3 - CONTRACTOR’S RESPONSIBILITIES

3.01 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS

A. The Contract Documents are diagrammatic and do not show every detail but show the purpose and intent only, and the Contractor shall comply with their true intent and meaning, taken as a whole, and shall not avail itself of any manifest error, omission, discrepancy or ambiguity which appear in the Contract Documents, instructions or work performed by others.

B. The Contractor shall verify all dimensions and determine all existing conditions that may affect its Work adequately in advance of the Work to allow for resolution of questions without delaying said Work, and shall be responsible for the accuracy of such dimensions and determinations.

C. Using a uniformly standard RFI form, the Contractor shall notify the District in writing immediately upon discovery of errors, omissions, discrepancies or ambiguities, and a clarification will be issued as to the procedure to be followed.

D. If the Contractor proceeds with any such Work without receiving such clarification, it shall be responsible for any and all resulting damage, including but not limited to that occasioned by delay, and defects.

E. The Contractor during the progress of the Work, shall review the appropriate portions of the Contract Documents a minimum of thirty (30) days, or as required to maintain progress of the Work, prior to commencement of the related Work for the expressed purposes of checking for any manifest errors, omissions, discrepancies or ambiguities. The Contractor shall not be entitled to any compensation for delays, disruptions, inefficiencies or additional administrative effort caused by the Contractor's untimely review of the Contract Documents.

F. The Contractor shall be responsible for its costs and the costs of its subcontractors to implement and administer a Request for Information (RFI) system throughout the Contract duration. Such costs shall include the distribution of RFIs to its subcontractors, subcontractor reviewing and posting of RFIs, and coordinating the clarification responses by its subcontractors. The Contractor shall be responsible for both the District and District's administrative costs for answering its RFIs where the answer could reasonably be found by reviewing the Contract Documents.

3.02 SUPERVISION AND CONSTRUCTION PROCEDURES

A. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

B. The Contractor shall supervise and coordinate the Work of its subcontractors so that information required by one will be furnished by others involved in time for incorporation into the Work in the proper sequence and without delay of materials, devices, or provisions for future Work.

C. Whenever the Work of a subcontractor is dependent upon the Work of other subcontractors or contractors, then the Contractor shall require the subcontractor to:

1. Coordinate its Work with the dependent work.
2. Provide necessary dependent data and requirements.
3. Supply and/or install items to be built into dependent work of others.
4. Make provisions for dependent work of others.
5. Examine dependent drawings and specifications and submittals.
6. Examine previously placed dependent work.
7. Check and verify dependent dimensions of previously placed Work.
8. Notify Contractor of previously placed dependent work or dependent dimensions which are unsatisfactory or will prevent a satisfactory installation of its Work,
9. Not proceed with its Work until the unsatisfactory dependent conditions have been corrected.

D. The Contractor shall immediately comply with any and all orders and instructions given in accordance with the terms of this Contract by the District, but nothing herein contained shall be taken to relieve the Contractor of any of its obligations or liabilities under this Contract, or of performing its required detailed direction and supervision.

E. The Contractor shall at all times from the issuance of the Notice to Proceed until Project Completion of the herein specified Work and during the various guarantee periods, permit the District, its agents and authorized representatives to visit and inspect the Work, the materials and the manufacture and preparation of such materials and subject them to inspection and rejection if the Work does not conform to the requirements of the Contract Documents. This obligation shall include maintaining proper facilities and safe access for such inspection. Where the Contract requires Work to be tested and/or inspected, it shall not be covered up until inspection and approval by the District, and the Contractor shall be solely responsible for notifying the District at least two (2) working days prior to performing such Work, so that necessary arrangements for inspection and testing can be made. Should any such Work be covered without such test and approval, it shall be uncovered and recovered at the Contractor's expense, regardless of whether or not the Work is in conformance.

F. With the exception of emergency or safety measures, no work shall be performed on Saturday, Sunday or legal holiday. Should any work become necessary during that time period, the Contractor shall give notice to the District of such desire and request and obtain its written permission at least two (2) working days prior to performing such Work, or such other period as may be specified, so that the District may make the necessary arrangement for testing and inspection.

G. If either concealed conditions or unknown physical conditions of unusual nature (different materially from those ordinarily encountered and generally recognized as inherent in the Work) are encountered below the surface of the ground or concealed in existing construction and which affect the performance of the Work of this Contract, the Contractor shall immediately notify the District of such conditions. The Contractor shall also inform the District as to how such conditions affect its Work and shall also recommend methods to overcome such conditions. The Contractor shall then wait for instructions in writing from the District prior to proceeding with the affected Work.

H. If the Contractor is notified that a clarification is forthcoming from the District, any Work performed before the receipt of same shall be coordinated with the District to minimize the effect of the clarification on Work in progress. Any Work performed after notification but before receipt of clarification and not so coordinated shall be at the Contractor's risk.
I. Material, Work or workmanship which, in the opinion of the District, or its authorized representatives does not conform to the Contract Documents, or is not equal to the samples submitted to and approved by the District, or is in any way unsatisfactory or unsuited to the purpose for which it is intended, will be rejected. The Contractor shall bear the cost of correcting non-conforming Work. The Contractor shall make a close inspection of all materials as delivered, and shall promptly return all defective materials without waiting for their rejection by the District.

J. The Contractor shall remove all rejected material and Work, and all defective and non-conforming Work, from the site without delay. If the Contractor fails to remove such Work within forty-eight (48) hours after having been so directed by the District, the District may perform the removal and the cost of such removal shall be deducted from progress payments.

K. All defective and non-conforming Work discovered shall be corrected immediately by the Contractor, and any unsatisfactory materials shall be rejected, notwithstanding that they may have been overlooked by authorized inspection. Inspection of the Work shall not relieve the Contractor of any of its obligations to perform satisfactory Work as herein prescribed.

L. Failure or neglect on the part of the District or any of its authorized agents and/or representatives to condemn or reject defective and non-conforming Work or materials shall not be construed to imply acceptance of such Work or materials or waiver of any claim or right if it becomes evident at any time prior to Project Completion; neither shall it be construed as barring the District at any subsequent time from the recovery of damages or of such a sum of money as may be needed to build anew all portions of the Work in which fraud was practiced or improper materials or workmanship used whenever found.

M. The Contractor shall carry on the Work and adhere to the construction schedule required to be submitted under the requirements of the Contract Documents during all disputes or disagreements with the District. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the District and the Contractor may otherwise agree in writing.

N. The Contractor shall make and submit to the Division of the State Architect such verified reports as required by California Code of Regulations, Title 21, Section 36, and Title 24 Sections 4-336 and 4-343.

3.03 LABOR AND MATERIALS

A. The Contractor shall employ only competent and skillful persons to perform the Work, and whenever the District shall notify the Contractor that any employee on the Work is, in the District's judgment, incompetent, unfaithful, disorderly or refuses to carry out the provisions of the Contract, such employee shall be removed from the Work.

B. In order that the District can determine whether the Contractor has complied or is complying with the requirements of the Contract, which are not readily enforceable by inspection, and test of the Work and materials, the Contractor shall upon request submit properly authenticated documents or other satisfactory proof of its compliance with such requirements.

C. Except in the event of emergency, no substantial field operations shall be performed outside regular working hours without prior notification to, and permission by, the District. Should the Contractor perform Work outside regular working hours, the District shall be compensated for all expenses in excess of those that would have been incurred had the work been performed during regular working hours. The Contractor will not be entitled to additional compensation for Work performed outside regular working hours except as otherwise expressly authorized in writing by the District prior to the performance of such overtime Work. Any additional
compensation for such authorized overtime shall be limited to the direct cost of the premium portion of such authorized overtime.

D. Before ordering materials, equipment, or performing Work, the Contractor shall verify indicated dimensions. If a discrepancy exists, the Contractor shall notify the District of same immediately. The District will then clarify the intended design. The Contractor shall take field measurements required for the proper fabrication and installation of the Work in a timely fashion in accordance with Article 3 herein. Upon commencement of any item of Work, the Contractor shall be responsible for dimensions related to such item of Work.

E. All materials and equipment shall be delivered, handled, stored, installed, and protected to prevent damage in accordance with best current practice in the industry, in accordance with manufacturers' specifications and recommendations, and in accordance with Contract Document requirements. The Contractor shall store packaged materials and equipment in their original and sealed containers, marked with the brand and manufacturer's name, until ready for use. The Contractor shall deliver materials and equipment in ample time to facilitate inspection and tests prior to installation. Damaged materials or equipment will be rejected.

F. Unless otherwise specified in the Contract Documents, the Contractor shall provide and assume full responsibility for all materials, equipment, labor, transportation, construction equipment, and machinery, tools, appliances, fuel, power, light, heat, telephone, water sanitary facilities and incidentals necessary for the provision, performance, testing, start-up, and completion of the Work.

3.04 WARRANTY

A. The Contractor warrants to the District that materials and equipment provided under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects and of the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents.

B. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by District's abuse, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage.

C. If required by the District, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

3.05 TAXES

A. The Contractor shall pay sales, consumer, use and other taxes, which are applicable during the performance of the Work or portions thereof provided by the Contractor. Payment shall apply to all such taxes, whether or not in effect when Bids were received.

B. Federal excise tax is not applicable to the Work, products and services supplied under the Contract.

1. The Contractor will be issued an exemption certificate on request.

3.06 PERMITS, FEES AND NOTICES

A. The Contractor shall pay all utility charges for temporary connections to the Work.

B. Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all permits (other than approval by the Division of the State Architect), governmental fees (other than permanent utility service connection fees), licenses, and inspections (other than
required and special inspections which are to be performed at the expense of the District to comply with prevailing laws and regulations) necessary for proper execution and completion of the Work.

1. The Contractor shall coordinate and obtain the permits.

2. The Contractor shall pay all temporary sewer connection fees under the provisions for Allowances in the General Requirements.

C. The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Work.

D. If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, and rules and regulations, it shall promptly notify the District in writing, and necessary changes shall be accomplished by appropriate Modification.

E. If the Contractor performs Work knowing, or should have know, it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the District and District, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs of correction.

F. The Contractor shall keep the Building Permit, with an approved set of plans and specifications at the job site readily available for inspection during regular hours for the duration of the Contract.

G. The Contractor shall arrange for all required inspections and special inspections with the appropriate District agency and notify the District, so that a District representative will be present at these inspections.

H. The Contractor shall be responsible for submitting all shop drawings, product data, and manufacturer's certificates to the appropriate District agency for approval as may be required under the conditions of applicable permits (e.g., Division of the State Architect).

3.07 SUPERINTENDENTS

A. The Contractor shall at all times be represented at the site by a full time and English speaking project manager or the superintendent whom it has authorized in writing to make decisions, receive and carry out any instructions that may be given to it or them by the District, and the Contractor will be held liable for the faithful observance of such instructions. Prior to the issuance of Notice to Proceed, the Contractor shall inform the District, in writing, of the names, addresses and telephone numbers of its key personnel whom it has authorized to act as its representatives at the site and who are to be contacted in case of emergencies on the job during non-working hours, including Saturdays, Sundays and Holidays.

B. The District reserves the right to approve the Contractor's project manager, assistant project manager, general construction superintendents, project coordinator, project engineers, project schedulers, and foremen, and the right to reject them at any time at the District's sole discretion. The District also reserves the right to refuse replacement of the Contractor's superintendents and foremen if it believes such replacement will negatively affect the Contract.

3.08 CONSTRUCTION AND SUBMITTAL SCHEDULES

A. Basic Progress Schedule:
1. Unless a Computerized CPM Progress Schedule as described in Paragraph B below is required by the Instructions to Bidders, Contractor shall submit a Basic Progress Schedule within seven (7) days after Notice to Proceed and before starting any work.

2. The Basic Progress Schedule shall be in the form of a time scaled bar chart (Gantt Chart) consistent in all respects with the time and order of Work required by the Contract, in sufficient detail to show the chronological relationship of all activities of the Project including but not limited to planned starting and completion dates of various activities, submittal of shop drawings, procurement of materials and equipment, and scheduling of deliveries and equipment.

3. The basic progress schedule shall be updated once a month or more frequently if requested by the District.

4. Owner will review the Basic Progress Schedule or revision for conformance with Contract requirements. Within seven (7) days after receipt, Owner will accept the Basic Progress Schedule as feasible or will return it with comments, in which case Contractor shall use Owner's comments and revise the Basic Progress Schedule accordingly.

B. Computerized CPM Progress Schedule

1. The Contractor shall provide a computerized CPM Schedule if required by the Division 1 of the specifications. The Contractor shall use Primavera Project Planning Software or Microsoft Project and shall provide the Owner with file on 3 1/2" IBM compatible computer disk. If the contractor wishes to use any other scheduling software, approval must be first obtained from the owner. At its sole discretion the owner reserves the right to reject the use of any software other than the two stated here. The time of completion of the Project and each milestone shall adhere to the start and finish times in the Notice to Proceed, unless the Contractor requests and Owner approves in writing an earlier time of completion. Approval of such request shall be entirely at the Owner's discretion. If an earlier time of completion is approved, liquidated damages will be accessed after the new date of completion.

2. A schedule orientation meeting shall be held 14 days after the Notice to Proceed where the Contractor will be prepared to discuss the schedule, sequence of operations, cost, manpower, and equipment loading methodology. This meeting shall be attended by the Contractor's Project Manager and Scheduler, Owner's Representative, Architect (if desired), other Contractor's key personnel, major Subcontractors and Suppliers. This meeting will also discuss the monthly update requirements, reports, schedule revisions, cost breakdowns, data exchange, etc.

3. Within thirty (30) days after Notice to Proceed, the Contractor shall submit one (1) reproducible, three (3) prints, and 3-1/2" computer disks for Primavera Project Planning or Microsoft Project format of the detailed schedule. The Contract Schedule shall:

   a. Provide a time scaled CPM diagram in a format acceptable to the owner. A schedule may be rejected if in Owner's opinion any item is unbalanced.

   b. Provide a list identifying all imposed constraints.

   c. Indicate activity calendars used.

   d. Identify as a separate activity procurement of major equipment, date of ordering through receipt and inspection at the project site.

   e. Identify as separate activities Owner furnished materials and equipment.

   f. Identify as separate activities all submittals.
g. Detail activities for each milestone to show the plan for completion of the work for each milestone within the time specified.

h. Show dependencies (or relationships) and logic ties between activities. Open-ended activities will not be permitted.

i. Show the major equipment required for perform each activity, if applicable.

j. Show a responsibility code for each activity corresponding to the subcontractor responsible for performing the work.

k. Show the number of days needed for completion inspections, completion of punch list items, and final clean-up for the work associated with each milestone within the Contract time limit.

l. Show interface flag points of coordination with the work of other Contractors engaged by Owner at the site.

5. No activity on the schedule shall have a duration longer than fifteen (15) days, with the exception of submittals, fabrication, procurement and punch list activities, unless otherwise approved by Owner. Activity duration shall be the total number of actual days required to perform that activity including consideration of weather impact on completion of that activity. If an item of work is divided into two or more activities to meet maximum duration requirement, this division of work shall be done in a manner that is logical to the progress of the work (and not by dividing the work into percentages). Do not schedule activities that are dependent on submittal approval and/or material delivery to start earlier than the expected approval or delivery dates.

6. No more than twenty five percent (25%) of construction activities are to be considered as critical or near critical (having 10 days or less of float). Activities related to the procurement of materials and equipment (submit shop drawings, review shop drawings, manufacture of equipment, and shipping) shall not be included in the calculation of the allowable percentage of critical activities as defined above. The work shall be planned so that the schedule will reflect a true critical path, which will run through the start and finish of actual work activities. Critical path shall not run through activity lags and leads.

7. The contract schedule shall represent a practical plan to complete the work within the contract time, be suitable for monitoring progress of the work, and be in sufficient detail to demonstrate adequate planning of the work.

8. The schedule shall allow for Special District events where the District will not allow noisy, dusty or disruptive construction work. These specific dates, if any, are identified in Division 1 of the specifications.

9. Schedules shall include and allow adequate duration for work performed by District (inspections, District-furnished equipment, work by other contractors that interface with this contract).

10. District's acceptance of or review comments about schedule or scheduling data shall not relieve the contractor from its sole responsibility to plan for, perform, and complete the work within the contract time. Failure of District to discover errors or omissions in schedules it has reviewed, or to inform contractor or subs that they are behind schedule, or to direct or enforce procedures for complying with contract schedule shall not relieve the contractor from its sole responsibility to plan for, perform, and complete the work within the contract time.

11. The Owner will review this schedule when submitted and return to the Contractor within fifteen (15) days. The Contractor shall revise the schedule and resubmit within seven (7) days.
12. Once this schedule is modified to be acceptable to the Owner, the schedule becomes the Accepted Contract Schedule. If the Contractor desires to change the methods or scheduling of work, the Contractor must submit the request in writing. This request will be accepted or rejected by the Owner. This change may be tracked by a change order depending upon the severity of the change. If any critical activity falls more than seven (7) days behind schedule, Contractor must submit a recovery plan within seven (7) days.

13. The Contractor shall submit a monthly update to the schedule with the payment application. The payment application will not be processed for payment without a satisfactory monthly updated schedule. The monthly update will include the Contractor's estimated percentage completion for each activity and actual start/finish dates. The update shall also include a narrative report describing any changes made to schedule logic, the effects of change orders identified and reflected in the updated schedule, and any other problem areas including a recovery plan.

14. A Short Interval Schedule (SIS) will be submitted weekly and will be discussed in progress meetings. The interval shall be three weeks: this week and two weeks ahead. The SIS must include the status of milestones and completion dates.

15. The Owner may request any report formats of the schedule at any time.

C. The Contractor shall prepare, submit and keep current, for the District's information, a schedule of submittals which is coordinated with the Contractor's construction schedule in accordance with the General Requirements and allows the District reasonable time to review submittals.

3.09 DOCUMENTS AND SAMPLES AT THE SITE

A. The Contractor shall maintain at the site for the District one (1) record copy of the Drawings, Specifications, Addenda, Change Orders, RFI's, and other Modifications, in good order and marked currently to record changes and selections made during construction, and in addition approved Shop Drawings, Product Data, Samples and similar required submittals, all in accordance with the General Requirements. These shall be available to the District representative and shall be delivered to the District prior to Project Completion.

3.10 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, OPTIONS, AND SUBSTITUTIONS

A. Product Options and Substitutions:

1. Summary
   a. Provide products listed in Contract Documents, products by manufacturers listed in Contract Documents, and products meeting specified requirements.
   b. Procedures are described for requesting substitutions of unlisted materials lieu of materials named in Specifications or approved for use in addenda.
   c. Within thirty five (35) days after the date of Notice to Proceed, submit to the District a complete list of major products, which are proposed for substitution, with name of manufacturer, trade name, and model.
   d. List products by Specification Section number and title.

2. Product Options
a. For products indicated or specified only be reference standard, select any product meeting such standard.

b. For products indicated or specified by naming one or more projects or manufacturers, select products of any named manufacturer, which meet the specified requirements.

c. For a product or manufacturer, which is not specifically named, submit request for substitution.

d. Where terms “or equal,” “or approved equal,” or similar references are made, submit request for substitution for product or manufacturer not specifically indicated or named in Specifications.

e. For products indicated or specified by naming only one product and manufacturer, followed by the words “no substitution allowed,” there is no option.

3. Substitutions, General

a. Within a period of thirty five (35) days after date of Notice to Proceed, the District will consider formal requests for substitutions from the Contractor only under the following conditions:

1) The burden of proof as to the type, function, and quality of any substitute material or equipment shall be upon the Contractor.

2) The District will be the sole judge as to the type, function, and quality of any substitute material or equipment, and the District's decision shall be final.

3) The District may require the Contractor to furnish at the Contractor's expense additional data about the proposed substitute.

4) The District may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute.

5) Acceptance by the District of a substitute item proposed by the Contractor shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.

6) The Contractor shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the Contractor’s Work, the Work of its subcontractors of all tiers, and of other contractors, and shall effect such changes without cost to the District.

a) In the event of monetary benefit, seventy-five percent (75%) of the amount of the benefit shall go to the District and twenty-five percent (25%) shall go to the Contractor.

7) After the thirty five (35) day period, requests will be considered only when a product becomes unavailable due to no fault of Contractor. In such cases, all of the provisions of this Section shall still apply.

8) Costs for reviewing substitution requests submitted after thirty five (35) days shall be deducted from progress payments due the Contractor.
Costs shall include District’s cost, and Architect’s and Architect’s Sub consultants’ fees.

a) There will be no cost to the Contractor for reviewing substitution requests after thirty five (35) days in cases where the product has become unavailable due to no fault of Contractor.

b. Substitutions will not be considered for acceptance when:

1) They are indicated or implied on submittals without a formal request from Contractor.
2) They are requested directly by a subcontractor or supplier.
3) Acceptance will require substantial revision of Contract Documents.

c. Substitute products shall not be ordered without written acceptance of the District.

d. The District will determine the acceptability of proposed substitutions and reserves the right to reject proposals due to insufficient information.

e. Substitutions required by inability to obtain materials specified will not be acceptable grounds for increase in Contract Sum or time of completion of Contract.

f. Notify District during the thirty five (35) day period after Notice to Proceed where use of products indicated or specified would delay completion of Contract.

4. Contractor’s Representation

a. Requests constitute a representation that Contractor:

1) Has investigated the proposed substitution and determined that it is equal to or superior in all respects to the product indicated or specified.
2) Will furnish the same guarantee/warranty or bond for the proposed substitution as for the product indicated or specified.
3) Will coordinate the installation of an accepted substitution into the Work, and make such other changes as required to complete the Work in accordance with the Contract Documents and applicable regulatory requirements.
4) Waives claims for additional costs associated with the substitution, which may subsequently become apparent.
5) Will pay costs of changes to Contract Documents required by accepted substitutions.

5. Procedures for Proposing Substitutions

a. Requests for acceptance of a substitution shall be submitted to the District in written form and accompanied by sufficient information to enable proper evaluation.

b. Submit separate request for each product and support each request with:
1) Product identification with manufacturer's literature and samples where applicable.

2) Name and address of similar projects on which product has been used, and date of installation.

3) Complete technical data, including drawings, manufacturer's specifications, material safety data sheets (MSDS), costs, samples and test reports of the product proposed for substitution.

   a) Submit additional information, if required by the District

4) Data similar to that specified for the product for which substitution is proposed.

5) Submit data relating to changes in construction schedule.

6) Complete breakdown of costs, indicating the amount to be deducted from the Contract Sum, if the proposed substitution is accepted.

7) Signed statement that the proposed substitution is in full compliance with the Contract Documents and applicable regulatory requirements.

8) List of other Work, if any, which may be affected by the substitution.

   a) Contractor shall be responsible for the effect of a substitution upon related Work, and pay the additional costs generated thereby, including the cost of the Architect's and consultants' additional services associated therewith.

9) Information on availability on maintenance service, and source of replacement materials.

10) Sample of manufacturer's standard form of guarantee or warranty for the proposed substitution.

11) Where required, itemize comparison of proposed substitution with product specified and list significant variations.

12) Indicated accurate cost data comparing proposed substitution with product indicated or specified and amount of net change in Contract Sum.

   a) Include costs to other contractors and costs for revisions to Drawings, Details, or Specifications.

   c. Environmental Concerns:

1) Project has been designed with special considerations for indoor air quality and environmental conditions including attempts to limit amounts of toxic chemicals, materials, and gases in building.

2) Submittal of substitutions for items listed below shall provide specific information regarding environmental impact of substitutions related to toxic chemicals, materials, and gases.
3) Particleboard and Medium Density Fiberboard: Particleboard and medium density fiberboard are not acceptable as a substitution for any specified products.

4) Adhesives: Low-emitting adhesives have been specified; proposed substitutions shall be required to provide substantiating test reports indicating compliance with indoor air quality concerns.

   a) Submissions shall include all chemical components and their proportions in complete product.

   b) Include listing of all substances used in manufacture of product and identified in sample of air emitted from products that appear on any of the following lists.

1) United States Environmental Protection Agency (EPA) Carcinogen Assessment Group (CAG) list of carcinogens.

2) Clean Air Act Sections 109, 111, and 112.

3) The National Toxicology Program’s latest published “Annual Report on Carcinogens.”

4) IARC Human Carcinogens (Groups 1, 2A, and 2B).

5) California Proposition 65 Carcinogens.

6) California Proposition 65 Reproductive Toxins.

   c) Provide detection limits of analytical system for each relevant substance along with general information on sensitivity of analytical system.

   d) Include complete laboratory reports of any emissions tests conducted by the manufacturer or any contractor, agent, or other laboratory for the manufacturer, and any other evaluations of the impacts of the product’s emissions on indoor air.

6. District’s Review of Proposed Substitutions

   a. The District will review requests for substitutions and notify the Contractor in writing of its decision to accept or reject proposed substitutions. It shall be understood that:

1) The District will use its own judgment in determining whether or not a product or item of equipment proposed is equal for the purpose intended quality to that specified:

2) The decision of the District on all such questions of equality shall be final.

3) No claim of any sort shall be made or allowed against the District, the Architect, Architect’s sub consultants, or any of their agents, employees, or sub consultants as a result of any final decision accepting or rejecting any proposed product or equipment.

   b. The District at its sole discretion will determine the acceptability of proposed substitutions, and its determination shall be final.
c. Acceptance of a proposed substitution shall not relieve the Contractor from responsibility for the proper execution of the Work and the other requirements of the Contract Documents.

d. If a proposed substitution is not accepted, use the product originally specified or indicated.

B. Shop Drawings, Product Data and Samples:

1. The Contractor shall review, approve, stamp, and submit to the District Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the accepted Submittal Schedule specified in the General Requirements. Submittals made by the Contractor which are not required by the Contract Documents may be returned without action.

2. The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples and other submittals until the respective submittal has been received, reviewed by the Architect and returned by the Architect. Such Work shall be in accordance with approved submittals. The Contractor is solely responsible for delays or disruptions to the Work caused by inadequate, uncoordinated, incorrect or late submittals. All submittals shall be submitted within thirty five (35) days after Notice to Proceed and shall be phased to support the Project Schedule as well as to allow Architect maximum review time. Contractor schedule should allow at least two (2) weeks for Architect's review of submittals. More time shall be allowed for particularly complex submittals or if a "substitution" will be submitted which may result in a re-submittal.

3. By approving and submitting Shop Drawings, Product Data, Samples and other submittals, the Contractor represents that it has determined and verified materials, field measurements and field construction criteria related thereto, and has checked and coordinated the information contained within such submittals for compliance with the Contract Documents and for coordination of the Work indicated in the submittal and with adjacent Work.

4. The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples and other submittals unless the Contractor has specifically informed the Architect in writing attached to the submittal of such deviation at the time of submittal and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the District's approval thereof. Any deviation shall also be indicated on such Shop Drawing, Product Data, Sample or related submittal.

5. The Contractor shall direct specific attention, in writing, for resubmitted Shop Drawings, Product Data, Samples and other submittals, to revisions other than those requested by the Architect on previous submittals.

6. Where a shop drawing or sample is required by the Specifications, any related Work performed prior to the Architect's review and approval of the pertinent submittal shall be at the sole expense and responsibility of the Contractor.

7. Number of copies submitted by the Contractor shall be:

   1) Shop Drawings 1 sepia reproducible
      3 blue line prints

   2) Catalogue cuts, brochures,
calculations, etc.: 7 minimum

3) Samples: 7 each as directed

8. After review of submittals by the Architect (or the Architect's Consultants), submittals will be returned to the Contractor, indicating one of the following actions:

a) "Reviewed - No Exceptions Taken": No corrections or re-submissions required.

b) "Reviewed - Make Corrections Noted": No re-submission required. Fabrication may proceed on the basis that corrections noted are incorporated in the work. If the Contractor cannot comply or disagrees with the corrections noted, he shall revise the submittal and resubmit before fabrication.

c) "Revise and Resubmit": Re-submission required. Fabrication shall not proceed. Revise submittal as indicated.

d) "Rejected": Re-submission required. Fabrication shall not proceed. Revise in accordance with the Contract Documents.

9. The Architect will return the reproducible copy of each shop drawing, two each of copies of catalogue cuts, brochures, calculations, etc. (or as many additional copies submitted by the Contractor over the required eight (8) minimum) and two (2) each of samples. The Contractor is responsible to obtain and pay for additional copies required for distribution to subcontractors, suppliers and the like. The Contractor shall transmit one copy of all submittals marked "Reviewed - No Exceptions Taken" and "Reviewed - Make Corrections Noted" to the Contractor's Field Office.

3.11 USE OF SITE

A. The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

B. Notwithstanding the designation of Contract limits or the indication of temporary fences or barricades, the provisions of the Contract Documents governing certain portions or phases of the Work may require that certain operations be carried out beyond such designated limits.

C. Pumping, draining and control of surface and ground water shall be carried out so as to avoid endangering the Work or any adjacent facility or property, or interrupting, restricting or otherwise infringing or interfering with the use thereof.

D. The Contractor shall assume full responsibility and shall promptly settle all claims for any damage to any such areas within the Contract limits, or to any adjoining areas of the owners or occupants thereof, resulting from the performance of the Work.

3.12 CUTTING AND PATCHING

A. The Contractor shall be responsible for all cutting, fitting, and patching of its Work as specified in the General Requirements that may be required to make its several parts fit together or to receive the work of other contractors shown upon, or reasonably implied by, the Contract Documents for the completed Work.

B. The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the District or separate contractors by cutting, patching or
otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the District or a separate contractor except with written consent of the District. The Contractor shall not withhold from the District the Contractor's consent to cutting or otherwise altering the Work.

3.13 CLEANING UP

A. The Contractor shall keep the premises and surrounding area, including public areas immediately adjacent to the site such as temporary pedestrian walkways and sidewalks, free from accumulation of waste materials, rubbish, and excess materials.

1. The Contractor shall perform such clean up and removal regularly and as often as necessary.

2. At completion of the Work the Contractor shall remove from and about the Project site waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

B. If the Contractor fails to clean up as provided in the Contract Documents, the District may provide twenty-four (24) hour written notice to the Contractor and clean up, the cost of which shall be deducted from the amount due the Contractor under the Contract.

3.14 ACCESS TO WORK

A. During the performance of the Work, the District and its authorized representatives or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them, may at any time, and for any purpose, enter upon the Work, the shops where any part of such Work may be in preparation, or the factories where any materials for use in the Work are being or are to be manufactured. The Contractor shall furnish safe facilities therefore, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as the District's interest may require.

3.15 ROYALTIES AND PATENTS

A. All fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with the performance of the Work or any part thereof, shall have been included in the Contract Sum. The Contractor shall save, defend, hold harmless, and fully indemnify the District and all its officers and employees connected with the Project, the District Architect, other parties designated in Article 11, and all of their officers, agents, members, employees, authorized representatives, or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them, from all damages, claims for damage, costs, or expenses in law or equity, including attorney's fees, that may at any time arise or be set up for any infringement of the patent rights, copyright or trademark of any person or persons in consequence of the use by the District, or any of its officers, agents, members, employees, authorized representatives, or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them, of articles to be supplied under the Contract and of which the Contractor is not the patentee or assignee or has not the lawful right to sell the same. This is in addition to all other hold harmless and indemnity clauses in the Contract Documents.

3.16 INDEMNIFICATION

A. Consistent with California Civil Code Section 2782, the Contractor shall assume the defense of, indemnify and hold harmless the District and all its officers and employees connected with the Project, the District's Representatives, other parties designated in Article 11, and all of their officers, agents, members, employees, authorized representatives, or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them,
from all claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to attorney's fees, directly or indirectly arising out of, connected with or resulting from the performance of the Work. Such duties to release and save District harmless shall apply to liability incurred or claimed to have been incurred as a result of negligence, regardless of responsibility for such negligence, including the active negligence of the District, the District Representatives, other parties designated in Article 11, and all of their agents, officers, members, employees, authorized representatives or any other persons deemed necessary by any of them. This indemnification shall not be valid in the instance where the loss is caused by the sole negligence, willful neglect or intentional tort of any person indemnified hereinabove.

B. In the event that the Contractor and its insurance carrier(s) in bad faith refuse to negotiate and compensate a third party or parties for property damage or personal injuries which arise out of the Contractor's performance of the Work, the District shall have the right to estimate the amount of damages and to pay the same, and the amount so paid shall be deducted from the amount due the Contractor under this Contract; or an appropriate amount shall be retained by the District until all suits or claims for said damages shall have been settled or otherwise disposed of and satisfactory evidence to that effect shall have been furnished to the District.

3.17 COMPUTERIZED JOB COST REPORTING SYSTEM

A. The Contractor and its subcontractors with contracts over $1,500,000 shall maintain computerized monthly job cost reporting systems which shall be adequate to meet the documentation and reporting requirements of the District. Such job cost reporting systems shall comply with acceptable cost accounting practices and principles and shall conform to acceptable standards, procedures and guidelines used in the construction industry for projects similar to the Work.

B. Such job cost reporting system's format and configuration shall follow the general format, which is consistent with the Contractor's original unaltered Contract bid estimate of the costs. Original Project budgets for each division of the cost code accounts shall be traceable to the estimate in the event of an audit.

C. The District's minimum requirements are as follows:

1. The system capability shall provide a status of the cost for the Project on a monthly and cumulative basis.

2. The system shall provide a comparison analysis of the original budgeted costs, actual costs, remaining cost to complete and projected cost to complete, including variances, if any.

3. Adjustments to the original budgets shall be identified and traced separately including adjustments for changes in the Work (e.g., potential change orders, change orders, and disputes/claims).

D. In addition to the District's other rights under the Contract Documents, the District shall have the right to review the Contractor's computerized job cost reports upon notice to the Contractor. Failure to maintain computerized monthly job cost reports in accordance herewith shall constitute a waiver by the Contractor of its rights to seek additional compensation for delay, disruption, loss of productivity and total cost claims.

ARTICLE 4 - (Not Used.)

ARTICLE 5 - SUBCONTRACTORS
5.01 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

A. Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, within five (5) working days after receiving bids, shall furnish in writing to the District, in addition to those in the Subcontractor's Listing Form, the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each portion of the Work including lower tier Subcontractors. The District will promptly notify the Contractor in writing stating whether or not the District, after due investigation, has reasonable objection to any such proposed person or entity.

B. The Contractor shall not contract with a proposed person or entity to which the District has made reasonable and timely objection.

C. If the District has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the District has no reasonable objection. The District shall not be responsible for added costs, if any, of the Contractor retaining another person or entity.

5.02 SUBCONTRACTOR RELATIONS

A. By appropriate agreement 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 obligations and responsibilities which the Contractor, by these Documents, assumes toward the District. Each subcontract agreement shall preserve and protect the rights of the District under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. 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, and, upon written request of the Subcontractor, identify to the Subcontractor 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.

B. The Contractor shall require that each Subcontract (including, but not limited to contracts for provision of services, supply of goods, lease of equipment or tools, or labor) contain the following provision:

“Subcontractor does hereby release Contractor and the District, and save Contractor and the District harmless, from and against all claims and liabilities of every nature (including but not limited to injury to or death of Subcontractor’s employees, injury or damage to property or persons, attorneys’ fees, and court costs) directly or indirectly arising from the performance of this agreement, or, arising out of the failure of Subcontractor to comply with the requirement of the Subcontractor to provide a safe place to work (including as required by sections 3300, 6401 and 6406 of the California Labor Code) and from any claims, loss, damage, injury, death or liability however caused or incurred, including injury to or death of Subcontractor’s employees, resulting directly or indirectly from the nature of the work or provision of supplies or rental of equipment or tools covered by this agreement. Such duties to release and save Contractor and the District harmless shall apply to liability incurred or claimed as a result of negligence, regardless of responsibility for such negligence, including the active negligence of the Contractor or the District, provided; however, that nothing in this agreement purports to or should be understood to provide for indemnity of Contractor or the District for Contractor’s or the District’s sole negligence or willful misconduct.”

C. The Contractor agrees to assign the above-described indemnification rights to the District upon the occurrence of the following events:
1. The making of any claim, institution of any proceeding to recover damages or establish
liability as to the District, or the notification of an intent to bring any claim as against the
District for any loss, damage, injury, or relief from conditions arising out of or in anyway
related to the Work; and

2. Written demand from the District to the Contractor for assignment of the express
indemnification rights contained in the Subcontracts or other contracts for the provision
of services, supply of goods, lease of equipment or tools, or labor.

5.03 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

A. Except as otherwise provided herein, each subcontract agreement for a portion of the Work is
assigned by the Contractor to the District provided that:

1. assignment is effective only after termination of the Contract by the District for cause
pursuant to Article 14 of these General Conditions, and only for those subcontract
agreements which the District accepts by notifying the Subcontractor in writing; and

2. assignment is subject to the prior rights, if any, of the surety, obligated by the bond
provided under the Contract.

ARTICLE 6 - CONSTRUCTION BY DISTRICT OR BY SEPARATE CONTRACTORS

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

A. The Contractor is alerted to the Project conditions of the areas in which work will be
performed under the Contract. Certain governmental departments, public or private utility
companies, and other contractors employed by the District may be working simultaneously
with and in the vicinity of the Contractor's work areas, and the District may award other
contracts which may similarly affect the Contractor's work.

1. Utility Relocation Work: The Contractor shall cooperate fully with all utility forces of the
District or forces of other public or private agencies engaged in relocating, altering, or
otherwise rearranging of any facilities which interfere with the progress or proper
completion of the Work, and shall schedule the Work so as to minimize interference with
said relocating, altering, or other rearranging of facilities.

B. When separate contracts are awarded for different portions of the Project or other
construction or operations on the site, the term "Contractor" in the Contract Documents in
each case shall mean the contractor who executes each separate District/Contractor
Agreement.

C. The District reserves the right to perform other or additional work, within or adjacent to the
limits of work specified at any time by the use of other forces or contractors. In the event
that another contractor, in the course of performing work on behalf of the District, gives the
Contractor written notice concerning work to be performed at the location(s) where the
Contractor is already performing Work, and if the District grants approval, the Contractor shall
fully cooperate with said contractor and shall schedule and coordinate its Work with the work
of the other contractor and shall assume the following mutual responsibilities at no additional
cost to the District.

1. The Contractor and the other contractor shall both execute identical agreements
mutually indemnifying each other from any loss, damage, or injury that may be incurred
as a result of the performance of work by the other while both are performing work in
these areas.
2. The Contractor and the other contractor shall each add the other as an additional insured under their respective liability policies.

3. The party seeking to use portions of the construction site of the other to perform its work shall pay all direct costs incurred by the other party to accommodate its operations.

4. If the Contractor claims that delay or additional cost is involved because of such action by the District, the Contractor shall make such claim as provided elsewhere in the Contract Documents.

D. The District shall not be a party to any of the agreements between the Contractor and the other contractor and shall have no liability to the other party with regard to the lack of coordination and cooperation or the inability of a party to obtain work areas from the other party. The Contractor agrees to indemnify and hold harmless the District for any claims or losses that it or the other contractor may incur as a result of their inability to successfully negotiate the joint use of property under the control of one of the parties.

6.02 MUTUAL RESPONSIBILITY

A. The Contractor shall afford all such other contractors reasonable opportunity for storage of their materials, shall ensure that the execution of its Work properly connects and coordinates with work of all other pertinent contractors, and shall cooperate with said other contractors to facilitate the progress of the Work in such a manner as the District may direct.

B. Notice of Conflicting Conditions: Where the Contractor's Work is associated with that of another contractor, the Contractor shall examine the adjacent work and report in writing to the District any visible defect or condition preventing the proper execution of its Contract. If it proceeds without giving notice, the Contractor shall be held to have accepted the work or material and the existing conditions, and shall be responsible for any defects in its own Work consequent thereon, and shall not be relieved of any obligation or any guarantee because of any such condition or imperfection. This provision shall be included in any and all other contracts or subcontracts for Work to be performed where such a conflict could exist.

C. To the extent that any part of the Contractor's Work is to interface with work performed or installed by other contractors, the Contractor shall inspect and measure the in-place work and promptly report to the District any defect in such in-place work that will impede or increase the cost of the Contractor's interface unless corrected. The District will require the contractor responsible for the defective work to make corrections so as to conform to its contract requirements, or, if the defect is the result of a default or omission in the Contract Documents, issue a change order. If the Contractor fails to measure, inspect and/or report defects that are reasonably discoverable, all costs of accomplishing the interface acceptably shall be borne by the Contractor. The foregoing does not apply to latent defects. The Contractor shall report latent defects in another contractor's work at any time such defects become known, and the District or its authorized representatives shall promptly thereafter take such steps as may be appropriate.

D. The Contractor shall notify the District in writing when another contractor on this Project fails to coordinate its work with the Work of this Contract as directed.

E. The Contractor shall suspend any part of the Work herein specified or shall carry on the same in such manner as may be specified or shall carry on the same in such manner as directed by the District when such suspension or prosecution is necessary to facilitate the work of other contractors or workers. No damages or claims by the Contractor will be allowed therefore other than an extension of the time as specified in this Contract for the completion of the Work. Such an extension will be for a period of time, as the District shall consider the Contractor to have been delayed in the Completion of the Work by reason of the work of other contractors or workers.
F. The Contractor shall prepare coordination drawings as necessary, as determined by the District, to satisfactorily coordinate and interface the Work of its Contract with the work of all other contracts thereby avoiding conflicts that may otherwise arise.

G. At any time during the progress of the Work, the District shall have authority to require the Contractor to attend any conference of any or all of the contractors engaged in the Work, and any notice of such conference shall be duly observed and complied with by the Contractor.

6.03 COORDINATION

A. If the District determines that the Contractor is failing to coordinate its Work with the work of other contractors as directed, the District may upon seventy-two (72) hour written notice:

1. Withhold any payment otherwise owed hereunder until the Contractor complies with the District's directions.

2. Direct others to perform portions of the Contract and charge the cost of Work against the Contract amount.

3. Terminate any and all portions of the Contract for the Contractor's failure to perform in accordance with the Contract.

6.04 DISTRICT'S RIGHT TO CLEAN UP

A. 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, rubbish, and excess materials and equipment, the District may, after twenty-four (24) hour written notice, clean up and allocate the cost among those responsible as it determines to be just.

ARTICLE 7 - CHANGES IN THE WORK

7.01 ADDITIONS, DELETIONS AND REVISIONS

A. The District, before the date of Project Completion, may order additions, deletions, or revisions in the Work herein required, and the Contractor shall promptly comply with such orders and proceed with the work, which shall be performed under the applicable requirements of the Contract Documents. Such additions, deletions, and revisions will be authorized by a Contract Modification as defined in Article 1.03 of the Contract General Conditions.

B. Additions, deletions, and revisions, which result in a change in the Contract Sum or Contract Time, shall be effected by a written Contract Modification, which has been approved by the District. Those additions, deletions, and revisions which do not result in a change in the Contract Sum or Contract Time, shall be effected by a written directive from the District such as a response to a Contractor generated Request for Information. All addenda and change orders are subject to approval by the Division of the State Architect. See, the California Code of Regulations, Title 24, Part 1, section 4-338, under “Change Orders.”

C. Contract Modifications made pursuant to Article 7 of these General Conditions and extensions of Contract Time necessary by reason thereof, shall not in any way release any guarantees/warranties given by the Contractor pursuant to the provisions of the Contract Documents, nor shall such Contract Modifications relieve or release the sureties of bonds executed pursuant to said provisions. The sureties, in executing such bonds, shall be deemed to have expressly agreed to any such Contract Modification and to any extension of time made by reason thereof. The Contractor shall be responsible for giving notice of any change
affecting the Work, Contract Sum or Contract time, which is required by the provisions of any bond to be given to a surety.

7.02 CONTRACT MODIFICATION PROCEDURES

A. Initiation: Additions, deletions, and revisions may be initiated by either the Contractor or the District. Contractor initiated Contract Modifications shall be in the form of a Request for Change (RFC). Notice and procedure requirements for RFCs are addressed in Article 2.07 of these General Conditions. The District will initiate Contract Modifications by issuing a Proposed Change Order (PCO), which will include a detailed description of the proposed modification with supplementary or revised Drawings and Specifications and request a quotation of cost of such additions, deletions or revisions and time of completion from the Contractor. The District reserves the right to order in writing such work arising from unforeseen or other anticipated conditions on a force account basis as provided in Paragraph 7.03 as may be determined by the District to be required for proper completion of the Work.

B. Cost Proposal Time Period: The Contractor shall submit a PCO cost proposal to the District within twenty one (21) calendar days upon receipt of the PCO. If the Contractor fails to submit a PCO cost proposal within twenty one (21) calendar days, or the price cannot be agreed upon, the District may issue a Unilateral Change Order instructing the Contractor to proceed with the proposed modification for subsequent inclusion in a Contractor Modification based on the District's estimate of the cost. All requests for time extensions pursuant to Paragraph 8.02 or claims for damages for delay caused by the District's processing of Contract Modifications will be reduced by the additional time in excess of that allowed for the Contractor to submit a cost proposal as provided hereinabove.

C. Cost Proposal Breakdown: The Contractor shall furnish two (2) copies of its cost proposal, and it shall include a complete itemized breakdown of labor, material, equipment, taxes, insurance, bonds, and markup for overhead and profit for both additions and deletions on a form supplied by the District. A complete itemized breakdown is also required for Subcontractor cost proposal on the same form as required for the Contractor. At a minimum, the following documentation shall be provided to support Contractor and Subcontractor computations: material quantities, and types of products; labor breakdown by trade classification, wage rates, and estimated hours; equipment breakdown by make, type, size, rental rates, and equipment hours; taxes, insurance and bonds; justification for any adjustment in Contract Time including a schedule analysis identifying critical schedule activities delayed by the PCO.

D. Contractor Overhead and Profit: The Contractor's profit and overhead shall be based on a markup calculation and not a margin calculation. The markup for overhead and profit on Contract Modifications will be determined as follows:

1. For Work performed by the Contractor, the markup shall be equal to fifteen percent (15%) of the direct cost as defined herein. Costs of tax and insurance shall not be marked up.

2. For Work performed by a Subcontractor, the Contractor markup shall be five percent (5%) of the direct cost of the Subcontractor and the Subcontractor markup shall be fifteen percent (15%) of his own direct cost. Costs of tax and insurance shall not be marked up.

3. For Work performed by a Sub-Subcontractor, the Contractor markup shall be five percent (5%) of the direct cost of the Sub-Subcontractor, the Subcontractor markup shall be five percent (5%) of the Sub-Subcontractor direct cost, and the Sub-Subcontractor markup shall be fifteen percent (15%) of his own direct cost. Costs of tax and insurance shall not be marked up.
4. All tiers lower than the Sub-Subcontractor shall have their markup included in the Sub-Subcontractor markup.

5. In all cases the total markup on the direct cost shall not exceed twenty five percent (25%). There shall be no compound markup.

The table below summaries the allowable markups:

<table>
<thead>
<tr>
<th>Work Done By</th>
<th>Contractor</th>
<th>Sub</th>
<th>Sub-Sub</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor</td>
<td>15%</td>
<td></td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Sub-Contractor</td>
<td>5%</td>
<td>15%</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Sub-Sub-Contractor</td>
<td>5%</td>
<td>5%</td>
<td>15%</td>
<td>25%</td>
</tr>
</tbody>
</table>

E. Direct Cost Defined: Direct costs shall only include the basic wage rates for labor, labor burden, material and equipment required for the Contract Modification.

1. Labor rates will not be recognized when in excess of those prevailing in the locality and time the Work under Contract Modification is being performed. The costs for all supervision, including general superintendents and foreman, shall be included in the markup defined herein. Working foreman will be considered a direct cost if the individual is on the project site only installing Work under Contract Modification with no other work being performed at the time. A breakdown of the payroll rates for each trade used for Contract Modifications, shall be furnished to the District within 30 calendar days of the Contract Notice to Proceed.

2. Labor burden shall only include fringe benefits by governing trade organizations. No other costs will be included as labor burden.

3. Material costs directly required for the performance of the Contract Modification. Such costs may include the cost of transportation. If a trade reduction by an actual supplier is available to the Contractor, it shall be credited to the District. If the materials are obtained from a supplier or source owned wholly by or in part by the Contractor, payment thereof will not exceed the current wholesale price for the materials. The term “trade reduction” includes the concept of cash discounting.

   a. For general building construction, material shall be based on the most current Lee Saylor Book with a thirty percent (30%) reduction for material and labor figures.

   b. For concrete work, material and labor costs shall be based on the most current Lee Saylor Book.

   c. For electrical work, material costs shall be based on the most current Biddle Book, end column, with a ten percent (10%) reduction. Costs of all major equipment and/or material unlisted shall be based on vendor’s invoices. Copies of all invoices shall be provided as support documentation with each Contract Modification cost proposal.

   d. For mechanical work, material costs shall be based on the most current Trade Service Corporation Manual with a thirty percent (30%) reduction. Costs on all major equipment and/or material unlisted shall be based on vendor’s invoices. Copies of all invoices shall be provided as support documentation with each Contract Modification cost proposal.
4. Equipment Costs: The allowance for equipment costs (both rental as well as Contractor-owned equipment) shall be based on eighty (80) percent of the Association of Equipment Distributors (AED) Blue Book rental rates. Hourly, daily, weekly, or monthly rates shall be used, whichever is lower. Hourly rates including operator shall not be used. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates.

   a. The actual time to be paid for equipment shall be the time that the equipment is in productive operation on the Work under Contract Modification. In computing the hourly rental of equipment, any time less than thirty (30) minutes shall be considered one-half (1/2) hour. No payment will be made for time while equipment is inoperative due to breakdown, or for non-workdays. In addition, the rental time shall not include the time required to move the equipment to and from the project site. No mobilization or demobilization will be allowed for equipment already on site. If such equipment is not moved by its own power, then loading and transportation costs will be paid in lieu of rental time thereof. However, neither moving time nor loading and transportation costs will be paid if the equipment is used on the Project Site in any other way than upon the work directly related to the Contract Modification.

   b. Individual pieces of equipment having a replacement value of one thousand dollars ($1,000) or less shall be considered to be small tools or small equipment, and no payment will be made since the costs of these tools and equipment is included as part of the markup for overhead and profit defined herein.

   c. Payment to the Contractor for the use of equipment as set forth above shall constitute full compensation to the Contractor for the cost of fuel, power, oil, lubricants, supplies, small equipment, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, labor (except for equipment operators), and any and all costs to the Contractor incidental to the use of the equipment.

5. Labor Productivity Rates: All Contract Modification work involving mechanical and electrical trades shall use labor productivity rates based on the following: Electrical labor productivity rates shall be based on the most current edition of N.E.C.A Column 1 with a five percent (5%) reduction. Wet side mechanical labor productivity rates shall be based on the most current edition of "M.C.A. Standards" with a twenty percent (20%) reduction. Dry side mechanical labor productivity rates shall use SMACNA Standards at a twenty (20%) percent reduction.

F. Costs Included as part of the Markup for Project General Conditions (hereinafter "Overhead"), and Profit: All Contract Modification costs not specifically listed above as a direct cost shall be included in the markup for general conditions, including overhead and profit. No separate allowance or itemization for general conditions, including overhead costs shall be allowed. Below is a list of costs, which is not intended to be comprehensive, of the type of costs included in the markup for overhead and profit for all Contract Modifications including Force Account Work.

1. Field and home office personnel including, but not limited to, principals, project managers, superintendents, supervisory foremen, estimators, project engineers, detailers, draftsmen, schedulers, consultants, watchmen, payroll clerks, administrative assistants, and secretaries.

2. All field and home office expenses including, but not limited to, field trailers, parking, storage sheds, office equipment and supplies, telephone service and long distance telephone calls, fax machines, temporary utilities, sanitary facilities and services, janitorial services, small tools and equipment with a cost under $1000 each, portable
scaffolding, blocking, shores, appliances, job vehicles, security and fencing, conformance to regulatory requirements including compliance to safety regulations, safety programs and meetings, cartage, warranties, as-builts, as well as any related maintenance costs.

3. Administrative functions such as, but not limited to, reviewing, coordinating, distributing, processing, posting, recording, estimating, negotiating, expediting, engineering, drawing, detailing, revising shop drawings, carting, layout, cleaning, protecting the work, and other incidental Work related to the Contract Modifications.

4. All other costs and taxes required to be paid, but not included under direct costs as defined above.

G. Miscellaneous Requirements:

1. For individual items within a Contract Modifications that only include deleted work of a Contractor or Subcontractors that would receive fifteen percent (15%) for work performed, the District shall receive a credit markup of ten percent (10%). Neither the Contractor nor the Subcontractor shall be allowed a positive markup on their respective Subcontractors to administer the credit Contract Modification.

2. When both additions and credits are involved in any one Contract Modification, the Contractor shall calculate its labor productivity and costs based on the net change in the quantity of the work for each item listed. For example, if a Contract Modification adds 14 light fixtures on one drawing and deletes 5 on another drawing, the “net change in quantity” is 9, and the labor productivity rates and costs shall be based on the net add of 9 light fixtures.

3. The Contractor shall be solely responsible for determining which of its Subcontractors receive Contract Modifications. No additional compensation will be provided the Contractor for the Subcontractor's cost to review, post, coordinate and perform related tasks to administer Contract Modifications that do not result in direct cost charges from said Subcontractor. Such costs are considered normal business costs that are contractually determined prior to bid between the Contractor and its subcontractors, and that such costs shall be included in the Total Lump Sum Bid.

4. Taxes: Federal excise tax shall not be included. The District will issue an exemption on request.

5. Insurance and Bond Premiums: The actual cost to the Contractor of the following will be allowed with no markup for overhead and profit: Federal Insurance Contributions Act taxes, bond premiums, Federal and State Unemployment taxes; and net actual premium paid for public liability, workers' compensation, property damage, and other forms of insurance required by the District.

H. Records: The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of Contract Modifications and the cost of the original Work. This requirement pertains to all types of Contract Modifications, as well as the Contractor's Requests for Changes and Claims.

I. Notice of Delay: Contractor shall notify the District of all anticipated delays resulting from proposed time extensions included with Contract Modification cost proposals, and Request for Changes.

J. Change Order: When the District and Contractor agree on the total cost and time of a PCO, the District will prepare a Change Order to formally implement the work described in the PCO.
K. Oral Instructions: No oral instruction of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this Contract.

7.03 FORCE ACCOUNT CHANGE ORDER

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

1. The District will issue a Force Account Change Order to proceed with the Work on a force account basis, and the District will establish a not to exceed budget.

2. With the exception of labor productivity rates for mechanical and electrical work, all requirements regarding direct cost for labor, labor burden, material, equipment and markups on direct costs for overhead and profit described in Article 7.01 and 7.02 of these General Conditions shall apply to Force Account Change Orders. However, the District will only pay for actual costs verified in the field by the District on a daily basis.

3. The Contractor shall be responsible for all cost related to the administration of Force Account Change Orders. The markup for overhead and profit for Contractor Modifications shall be full compensation to the Contractor to administer Force Account Change Orders.

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

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

D. Agreement: In the event the Contractor and District reach a negotiated, signed agreement on the cost of a Contract Modification while the work is proceeding based on a Force Account Change Order, the Contractor’s signed daily force account reports shall be discontinued and all previously signed reports shall be invalid.

7.04 UNILATERAL CHANGE ORDERS

A. General: When time does not allow for the Contract Modification to be negotiated through the PCO process, or when the District and the Contractor are unable to agree on the cost or time required to complete the change in the Work described in the PCO, the District may issue a Unilateral Change Order instructing the Contractor to proceed with the Work based on the
District's estimate of cost and time to perform the change in the Work, if any. Upon receipt of a Unilateral Change Order, the Contractor shall proceed with the ordered Work.

B. Protest: Should the Contractor disagree with any terms or conditions set forth in a Unilateral Change Order, which the Contractor has not executed, the Contractor shall submit a written RFC within seven (7) calendar days of receipt of said Unilateral Change Order and before proceeding with the Work thereof. If a written RFC is not submitted as required, the Contractor hereby waives all rights to additional compensation for said work, and payment will be made as set forth in the Unilateral Change Order and such payment shall constitute full compensation for Work included therein or required thereby. After the RFC has been filed, and after the Unilateral Change Order work is completed in the field, the Contractor shall notify the District within seven (7) calendar days of its intent to submit a claim for the cost differential between the Contractor's actual cost and the District's estimate included in the Unilateral Change Order. The Contractor shall then submit a claim in accordance with the requirements of Article 2.07 of these Contract General Conditions. The Contractor shall waive its rights to claim if notice is not provided as stipulated above.

7.05 UNIT PRICE CHANGE ORDERS

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established Unit Price for each Bid Item of unit price Work times the estimated quantity of each item as indicated in the Schedule of Bid Prices. The estimated quantities of unit price Bid items are not guaranteed and are solely for the purpose of comparing Bids and determining an initial Contract Total Lump Sum Bid. Determination of that actual quantities and classifications of Unit Price Work will be made by the District in accordance with Section 01027 - Application for Payment.

1. Each Unit Price bid on the Schedule of Bid Prices shall include an amount considered by the Contractor to cover Contractor's markup for overhead and profit provided in Paragraph 7.02.

B. Procedure: For pre-determined unit prices and quantities, a Unit Price Change Order will be executed on a fixed unit price basis. An adjustment in the Contract Unit Price may be made for changes which result in an increase or decrease in the quantity of any unit price Bid Item of the Work in excess of thirty percent (30%) of the estimated quantity indicated on the Schedule of Bid Prices, or for eliminated items of Work.

C. Quantity Increases: Should the total quantity of any item of Work required under the Contract exceed the estimated quantity indicated on the Schedule of Bid Prices by more than thirty percent (30%), the Work in excess one-hundred thirty percent (130%) of such estimated quantity will be paid for by adjusting the Contract Unit Price as hereinafter provided, or at the District's option, payment for the Work involved in such excess will be made on a contract modification procedure or force account basis as provided in Paragraph 7.02 or 7.03.

1. Such adjustment of the Contract Unit Price will be the difference between the Contract Unit price and the actual unit cost, which will be determined as hereinafter provided, of the total pay quantity of the item. If costs applicable to such item of work include fixed costs, such fixed costs will be deemed to have been recovered by the Contractor by payment made for one hundred thirty percent (130%) of the Schedule of Bid Price quantity for such item, and in computing the actual unit cost; such fixed costs shall be excluded. Subject to the above provisions, such actual unit cost will be determined by the District in the same manner as if the Work were paid for on contract modification procedure or force account basis as provided in Paragraph 7.02 or 7.03, or such adjustment will be as agreed to by the Contractor and the District.
2. The payment for the total pay quantity of such item of Work will in no case exceed the payment which would be made for the performance of 130 percent of the estimated quantity as indicated on the Schedule of Bid Prices at the original Contract Unit Price.

D. Quantity Decreases: Should the total quantity of any item of Work required under the Contract be less than seventy percent (70%) of the estimated quantity indicated in the Schedule of Bid Prices, an adjustment in compensation will not be made unless the Contractor submits a written RFC as provided in Paragraph 2.07. If the Contractor so requests, the quantity of said item performed will be paid for by adjusting the Contract Unit Price as hereinafter provided, or at the District’s option, payment for the Work involved will be made on a force account basis as provided in Paragraph 7.03, provided however, that in no case shall the payment for such Work be less than that which would be made at the Contract Unit Price.

1. Such adjustment of the Contract Unit Price will be the difference between the Contract Unit price and the actual unit cost, which will be determined as hereinafter provided, of the total pay quantity of the Item, including fixed costs. Such actual unit cost will be determined by the District in the same manner as if the Work were paid for by a contract modification procedure or on a force account basis as provided in Paragraph 7.02 or 7.03; or such adjustment will be as agreed to by the Contractor and the District.

2. The payment for the total pay quantity of such item of Work will in no case exceed the payment which would be made for the performance of 70 percent of the estimated quantity as indicated on the Schedule of Bid Prices at the original Contract Unit Price.

E. Deleted Items: Should any Contract Bid item of Work be deleted in its entirety, payment will be made to the Contractor for its actual direct costs incurred in connection with such deleted Contract Bid item if incurred prior to the date of notification in writing by the District of such deletion.

1. If acceptable material is ordered by the Contractor for the deleted item prior to the date of notification of such deletion by the District, and if orders for such material cannot be canceled, it will be paid for at the actual cost to the Contractor. In such case, the material paid for shall become the property of the District and the District will pay for the actual cost of any further handling. If the material is returnable to the vendor and if the District so directs, the material shall be returned and the Contractor will be paid for the actual cost of charges made by the vendor for returning the material. The actual cost of freight in returning material will be paid for.

2. The actual costs or charges to be paid by the District to the Contractor for any deleted Contract item will be computed in the same manner as if the Work were to be paid on contract modification or force account basis as provided in Paragraph 7.02 or 7.03.

7.06 AUDITS

A. The District shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, bid cost data, subcontracts, job cost reports, and other data of the Contractor, Subcontractors, and suppliers including computations, and projections related to bidding, negotiating, pricing, or performing the Work, or Contract Modification in order to evaluate the accuracy, completeness, and currency of the cost or pricing data at no additional cost to the District.

B. The Contractor shall make available at its office at all reasonable time the materials described in Subparagraph 7.06A herein before for examination, audit, or reproduction, until three (3) years after final payment under this Contract.
C. For this contract, the Contractor shall insert a clause containing all the provisions of Article 7 herein before, including this Paragraph, in all subcontracts over Ten Thousand Dollars ($10,000).

ARTICLE 8 - TIME

8.01 PROGRESS AND COMPLETION

A. Time is of the essence. The Contractor shall commence the Work of the Contract within five (5) calendar days from issuance of written Notice to Proceed from the District and shall diligently prosecute the Work to Project Completion.

B. The Notice to Proceed will be issued by the District any time within two months from the date of execution of the Agreement.

C. The continuous prosecution of the Work by the Contractor shall be subject only to the delays defined hereinafter. The start of Work shall include attendance at pre-construction conferences, preparation and submittal of Shop Drawings, equipment lists, Schedule of Values, CPM construction schedules, requests for substitutions and other similar activities. Submittals shall be prepared in accordance with the Contract Documents and shall be made within the time limits required. It may be necessary that certain portions of the work be completed at different times to minimize disruption of school activities and maintain continued smooth operations of the District. The Contractor shall coordinate with the District and include these interface activities in the Contract Schedule.

D. The Work of this Contract shall be brought to Substantial Completion, as determined by the District, in the manner provided for in the Contract Documents and in the numbers of calendar days set forth as follows, from and after the receipt by the Contractor of the written Notice to Proceed.

1. CONTRACT TIME: The Contract Time shall be as defined in the Instructions to Bidders for calendar days beginning with and including the official date of Notice to Proceed to the official date of Notice of Completion, both issued by the District.

   a. Notice of Completion is a document issued by the District to the Contractor acknowledging that the Work is complete and the building is ready for occupancy by the District in its entirety.

   b. Notice of Project Completion is a document issued by the District to the Contractor acknowledging that the Project is complete.

2. The time limit for the Work as specified shall not be affected by the acceptance of any of the alternate(s); provided that said Alternates were incorporated into the Contract within 6 months after Notice to Proceed.

E. Failure to reach the completion dates as provided hereinabove, as determined by the District, within the required number of calendar days, and in the manner required by the Contract Documents, shall subject the Contractor to liquidated damages as stipulated hereinafter, unless extensions of time are granted in accordance with the provisions hereinafter.

F. The Contractor shall at all times keep on the premises sufficient material and employ sufficient supervision and workers to prosecute the Work at the rate necessary to reach completion dates required hereinabove of the Work herein required within the times specified in the Agreement and in accordance with the initial Contract schedule. Work shall not start and the Project be left in an incomplete state for an indeterminate period of time, while equipment and materials are in transit.
G. It shall be the responsibility of the Contractor to maintain its schedule so as not to delay the progress of the Project or the schedules of other contractors. The Contractor is required by virtue of this Contract to cooperate in every way possible with other contractors in order to maintain its Contract duration. Except as otherwise provided, no additional compensation will be paid for such cooperation. If the Contractor delays the progress of the project or the progress of other contractors, it shall be the responsibility of the Contractor to take some or all of the steps outlined hereinafter to improve its progress.

H. If, in the opinion of the District, the Contractor falls behind the Contract and current update of the Contract schedule and is not entitled to an extension of time, as presented in these Contract Documents, the Contractor shall take some or all of the steps outlined below to improve its progress at no additional cost to the District, and shall submit operational plans to demonstrate the manner in which the desired rate of progress may be regained.

I. Whenever it becomes apparent that the Contractor due to its own actions has fallen behind the required rate of progress, or delays the progress of other contractors, some or all of the following steps must be taken.

1. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work.

2. When permitted in writing by the District, work overtime or increase in amount of construction equipment sufficient to substantially eliminate the backlog of work.

3. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

4. Expedite delivery of materials and equipment such as by airfreight.

5. Accelerate the priority of manufacture or fabrication of Work on order with the manufacturer, vendor, or supplier should such priority lists exist as a normal course of its business. Said acceleration shall also apply to shipment preparation.

6. Any other means deemed appropriate.

J. If the District directs the Contractor to take measures previously described, the Contractor shall bear all costs of complying, including additional administrative costs for the District and the District representatives.

K. Should the Contractor at any time during the progress of Work, refuse, neglect, or be unable for avoidable reasons to supply sufficient materials, supervision, or workers to prosecute the Work at the rate necessary to complete the Work within the time specified in this Contract, in accordance with the currently accepted updated construction schedule, the District shall have the right to terminate the Contract as hereinafter set forth or it may give this Contractor written notice, specifying the default and requiring its correction. If the Contractor does not comply with such notice from the District within three (3) days of the date of services thereof, the District shall have the right to provide the materials and workers to finish said Work. The sums necessary to meet the expenses thereby incurred shall be deducted from any monies due or which may thereafter become due under the Contract, and paid to persons supplying such materials and doing such Work. The amount of any such payments shall be deducted from the construction fund set aside for the purposes of this Contract and charged to the Contractor as if paid to it.

8.02 DELAYS AND EXTENSIONS OF TIME

A. Unavoidable Delays:
1. For the purposes of these Contract Documents the term "Unavoidable Delay" shall mean an interruption of the Work beyond the control of the Contractor, and which could have not been avoided by the Contractor's exercising care, prudence, foresight, and diligence. Moreover, the Contractor must demonstrate that the "Unavoidable Delay" actually extended the most current Contract Project Completion Date.

a. The Contractor will be entitled to a time extension for the following types of "Unavoidable Delay" but at no additional compensation: Acts of God; acts of the public enemy; inclement weather conditions; fires; floods; windstorms; tornadoes; earthquakes; wars; riots; insurrections; epidemics; quarantine restrictions; strikes; lockouts; sit-downs; slowdowns; other labor trouble; labor shortages; material shortages; fuel shortages; freight embargoes; acts of government agencies outside the District; acts of public utilities; priorities or privileges established for the manufacture, assembly or allotment of material by order, decree, or otherwise of the United States. This list is not intended to be comprehensive, and similar types of delay will not entitle the Contractor to additional compensation or a compensable time extension.

b. The Contractor shall be entitled to a compensable time extension for an "Unavoidable Delay" caused by a Contract Modification initiated or caused by the District provided such unavoidable delay is critical, extends the most current Contract Completion date, and is not concurrent with a Contractor caused delay or other type of Unavoidable delay previously defined. All other types of "Unavoidable Delay" shall not entitle the Contractor to a compensable time extension which shall be the total amount included in the Contract Modification.

c. The Contractor shall be entitled to a non-compensable time extension in the event a compensable "Unavoidable Delay" is concurrent with either a Contractor generated "Avoidable Delay," or a non-compensable "Unavoidable Delay."

B. Avoidable Delays:

1. The term "Avoidable Delay" shall include, but is not limited to the following:

a. Any delay that could have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor;

b. Any delay in the prosecution of parts of the Work, which may in itself be unavoidable, but which does not necessarily prevent or delay the prosecution of other parts of the Work, nor delay the specified Project Completion date;

c. Any delay caused by the untimely review by the Contractor of the Contract Drawings and Specifications pursuant to Document 00700 paragraph 3.01E;

d. Any delay arising from an interruption in the prosecution of the Work resulting from a reasonable interference from other contractors employed by the District, but does not delay the specified Project Completion date.

C. Inclement Weather Delays:

1. Inclement weather shall not be a prima facie reason for the granting of a non-compensable time extension, and the Contractor shall make every effort to continue Work under prevailing conditions. Such efforts by the Contractor shall include, but are not limited to, providing temporary gravel roads; installing a rain de-watering system; protecting interior and exterior areas exposed to rain, wind, and extreme temperatures; and installing protective covers at roof, window or other openings; and providing temporary heat where required for work to proceed without delay.
2. The District may classify an inclement weather day as a non-compensable "Unavoidable Delay," provided the Contractor made efforts to work during inclement weather and to avoid the impacts of inclement weather to its schedule. If such an event occurs, and the Contractor is prevented by inclement weather or conditions from proceeding with at least seventy-five percent (75%) of the scheduled labor, material and equipment resources for at least five (5) hours per work day on activities shown as critical on the most current and accepted schedule update, the delay will be classified as an "Unavoidable Delay," and the Contractor will be granted a non-compensable time extension. The Contractor is to notify the District, in writing, on each day this occurs.

3. Regardless of the type and severity of the inclement weather, the Contractor shall be responsible for all costs to make efforts to mitigate the impacts of inclement weather during the Contract duration.

D. Notice of Delay: The Contractor shall promptly notify the District in writing of any anticipated delay in the prosecution of the Work, and, in any event, promptly upon the occurrence of a delay. Said notice shall constitute an application for an extension only if the notice requests such extension and sets forth the Contractor's estimate, if feasible, of the additional time required together with a full recital of the cause of delay relied upon. The District may take steps to prevent the occurrence or continuance of the delay and may determine to what extent the Project Completion is delayed thereby. The determination of the existence of any delay for which an extension of time will be granted will be based on whether such delay can be demonstrated by the Contractor to extend the Contractor's current critical path on the construction schedule or require the formulation of a new extended critical path. If notice of a delay is not submitted on or prior to three (3) consecutive working days after the start of the occurrence of such a delay, the Contractor thereby admits the occurrence had no effect on the length of its duration of Work, and no extension of time is necessary, and no extension of time will be granted by the District. In either case the Contractor will not be entitled to extra compensation.

E. Extensions of Time:

1. In the event it is deemed necessary by the District to extend the time of completion of the Work to be done under these Contract Documents beyond the required dates of the completion herein specified, such extensions shall in no way release any guarantees/warranties given by the Contractor pursuant to the provisions of the Contract Documents, or the Contract let hereunder, nor shall such extension of time relieve or release the sureties on the bonds executed pursuant to said provision. The sureties in executing such bonds shall be deemed to have expressly agreed to any such extension of time. The amount of time allowed in any extension of time shall be limited to the period of the delay-giving rise to the same as determined by the District. The granting of an extension of time because of a delay shall in no way operate as a waiver on the part of the District of the right to collect damages or of any other rights to which the District are entitled. All guarantees and warranties shall begin after final completion.

2. Should the Contractor, any Subcontractor of any tier or any supplier of any tier seek an extension of time for the completion of the Work under the provisions of this Paragraph, the Contractor and/or Subcontractor and/or supplier must submit justification for the extension of the time requested and otherwise comply with all provisions of these Contract Documents with respect to requests for extensions of time.

3. Neither this provision, nor any other provision of the Contract Documents, are intended by the parties to be contrary to any express provision of law. The parties specifically agree, acknowledge and warrant that neither this provision, nor any other provision of the Contract Documents, has for its object, directly or indirectly, the exemption of the District, the Architect, their consultants, and their respective directors, officers, members,
employees, and authorized representatives from responsibility of their own sole negligence, violation of law or other willful injury to the person or property of another.

8.03 NOTICE OF LABOR DISPUTES

A. Whenever the Contractor has knowledge that any actual or potential labor dispute is delaying or is threatening to delay the timely performance of its Contract, the Contractor shall immediately give notice thereof, including all relevant information with respect thereto, to the District. In addition, the Contractor shall take all appropriate measures to eliminate or minimize the effect of such labor dispute on the currently accepted construction Schedule, including but not limited to such measures as: promptly seeking appropriate injunctive relief; filing appropriate charges with the National Labor Relations Board under the applicable provisions of the Labor Management Relations Act of 1947, as amended; filing appropriate damage actions; taking such measures as establishing a reserved gate, as appropriate; if reasonably feasible, seeking other sources of supply or service; or any other measures that may be appropriately utilized to limit or eliminate the effect of the labor dispute. To the extent the Contractor fails to initiate measures that are appropriate, it is not entitled to an extension of time. In addition, any delay impact on any other Contractor's schedule or on the Construction Schedule will be considered as a Contractor-caused delay under any and all applicable provisions of the Contract.

ARTICLE 9 - PAYMENTS AND COMPLETION

9.01 CONTRACT SUM

A. Payment to the Contractor at the lump sum price fixed in the Contract for performing all Work required under the Contract, as adjusted for any Contract Modifications approved as hereinbefore specified, shall be full compensation for furnishing all labor, materials, equipment and tools necessary to the Work, and for performing and completing, in accordance with these Contract Documents, all Work required under the Contract, and for all expenses incurred by the Contractor for any purpose in connection with the performance and completion of said Work.

9.02 SCHEDULE OF VALUES

A. Within 10 days of the date of commencement shown in the Notice to Proceed the contractor shall submit a schedule of values to the owner for review. This schedule of values shall breakdown the contract price into various estimated items of work, together with the contractor's allowance for overhead, insurance and profit. The contractor's overhead, insurance, profit and other such costs, shall be prorated through all items so that the sum of all items in the schedule of values shall equal the contractor's total lump sum bid. This breakdown, which must be approved by the owner, will be the basis for determining the value of work performed for purposes of making payments to the contractor.

B. The contractor's schedule of values shall include a separate line item for “project closeout” (with an assigned value attributed to it.)

C. The contractor's schedule of values shall include a separate line item for “building commissioning “ (with an assigned value attributed to it.)

D. The Contractor shall not submit an application for payment without an approved schedule of values.

9.03 PROGRESS PAYMENTS
A. Subject to the conditions set forth in these General Conditions, and to the authorization of the District or the authorized representatives of the District, payment shall be made upon demand of the Contractor and pursuant to the Contract Documents as follows.

B. The District will, on or about the twentieth (20th) day of each month after receiving the Contractor's monthly Schedule update, make an estimate of the value of the Work done by the Contractor completed after that included in the last preceding estimate in performance of the Contract. The monthly value of the Work described shall be estimated by the District pursuant to the applicable schedule of values prepared in accordance with Paragraph 9.02. Estimates need not be based on strict measurements, but may be approximate only, and will be in due proportion to the total amount, considering payments previously made, that will have become due for such Work satisfactorily completed under the Contract. No allowance will be made for materials or equipment not incorporated into the Work.

C. On the 25th of each month, the Contractor shall submit to the District Representative for review an Application for Payment filled out and signed by the Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as otherwise set forth in the Contract Documents.

   1. No payment shall be made for materials and equipment not incorporated in the Work.

D. The Application for Payment shall identify the amount of the Contractor's total earnings to date.

E. Monthly progress payment amounts to the Contractor shall be based upon completed Work activities or percentages of Work activities completed prior to the end of the payment period. The District following the formal approval of the Schedule of Values shall transmit a detailed payment procedure to the Contractor.

F. Monthly payment applications shall be based on information developed at monthly Application for Payment Approval Meetings and shall be prepared by the Contractor. Submission of Schedule updates for same period of Progress Payment Application shall be a condition precedent to making progress payment applications. Contractor shall submit monthly Schedule update information to the District three (3) working days after the Construction Schedule Approval Meeting and before submission of the progress payment application. No progress payment shall be made to the Contractor until all cost information requested by the District is submitted and reviewed.

G. As soon as practicable after making of each progress estimate, the District will pay to the Contractor in a manner provided by law, an amount equal to ninety percent (90%) of the value, based upon Contract prices, of labor and materials incorporated in the Work at the Project site up until midnight of the twenty-fifth (25th) day of the current month less the aggregate of previous payments, provided that payments may be withheld at any time that the Work, in the District's estimation, is not proceeding in accordance with the Contract, or as otherwise provided in Paragraph 9.05. When the District determines that the Work is fifty percent (50%) complete, the Contractor is making satisfactory progress and there is no specific cause for greater withholding, progress payments may be made not to exceed an amount the lesser of either ninety-five percent (95%) of the value of the Work and labor, equipment and material furnished or ninety-five percent (95%) of the Contract Sum.

   1. The payment shall be made within 30 calendar days after application has been made and certified by the District.

H. In accordance with the provisions of the California Public Contract Code, the Contractor will be permitted to substitute securities for any moneys withheld by the District to ensure performance under the Contract.
I. Payment for material stored on or off the Site will not be allowed. Where advance payment is allowed at the sole discretion of the District necessary to keep the Project on schedule for very large, long lead items, proof of off-site material purchases (invoices and checks) and appropriate insurance coverage will be required. The Contractor shall furnish to the District written consent from the Surety approving the advanced payment for materials stored off site. The maximum prepayment allowed by the District shall be 75 percent of the actual value of the item being considered. The District and the District Representative shall be the sole judges of fair market value. The Contractor shall protect stored materials from damage. Damaged materials, even though paid for, shall not be incorporated into the work.

J. No inaccuracy or error in said monthly estimates shall operate to release the Contractor or Surety from damages arising from such Work or from the enforcement of each and every provision of the Contract Documents, and the District shall have the right subsequently to correct any error made in any estimate for payment.

K. The granting of any progress payment, or the receipt thereof by the Contractor, shall not constitute acceptance of the Work or any portion thereof, and shall in no way lessen the liability of the Contractor to replace unsatisfactory Work or material, though the unsatisfactory character of such Work or material may not have been apparent or detected at the time such payment was made.

L. It is mutually understood and agreed that the District may withhold from any payment otherwise due Contractor so much as may be necessary to protect the District to insure completion of the project pursuant to the requirements of this Contract. The failure or refusal of the District to withhold any moneys from the Contractor shall in no way impair the obligations of any surety or sureties under any bonds furnished under this Contract.

M. Only Contract Modifications completely approved and executed shall be included on the Payment Authorization and only that portion of the Change Order work actually performed shall be submitted for payment. Submit breakdown for each Contract Modification by Specification Section number on Application for Payment.

9.04 PAYMENT AUTHORIZATION

A. The District will, after receipt of the Contractor's Application for Payment, issue a Payment Authorization to the Controller's Office for such amount as the District and District Representative determine is properly due. The District will notify the Contractor in writing of the reasons for withholding authorization in whole or in part as provided hereinafter.

B. A Payment Authorization will be issued by the District, based on the District's representation of observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point stated in the Application for Payment and that the quality of the Work is in accordance with the Contract Documents. The District will further constitute a representation that the Contractor is reasonably entitled to payment in the amount authorized. However, the issuance of a Payment Authorization will not be a representation that the District has:

1. Made exhaustive or continuous on-site inspections to check the quality or quantity of the Work;

2. Reviewed construction means, methods, techniques, sequences or procedures;

3. Reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the District to substantiate the Contractor's right to payment; or
4. Made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

9.05 DECISIONS TO WITHHOLD PAYMENT

A. The District may decide not to authorize payment and may withhold a Payment Authorization in whole or in part, to the extent reasonably necessary to protect itself, if in its opinion the representations required by Subparagraph 9.04 B cannot be made. If the District is unable to authorize payment in the amount of the Application, the District will notify the Contractor as provided in Subparagraph 9.04 A. If the Contractor and District cannot agree on a revised amount, the District will promptly issue a Payment Authorization for the amount it deems proper. The District may also decide not to authorize payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Payment Authorization previously issued, to such extent as may be necessary in its opinion to protect itself from loss because of:

1. Defective Work not remedied;
2. Third party claims filed or reasonable evidence indicating probable filing of such claims;
3. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
4. Damage to the District or another contractor;
5. Reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
6. Failure to carry out the Work in accordance with the Contract Documents;
7. Failure to timely submit Contract Modification cost breakdowns in accordance with the Contract Documents;
8. Failure to timely submit schedules, schedule updates and reports in accordance with the Contract Documents;
9. Failure to timely maintain updated “as-built” Contract Documents;
10. Failure to submit Coordination Drawings in accordance with the General Requirements;
11. Failure to submit Record Documents in accordance with the General Requirements;
12. Failure to submit certified payroll records in accordance with the Contract Documents; or
13. Failure to timely comply with other requirements of the Contract Documents.

B. When the above reasons for withholding authorization are removed, authorization will be made for amounts previously withheld.

9.06 PARTIAL OCCUPANCY OR USE

A. Whenever, in the opinion of the District, the Work or any part thereof is in a condition suitable for use, and the best interest of the District requires such use, the District may take possession of, connect to, open for public use, or use the Work or a part thereof at no additional cost to the District. When so used, maintenance and repair due to ordinary wear
and tear or vandalism of District’s responsibility will be made at the District’s expense. The use by the District of the Work or part thereof shall in no case be construed as constituting completion of the Work. Such use shall neither relieve the Contractor of any of its responsibilities under the contract, nor act as a waiver by the District of any of the conditions thereof.

B. Such partial occupancy or use may commence whether or not the portion has achieved Substantial Completion. The District shall determine the stage of the progress of the Work.

C. Immediately prior to such partial occupancy or use, the Contractor and District 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.

D. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

E. Contractor shall perform final cleaning of portions of the Work to be partially occupied or used as specified in the General Requirements.

9.07 PROJECT COMPLETION AND FINAL PAYMENT

A. When the Contractor considers that the Work is complete including all contractual requirements, including but not limited to all start-up services, warranties, guarantees, as-built, etc, and requests that the District prepare a Notice of Completion, Contractor shall notify the District in writing. Within seven (7) days from receipt of the Contractor's written notification, the District will make an inspection to determine whether the Work is complete. If the District determines the work is not complete, the District will provide the Contractor with a deficiency list (Punch List) of all items that must be corrected or completed before the District would consider the Work complete. This list will be provided to the Contractor within fourteen (14) calendar days from receipt of the Contractor's written notification. Once the Contractor has completed all items on the deficiency list, the Contractor can request a second inspection by the District to verify the Work is complete. If the Work is not complete, the District will follow the same procedure as for the first inspection, and the Contractor shall reimburse the District and the District's representatives for all of their costs related to the second inspection and any inspection thereafter. When the Work is considered completed, the District shall prepare a Notice of Completion, which shall establish the date of Completion.

B. If additional inspections are required, to include special inspections such as fire alarm certification, all costs of the District and District representatives conducting such additional inspections shall be deducted from progress payments owed the Contractor.

C. The remaining value of the Work performed under this Contract, if unencumbered, shall be processed for payment after thirty-five (35) days after the date the Certificate of Completion is filed by the District. Acceptance by the Contractor of said final payment shall constitute a waiver of all claims against the District arising under the Contract Documents. As a condition precedent to final payment, the Contractor shall furnish a “release” pursuant to the following subparagraph.

1. The Contractor and each assignee under any assignment in effect at the time of final payment shall, if required by the District, execute and deliver at the time of final payment as a condition precedent to final payment, a release in form and substance satisfactory to and containing such exemptions as may be found appropriate by the District, discharging the District, and the District's Consultants, and their directors, officers, members, employees, agents and authorized representatives, of and from all liabilities, obligations and claims arising under this Contract.
9.08 LIQUIDATED DAMAGES

A. Determination of Damages: The actual fact of the occurrence of damages and the actual amount of the damages which the District would suffer if the Work were not completed within the specified time set forth are dependent upon many circumstances and conditions which could prevail in various combinations and, from the nature of the case, it is impracticable and extremely difficult to fix the actual damages. Damages which the District would suffer in the event of delay include, but are not limited to, costs of renting equivalent space, expenses of prolonged employment of an architectural, engineering and construction management staff; costs of administration, inspection and supervision; and the loss suffered by the public or school children within the District by reasons of the delay in the construction of the project to serve the public at the earliest possible time or being disruptive to the school teachers or children. Accordingly, the parties hereto agree, and by execution of this Contract, the Contractor acknowledges that the Contractor understands, has ascertained and agrees, that the amounts herein set forth shall be presumed to be the amounts of damages sustained by the failure of the Contractor to complete the specified Work within the times specified.

1. The Contract Time is restricted by the District's contractual commitments and will suffer substantial damages from breach of such and from costs incurred for leasing additional space when the Project is not substantially completed on time. Therefore, the Contractor shall take whatever measures are necessary to meet the established time limit, including working outside normal working hours and shift work.

B. Agreed Amount of Damages: It is understood and agreed by both parties to the Contract that in case all the Work called for under the Contract is not completed within the time limits as specified, or within the time limits as extended in accordance with these Specifications, damage will be sustained by the District, and that it is actual damages which the District will sustain in the event of and by reason of such delay.

1. The Contractor and the District agree that the sum specified in the Instructions to Bidders represents the parties' reasonable estimate of the approximate damages which the District will sustain for each and every calendar day's delay beyond the time specified for Completion, or as extended in accordance with the Specifications.

2. The District will sustain damage which are difficult to ascertain by include the following additional expenses:
   a. Debt service.
   b. Administrative costs.
   c. District representatives and consultants costs.
   d. Temporary student and administrative facilities.

3. It is therefore agreed that the Contractor shall pay such liquidated damages as herein provided, and in case the same is not paid, agrees that the District may deduct the amount therefore from any money due or that may become due the Contractor under the Contract. Liquidated damages will continue to the time at which the Work reaches Project Completion as determined by the District.

C. It is further agreed that payment of liquidated damages under one of the aforementioned conditions will not relieve the Contractor from separate liquidated damage liability under the other condition, each to the full extent of the specified amount, regardless of whether the times for which liquidated damages are to be paid do or do not run concurrently, or whether either liability is or is not a consequence of the other.
D. **Payment of Damages:**

1. In the event the Contractor shall become liable for liquidated damages, the District, in addition to all other remedies provided by law, shall have the right to withhold any and all retained percentages of payments which would otherwise be or become due the Contractor until the liability of the Contractor has been finally determined. The District shall have the right to use and apply such retained percentages, in whole or in part, to reimburse the District for all liquidated damages due or to become due to the District. Any remaining balance of such retained percentages shall be paid to the Contractor only after discharge in full of all liability incurred by the Contractor. If the retained percentage is not sufficient to discharge all such liabilities of the Contractor, the Contractor and its sureties shall continue to remain liable to the District until all such liabilities are satisfied in full. Should the retention of monies due or to become due to the Contractor be insufficient to cover such damages, the Contractor forthwith shall pay the remainder to the District.

### ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

#### 10.01 SAFETY PRECAUTIONS AND PROGRAMS

A. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work.

B. The Contractor shall designate in writing a responsible member of the Contractor's organization at the site as Project safety representative whose duty shall be the prevention of accidents. This person shall be available twenty-four (24) hours a day, seven (7) days a week by telephone or other approved means.

C. In the event the Contractor encounters on the site material reasonably believed to be hazardous which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected, immediately advise the District, and render the hazard harmless. The Work in the affected area shall not thereafter be resumed except by written notification of the District.

D. The Contractor shall be required to perform all Work relating to hazardous materials as required by the Contract Documents.

E. Health, Safety, And Fire Prevention: The Contractor, his subcontractors, agents and employees shall FULLY COMPLY with ALL of the provisions and requirements of CAL/OSHA, Title 8 CALIFORNIA CODE OF REGULATIONS, Industrial Relations, and all other safety codes having jurisdiction over the Project.

#### 10.02 SAFETY OF PERSONS AND PROPERTY

A. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

1. Employees on the Work and other persons who may be affected thereby;

2. 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

3. Other property at the site 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.
B. The Contractor shall give notices 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.

C. 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, erecting barricades, fencing, railings, and walkways as necessary, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

D. When use or storage of 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 and in compliance with all safety regulations.

E. The Contractor shall promptly remedy damage and loss to property referred to in previous subparagraphs caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under the previous subparagraphs, except damage or loss attributable to the sole negligent acts or omissions of the District. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.16 in these General Conditions.

F. The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety. The structure is designed to support the loads of the finished building. No provision is included for stresses or loads imposed by construction operations. If the Contractor desires to place such loads in excess of the design load, it shall submit drawings and calculations prepared by, and bearing the seal of a California-licensed structural engineer of the proposed method for supporting such loads for the District's review and approval. No loading of any kind in excess of design loads shall be placed on any part of the building structure prior to the District's approval of the submitted drawings and calculations. The costs of the District's review shall be reimbursed to the District by the Contractor.

G. The Contractor shall be responsible for each operation and all Work, both permanent and temporary. It shall protect its Work and materials from damage due to construction operations, the action of the elements, the carelessness of its subcontractors, vandalism, or any other cause whatever, until Project Completion and Acceptance of the Work. Should improper Work of any trade be covered by another contractor and damage or defects result, the whole Work affected shall be made good by the contractor performing the improper Work to the satisfaction of the District without expense to the District.

10.03 EMERGENCIES

A. In an emergency affecting safety of persons or property, the Contractor shall act to prevent threatened damage, injury or loss, and shall as promptly as conditions permit notify the insurance carriers and the District of the nature of the emergency and circumstances related thereto. Immediately thereafter, the Contractor shall prepare a written report setting forth in detail the action taken and describing in detail all circumstances and conditions which are related to such action. Additional compensation or extension of time claimed by the Contractor on account of an emergency, if caused by fault of the District, shall be determined as provided in Paragraph 2.06 and Article 7.

10.04 SAFETY PERMITS

A. A State Industrial Safety Permit shall be obtained and paid for by the Contractor if:
1. Any building, structure, false work or scaffolding more than 3 stories high or the equivalent of 35'-0" is to be constructed.

2. The demolition of any building, structure, false work or scaffolding more than 3 stories high or the equivalent of 35'-0".

3. A trench 5'-0" deep or deeper is constructed for foundation purposes into which a person must descend.

B. The Contractor shall obtain and pay for all other required safety permits.

10.05 LOSS CONTROL REQUIREMENTS

A. Contractors and subcontractors participating in this SEWUP project will be expected to comply with the following safety and loss control requirements:

1. The Emergency Response Plans (with particular emphasis on access and egress routes).

2. District procedures regarding dealing with the media.

3. Hard hats will be mandatory on all SEWUP projects when there is an exposure to falling objects, as per Cal OSHA Construction Safety orders.

4. All construction employees will be required to be attired in workpants, shirt and appropriate boots or closed toe shoes.

5. No alcohol will be allowed on SEWUP construction sites at any time.

6. Smoking will be allowed in designated areas only.

7. All contractors will agree to conduct and fund post-injury drug screening of their employees. Those employees failing the test will be removed permanently from the job site. In addition, any contractor that shows a pattern of employees failing the tests will be reported to SEWUP, who can use the information as a factor in assessing their "responsibility" in connection with future projects.

8. Controlling access to the construction site will be a very high priority, and contractors will be required to take whatever preventative measure, such as barriers, fencing, etc., deemed necessary by either the SEWUP consultant or local school safety official.

9. Contractors will be required to respond to any school complaints about objectionable levels of dust or noise and will be required to provide the appropriate abatement as quickly as possible.

10. Construction personnel cannot enter school grounds other than the construction site unless accompanied by District personnel, and they are allowed only 'incidental' contact with students. Violations of these requirements by any construction employee will result in a mandatory background check of that employee – including fingerprinting – as required by state law.

11. The SEWUP Safety Representative, General Contractor or Construction Manager has the right to correct an unsafe act or condition. The General Contractor or Construction Manager has the right and authority to bill the non-compliant contractor for the costs associated with the correction.

12. Fall protection is mandatory on all SEWUP projects in accordance with Cal OSHA, OSHA and any other appropriate code.
13. Any contractor displaying, in the opinion of the General Contractor or SEWUP consultant, a repeated disregard for safety can be removed from the job-site and their name forwarded to SEWUP, who will use the expulsion as a factor in assessing their suitability for future projects.

14. All contractors and sub-contractors must provide a copy of their Injury & Illness Prevention Program to the General Contractor or Construction Manager to be filed at the job site.

15. A site specific Injury & Illness Prevention Program shall be available on site with either the General Contractor or Construction Manager. All contractors shall abide by this program.

16. Personal radios, headsets, walkmans and CD players are not allowed on the job-site.

17. All work activities must comply with applicable Cal OSHA, OSHA, EPA, ANSI, and local laws pertaining to safety.

18. The General Contractor or Construction Manager shall assume overall responsibility for project safety compliance with the applicable safety regulations and the site specific Injury & Illness Prevention Program.

19. All contractors must attend the pre-construction safety meeting.

20. All contractors shall identify their competent person(s) to the General Contractor or Construction Manager.

21. The SEWUP Safety Representative will conduct visits to the job site at the request of the District, General Contractor, Construction Manager, JPA, or SEWUP. Contractors will be required to cooperate with the consultant and take the appropriate corrective action deemed necessary with timeframes established regarding the corrective action.

22. The SEWUP Safety Representative has the authority, during the course of the job site inspection, to suspend those aspects of the job site that are considered “imminently dangerous” until appropriate corrective action is completed.

23. The SEWUP Safety Representative may require a follow-up meeting or contact if there is a death, serious and willful claim, serious disabling injury, adverse loss experience, major fire, or serious 3rd party claim.

24. Any contractors’ employee observed providing or selling cigarettes or other smoking materials to students shall be removed from the job site until further notice.

25. No sexual reference or preference shall be permitted on any piece of clothing or the hardhat. Any employee observed disregarding this policy shall be removed from the job site until further notice.

26. All contractors’ employees shall park in their designated parking area. Any sticker attached to the employees’ vehicle that displays any form of sexual preference or reference shall be removed prior to parking at the site. Each employee will provide their license plate number to the General Contractor or Construction Manager. Any employee disregarding this policy shall be removed from the site until further notice.

27. All contractors shall control the break time activities of the employees to assure the cleanup of all soda cans, food wrappers, plastic bottles, or food containers from the
break area. Such areas shall be cleaned immediately after the break and all waste placed in trash receptacles. No glass containers are permitted on the site.

28. Theft or willful damage to any property of the owner, student, or other contractors will be prosecuted fully.

29. No guns, switchblades, or knives with blades greater than 2” shall be allowed on the job site. Any employee disregarding this policy shall be removed from the site until further notice.

30. All contractors will advise those non-English speaking employees in their native language either in a written format or via an interpreter of these policies.

31. All non-SEWUP members or guest who visit the job site will be required to sign a hold harmless agreement. All such persons shall be required to be appropriately attired to include a hardhat.

**Article 11 - INSURANCE AND BONDS**

11.01 CONTRACTOR PROVIDED INSURANCE (For all projects)

A. INSURANCE REQUIREMENTS

The Contractor shall maintain in full force and effect and cause its subcontractors to maintain, for the period covered by the Contract, the following insurance:

1. **Comprehensive or commercial general liability insurance** with limits not less than $1,000,000 per each occurrence combined single limit for bodily injury and property damage, including coverage for contractual liability, personal injury, independent contractors, explosion, collapse and underground (XCU), broad form property damage, products liability, and completed operations.

   a. Should any of the required insurance be provided under a form of coverage that includes an annual general aggregate limit or provides that claims investigation or legal defense costs be included in such annual general aggregate limit, such annual general aggregate limit shall be **two times** the occurrence limits stipulated.

   b. Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this contract, and without lapse, for a period three years beyond the contract expiration, to the effect that, should occurrences during the contract term give rise to claims made after expiration of the contract, such claims shall be covered by such claims-made policies.

2. **Comprehensive or business automobile liability insurance** with limits not less than $1,000,000 per each occurrence combined single limit for bodily injury and property damage, including coverage for owned, non-owned, and hired automobiles, as applicable.

3. **Workers' Compensation**, including Employers' Liability Insurance with limits not less than $1,000,000 each accident, occurrence or disease and $1,000,000 aggregate.

   a. The Workers' Compensation Insurance shall cover any compensation payable under the provisions of the act of legislature of the State of California, known as the "Workmen's Compensation Insurance and Safety Act" approved May 26, 1913, and all acts amendatory and supplemental thereto. If the Contractor fails
to maintain such insurance, the District, at its sole option and without incurring any further obligation to provide insurance, may take out Workers' Compensation Insurance to cover any compensation payable under the provisions of the Act by reason of any employee of the Contractor being injured or killed, and to deduct and retain the amount of the premium for such insurance from any sums due the Contractor. If the injury occurs to any employee of the Contractor for which the employee, or its dependents in the event of its death, is entitled to compensation from the District under the provisions of said Act, or for which compensation is claimed from the District, the District may retain from the sums due the Contractor under these Contract Documents an amount sufficient to cover such compensation, as fixed by said Act, until such compensation is paid; and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid.

b. The Contractor shall sign and file with the District the following certification prior to performing the Work of the Contract:

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

4. **Builder’s Risk Insurance** on an All-Risk Form covering the new Work under the Contract, excluding earthquake and flood but including ensuing perils, with limits not less that the Contract Sum and any deductible not to exceed $10,000.

   a. Coverage for debris removal limits not less than $1,000,000.

   b. Such policy shall name the District as loss payee and shall be issued by carrier(s) satisfactory to the District and licensed through the Department of Insurance to conduct insurance business in California.

   c. In the event of any damage except earthquake and flood, it shall be the Contractor's responsibility to perform at its expense all required repair and replacement including damage to adjacent areas.

   d. The Contractor shall be responsible for all losses not covered by the policy, excluding earthquake and flood, including the deductibles.

5. In the event that the Contractor employs professional engineering services, the Contractor shall require the retained engineers to carry professional liability insurance with limits not less than $1,000,000 each claim with respect to negligent acts, errors, or omissions in connection with professional services to be provided under this Agreement and any deductible not to exceed $50,000 each claim. The Contractor shall provide the District with Certificates of Insurance for any such policy.

6. In the event that the Contractor is performing abatement of hazardous or contaminated materials work or employs a subcontractor or entity for abatement of hazardous or contaminated materials, the Contractor shall furnish or require the subcontractor or entity to maintain environmental liability insurance with limits not less than $1,000,000, policy written on an occurrence form, with any deductible not to exceed $25,000, including coverage for Contractor's pollution legal liability for contaminated soils, asbestos, lead, underground storage tanks, and other hazardous materials which may be encountered at the site.

B. **INSURANCE BY OTHERS:**
For General Liability, Environmental Pollution Liability and Automobile Liability Insurance, the Contractor shall include as additional named insureds, the District, the Architect, the District's Consultants, and all authorized agents and representatives, and members, directors, officers, trustees, agents and employees of any of them.

C. FORM OF POLICIES AND OTHER INSURANCE REQUIREMENTS:

1. Before commencement of the Work of this Contract, certificates of insurance shall be furnished to the District, with complete copies of policies to be furnished to the District promptly upon request.

2. Approval of the insurance by the District shall not relieve or decrease the extent to which the Contractor or subcontractor of any tier may be held responsible for payment of any and all damages, except damage caused by earthquake or flood, resulting from its operations. All policies of insurance and certificates shall be satisfactory to the District.

3. Liability insurance shall be on an occurrence basis; and said insurance shall provide that the coverage afforded thereby shall be primary coverage (and non-contributory to any other existing valid and collectable insurance) to the full limit of liability stated in the declaration, and such insurance shall apply separately to each insured against whom claim is made or suit is brought, but the inclusion of more than one (1) insured shall not operate to increase the insurer's limits of liability.

4. Each such policy shall provide that no cancellation, non-renewal nor any reduction in its coverage shall occur without the carrier giving to the District at least thirty (30) days' written notice prior thereto. All notices shall be made to:

   Sadiq B. Ikharo                        L. Mark Sennette
   Vice Chancellor of General Services    Director of Capital Projects
   Peralta Community College District     Peralta Community College District
   333 East 8th Street                    333 East 8th Street
   Oakland, CA 94606                     Oakland, CA 94606

5. The Contractor shall file with the District a certificate of the required new or renewed policy at least ten (10) days before the effective date of such cancellation, change or expiration, with a complete copy of new or renewed policy.

6. If, at any time during the life of this Contract, the Contractor fails to maintain any item of the required insurance in full force and effect, all Work of this Contract may, at District's sole option, be discontinued immediately, and all Contract payments due or that become due will be withheld, until notice is received by the District as provided hereinbefore that such insurance has been restored to full force and effect and that the premiums therefore have been paid for a period satisfactory to the District.

7. Any failure to maintain any item of the required insurance may, at District's sole option, be sufficient cause for termination of this Contract.

E. Insurance companies shall be legally authorized, licensed and admitted through the California Department of Insurance to engage in the business of furnishing insurance in the State of California. All insurance companies shall have an "A-,VIII" in Bests Rating Guide and shall be satisfactory to the District.

11.02 CONTRACTOR ADDITIONAL INSURANCE REQUIREMENTS (For all projects)

A. Notice to the District: Further the policy will provide not less than thirty (30) days prior written notice to District's Program Administrator or its Designee of any material change in the insurance
or cancellation or non-renewal.

B. **Additional Insured:** The District will be endorsed as “additional insured” on Contractor’s and Subcontractors’ policy or policies. Contractor and Subcontractors shall furnish Certificates of Insurance evidencing said coverage before commencing work on the Project.

C. **Contractor Construction Equipment Insurance:** Any policies maintained by the contractor and subcontractors on their owned and/or rented equipment and materials shall contain a provision requiring the insurance carriers to waive their rights of subrogation against the Owner and all other indemnities named in the contract.

D. **Professional Liability Insurance (Errors & Omissions):** In the event any contract specifications requires your firm to provide professional services, such as but not limited to, architectural, engineering, construction management, surveying, design, etc., a certificate of insurance must be provided prior to commencing work evidencing such coverage with a limit of not less than $1,000,000. Any material change in limits, coverages or loss of aggregate limit due to outstanding claims must be reported to the District within 30 days of any such event.

E. **Environmental and Asbestos Abatement Coverages:** If this Agreement involves the removal of asbestos, the removal/replacement of underground tanks or the removal of toxic chemicals and substances, the Contractor will be required to provide adequate coverages, with limits not less than $1,000,000 per claim basis, for such exposures subject to requirements and approval of the District.

F. **Hold Harmless clause:** Work done on the premises, or in connection with the prosecution of this contract by the Contractor, shall be at the Contractor’s risk and the Contractor shall assume any and all liability and shall hold harmless the District, their agents, servants or employees, from claims or demands, cost expenses, loss or damage due to bodily injury, sickness or disease, including death to employees of the Contractor or any other person, or damage of property including loss of use thereof suffered by employees of the Contractor or any other person; arising out of the performance of the contract, whether such are based upon negligence of the District or any other person, firm, corporation or organization for whom such contract is being performed, their agents, employees or otherwise.

11.03 **PROOF OF CARRIAGE OF INSURANCE**

A. Before work is started, the Contractor shall forward to the Owner two copies of a Certificate of Insurance or Memorandum of Insurance, evidencing that all required Contractor Furnished Insurance is in force, executed by an authorized representative of the insurance company, and naming Owner as additional insured as outlined below.

B. Certificates and insurance for contractor furnished insurance policies shall include the following clause:

   “This policy shall not be cancelled 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 date of mailing notice.”

C. Certificates of insurance for contractor furnished insurance policies shall state in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, and cancellation and reduction notice.

D. Certificates of insurance for contractor furnished insurance policies shall clearly state that the District is named as an additional insured under the policy described and that such insurance policy shall be primary to any insurance or self-insurance maintained by the District.

E. Contractor furnished policies will be written by an insurer of satisfactory character including a Best’s rating of not less than A- VIII and an admitted carrier in the State of California. If
requested by the District, a certified copy of the actual policies with appropriate endorsement(s) and other documents shall be provided to the District.

F. In the event the contractor or any subcontractor fails to furnish and maintain required insurance or to furnish satisfactory evidence thereof, the Owner may procure and maintain such coverages for all parties on behalf of the contractor. Contractor shall furnish all necessary information and pay the premium cost to the District immediately upon presentation of a premium invoice.

G. Subcontractors. Should a contractor engage a subcontractor, the same conditions will apply to each subcontractor. Each subcontractor must be covered by insurance of the same character and in the same amounts as the Contractor, naming the Contractor and the Owner as additional insureds. Copies of certificates of insurance for subcontractors must be filed with the District within thirty (30) working days after issuance of a Notice to Proceed and at least five (5) working days before the subcontractor begins work on the site. Failure to provide evidence of such insurance shall result in the subcontractor being excluded from the site until proper coverage is verified. The cost of any resulting delay will be borne by the contractor.

11.04 PERFORMANCE BOND AND PAYMENT BOND

A. At the time of execution of the Contract, the Contractor shall file with the District the following bonds:

1. A Corporate Surety Bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the faithful performance of the Contract.

2. A Corporate Surety Bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in the performance of the Contract.

B. Corporate sureties on these bonds and on bonds accompanying bids shall be legally authorized, licensed and admitted through the California Department of Insurance to engage in the business of furnishing surety bonds in the State of California. All sureties shall have an "A-,,VIII" rating in Bests Rating Guide and shall be satisfactory to the District. The Contractor will submit surety bonds on forms provided by the District.

C. The amount of the Contract, as used to determine the amount of the bonds, shall be the amount based on the Contract Sum.

D. Failure of the successful Bidder to execute the Contract and deliver the required bonds and insurance within the 10-day period may constitute a default, and Bid Guarantee may be forfeited. Thereupon, the Owner at its sole option may award the Contract to the next acceptable Bidder, waive the time limit, or readvertise for Bids. The money and proceeds from the check or bond, as the case may be, shall be applied towards payment of damages to PCCD caused by the delay on the construction schedule, and secondly, the necessity of accepting a higher or less desirable proposal due to this delay caused by the failure or refusal on the part of the successful bidder to execute the Contract. The amount of the check or bond, as the case may be, shall not constitute a limitation upon the right of the Owner to recover for the full amount of such damage.

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.01 UNCOVERING OF WORK

A. No Work shall be covered until inspected by the District.
B. If a portion of the Work is covered contrary to the District's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the District, be uncovered for the District's observation and be replaced at the Contractor's expense without change in the Contract Time.

C. If a portion of the Work has been covered which the District has previously inspected, the District 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 uncovering and replacement shall, by appropriate Contract Modification, be paid by the District. If such Work is not in accordance with the Contract Documents, the Contractor shall pay for all costs to uncover and replace the Work, as well as related disruptions and delays.

12.02 CORRECTION OF REJECTED AND FAILING WORK

A. The Contractor shall promptly correct Work rejected by the District or failing to conform to the requirements of the Contract Documents, whether observed before or after Project Completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected Work, including additional testing and inspections and compensation for the District representative's services and expenses made necessary thereby and at the labor rates included in contracts between District and District representatives.

C. If, within one (1) year after the date of Project Completion, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so. This period of one (1) year shall be extended with respect to portions of Work first performed after Project Completion by the period of time between Project Completion and the actual performance of the Work. This obligation under this Subparagraph shall survive acceptance of the Work under the Contract and termination of the Contract. The District will give such notice promptly after discovery of the condition.

C. The Contractor shall remove from the site those portions of the Work, which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the District.

D. If the Contractor fails to correct non-conforming Work within a reasonable time as determined by the District, the District may correct it in accordance with Paragraph 2.03. If the Contractor does not proceed with correction of such non-conforming Work within a reasonable time fixed by written notice from the District, the District may correct it and store the salvable materials or equipment and dispose of non-salvable material at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten days after written notice, the District may upon ten additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including reimbursement to the District of compensation for the District representatives' services and expenses made necessary thereby. If such proceeds of sale do not cover costs, which the Contractor should have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the District.

E. The Contractor shall bear the cost of correcting destroyed or damaged Work of the District or separate contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.
F. Nothing contained in this Paragraph shall be construed to establish a period of limitation with respect to other obligations, which the Contractor might have under the Contract Documents. Establishment of the time period of one (1) year as described hereinbefore relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

12.03 CORRECTION OF DEFECTIVE WORK

A. The Contractor shall be responsible for and shall replace any defective Work, whether due to faulty materials or errors in workmanship, which may be discovered in any part of the Work within one (1) year after its acceptance by the District and the District's filing of Certificate of Completion, or within such longer period as provided elsewhere in the Contract Documents or by law.

B. Except as otherwise expressly provided elsewhere in the Contract Documents, the Contractor agrees to correct any defective work performed and any defective materials furnished hereunder for a period of one (1) years from Acceptance of the Work of this Contract by the District and the District's filing of the Notice of Project Completion.

1. The Contractor further agrees to correct any defective work performed in installation of equipment manufactured by others but installed by the Contractor.

C. Testing shall not be construed as operation or a continuation of the work. The Contractor, after receipt of notice, shall promptly make good at its expense all defects developing during the warranty period except where such is attributable to abuse. This agreement to correct defective work shall continue for corrected or replaced articles, or, if only parts of such articles are corrected or replaced, for such corrected or replaced parts, until one (1) year after date of re-deliver or correction.

D. If the District does not require correction or replacement of a defective or non-conforming article (a non-conforming article meaning an article that does not conform to that which is called for in the Contract Documents), the Contractor, if required by the District within a reasonable time after notice of defect or non-conformance, shall pay to the District such portion of the Contract price as is equitable in the circumstances as determined by the District.

E. This agreement to correct defective work, and all similar agreements applicable to Subcontractors', manufacturers' or suppliers' equipment used in or as a part of the Work (whether on equipment of the nature above specified or otherwise) shall inure to the benefit of the District without necessity of separate transfer or assignment thereof.

F. The remedies provided for in this clause shall not be restrictive but shall be cumulative and shall be in addition to all other legal remedies the District may possess with respect to latent defects or frauds.

12.04 ACCEPTANCE OF NON-CONFORMING WORK

A. If in the judgment of the District, it is undesirable or impracticable to replace any defective or non-conforming Work, the compensation to be paid to the Contractor shall be reduced by such amount as in the judgment of the District and its authorized representatives shall be equitable.

ARTICLE 13 - MISCELLANEOUS PROVISIONS
13.01 GOVERNING LAW

A. The Contractor shall keep itself fully informed of and comply with all Federal, State and Local laws and orders of any properly constituted authority in any manner affecting this contract, the performance of the Work or those persons engaged therein, including but not limited to Titles 19, 21, and 24 of the California Code of Regulations, California Code of Regulations Title 16, Chapter 8, Paragraph 810-887, Title 1, Division 5 of the California Government Code (Section 4000, et seq., “Public Work and Public Purchases”), the California Public Contract Code, The California Contractor’s Licensing law and Title 2, Division 2, Part 23, Chapter 2 of the California Education Code (Section 39100, et seq., “Construction of School Buildings”). The Contractor shall examine the Contract Documents for compliance with these Codes and Regulations and shall promptly notify the District and the Architect of any discrepancies.

B. All construction and materials of this contract shall be in full accordance with the latest rules and regulations and requirements of the California Building Code (1995 Edition) and the requirements of Titles 19 and 24 and other applicable provisions of the California Code of Regulations (California Administrative Code) unless otherwise specified in the General Requirements (Division 1), CAL-OSHA, the State Division of Industrial Safety of the Department of Industrial Relations, the Public Utilities Commission of the State of California, State Fire Marshal, the latest rules of the National Fire Protection Association, the Department of Public Health of the City and County of San Francisco, State and National laws and regulations, and of any other bodies or officials having jurisdiction or authority over same, and they shall be observed and complied with by the Contractor and any and all persons, firms and corporations employed by or under it. Authorized persons may at any time enter upon any part of the Work to ascertain whether such laws, ordinances, regulations or orders are being complied with. No additional costs will be paid or extensions of time granted as a result of such compliance. Each of the above-referenced provisions are incorporated by reference as if fully set forth herein.

C. The Contractor shall maintain in his project office a current copy of Titles 19 and 24 of the California Code of Regulations at all times during construction on this Project. Whenever the Drawings and Specifications require higher standards than are required by the regulations, the Drawings and Specifications shall govern. Whenever the Drawings and Specifications require something, which will violate the regulations, the regulations shall govern.

13.02 SUCCESSORS AND ASSIGNS

A. The Contractor shall constantly give its personal attention to the faithful prosecution of the Work. It shall keep the Work under its personal control and shall not assign by power of attorney or otherwise, nor subcontract the whole or any part thereof, except as herein provided and in accordance with the California Contractors Subletting laws.

B. All transactions with subcontractors will be made through the Contractor, and no subcontractor shall relieve the Contractor of any of its liabilities or obligations under the Contract.

C. When any subcontractor fails to prosecute a portion of the Work in a manner satisfactory to the District representative, the Contractor shall remove such subcontractor immediately upon written request of the District, and shall request approval of a new subcontractor to perform the Work pursuant to California Public Contract Code Section 4107, at no added cost to the District.

D. The Contract shall not be assigned except upon the approval of the District.

13.03 WRITTEN NOTICE
A. The addresses given in the Agreement are hereby designated as the legal address of the Contractor and the District, but any such address may be changed at any time by notice in writing, delivered to the other party. The delivery at such legal address or the depositing in any post office or post office box regularly maintained by the United States Postal Service, in a paid wrapper, directed to the other party at such address, of any drawing, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon that party.

13.04 RIGHTS AND REMEDIES

A. Duties and obligations imposed by the Contract Documents and rights and remedies available there under shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

B. Except as otherwise specifically provided herein, no action or failure to act by the District or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

13.05 TESTS AND INSPECTIONS

A. Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Contractor shall make arrangements for such tests, inspections and approvals through the District Inspector in accordance with the Uniform Building Code, California Building Code and applicable state laws or regulations. The Contractor shall give the District a minimum of 48 hours notice, excluding weekends and District holidays, of when and where tests and inspections are to be made so the District may arrange and observe such procedures. Tests and testing laboratories shall conform to California Code of Regulations Title 24, Part 1, Section 4-335.

1. The District will retain the services of testing agencies or consultants to perform such tests or inspections and render such services as may be required to verify that the Work fulfills the requirements and intent of the Contract Documents. Such services will be performed in a manner consistent with the requirements of the District and the various agencies having jurisdiction over the Work and in accordance with reasonable standards of architectural and engineering practice.

2. The District reserves the right to modify the scope of, or to reallocate, any of the testing and inspection services specified in the various Sections of the Contract Documents to be performed by a testing agency or consultant retained by the District in connection with the Work.

3. The Contractor shall bear the cost of special inspections or observations if additional such inspections or observations are occasioned by the Contractor's unexcused delay, or as a result of work that is rejected and corrected. Repeat Inspection or inspections requested and subsequently canceled, may be subject to back charges.

B. If the District or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included herein, the District will order the performance of such services by qualified independent testing agencies, or consultants as may reasonably be required. The District shall bear such costs except as otherwise provided herein.

C. If such procedures for testing, inspection or approval reveal failure of the portion of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the District representatives' and consultants' services and expenses.
1. If the District's observation of any inspection or testing undertaken pursuant to Paragraph 13.05 reveals a failure in any one of a number of identical or similar items or elements incorporated in the Work to comply with (a) the requirements of the Contract Documents or, (b) with respect to the performance of the Work, with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, the District will have the authority to order inspection and testing of all such items or elements of the Work, or of a representative number of such items or elements of the Work, as it may consider necessary or advisable.

2. The Contractor shall bear all costs thereof, including reimbursement to District for the District representatives' and consultants' additional services, if any are required, made necessary thereby. However, neither the District's authority to act under Paragraph 13.05 nor any decision made by the District's representative in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the District to the Contractor, any Subcontractor, or any of their agents or employees, or any other person performing any of the Work.

D. The failure of District, Architect and its representatives and consultants, or District's Project Inspector to observe or inspect the Work, or to detect deficiencies in the Work, or to inform Contractor of any deficiencies which may be discovered, shall not relieve Contractor, its subcontractors regardless of tier, or suppliers from their responsibility for construction means, methods, techniques, sequences and procedures, construction safety, nor from their responsibilities to carry out the work in accordance with the Contract Documents and to detect and correct defective work. The term “defective work” means work that is unsatisfactory, faulty, omitted incomplete, deficient, or does not conform to the requirements of the Contract Documents, directives of Architect or the requirements of any inspection, reference standard, test, or approval specified in the Contract Documents, or has been damaged prior to final completion, unless responsibility for the protection of such work has been assumed by District through beneficial occupancy (or substantial completion, where applicable) in accordance with the General Conditions.

E. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor.

F. If the District representatives are to observe tests, inspections or approvals required by the Contract Documents, the District shall do so promptly and, where practicable, at the normal place of testing. If the testing location is outside the nine (9) county Bay Area, the Contractor shall bear the travel-related costs, including transportation, lodging, meals, long-distance telephone calls and facsimile transmittals, and associated expenses of the District.

G. The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the District. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

1. The District reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified or when re-inspection or re-test is necessitated by prior rejection or unexcused delay.

H. All materials, equipment, and workmanship used in the work of Project shall be subject to inspection and special inspection or testing at all times during Construction and/or manufacture in accordance with California Code of Regulations Title 24, Part 1, Section 4-333(c) and 4-335.

I. The District shall supply an inspector(s) who shall observe construction in progress. The inspector shall act under the direction of the Architect and the Peralta Community College
District or the District's authorized representative. The general duties of the Inspector in fulfilling his or her responsibilities shall be in accordance with Sections 4-333, 4-336, 4-337 and 4-342 of the California Code of Regulations, Part 1 of Title 24. Inspector to be approved by the Division of the State Architect. Project Inspectors shall have the following responsibilities and limitations on authority:

1. Observe installations and work in progress as a basis for determining conformance of the work, materials and equipment with the Construction Documents. Project Inspector will report any discrepancies observed to Architect, District, and Contractor. Only the Architect has the authority to make approvals or rejections.

2. Only Architect shall interpret the requirements of the Construction Documents. If any item is ambiguous, Architect shall make a written interpretation. If Contractor requests changes or modifications to the Construction Documents, Architect shall make a written determination on the requested changes or modifications.

3. Prepare an inspection report for each inspection performed.

4. Review the monthly progress payment request before Contractor submits it to the Architect.

5. Assist the Architect in reviewing the test and inspection results of testing laboratories.

6. The Project Inspector is not authorized to permit deviations from the requirements of the Contract Documents unless such deviation has been approved by the District and the Architect.

7. The Project Inspector is not authorized to advise on or issue directions to Contractor about any aspect of construction means, methods, techniques, sequences or procedures, or relating to safety programs in connection with the Project.

J. All inspection shall be scheduled through the District Inspector by issuing an inspection request using the District standard form.

13.06 EQUAL OPPORTUNITY

A. Nondiscrimination provisions shall be in accordance with and pursuant to the provisions of the Peralta Community College District Policy on Equal Opportunity.

B. To be eligible for award of the contract, the Contractor must agree to comply with all applicable requirements authorized by the Peralta Community College District Policy where applicable.

C. It is the policy of the District that in connection with all work performed under contracts, there will be no discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age, handicap, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code Section 12900 and Labor Code Sections 1735, 1777.5, 1777.6 and 3077.5. In addition, the Contractor agrees to require like compliance by any subcontractors employed on the work.

13.07 APPRENTICES

A. Contractors must comply with certain apprenticeship obligations set forth in the Labor Code (LC Section 1777.5). Every such apprentice shall be paid the standard wage paid to
apprentices under the regulations of the craft or trade at which he or she is employed, and shall be employed only at the work of the craft or trade to which he or she is registered.

B. Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing with Section 3070) of Division 3, are eligible to be employed as apprentices on public works. 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.

C. When the Contractor to whom the contract is awarded by the state or any political subdivision, or any Subcontractor under him or her, in performing any of the work under the contract or subcontract, employs workers in any apprenticeable craft or trade, the contractor and Subcontractor shall apply to the joint apprenticeship committee administering the apprenticeship standards of the craft or trade in the area of the site of the public work 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, approval as established by the joint apprenticeship committee or committees shall be subject to the approval of the administrator of Apprenticeship. The joint apprenticeship committee or committees, subsequent to approving the subject Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or Subcontractor in order to comply with this section. Every Contractor and Subcontractor shall submit contract award information to the applicable joint apprenticeship committee, which shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. There shall be an affirmative duty upon the joint apprenticeship committee or committees administering the apprenticeship standards of the craft or trade in the area of the site of the public work to ensure equal employment and affirmative action in apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local joint apprenticeship committees provided they are already covered by the local apprenticeship standards. The ratio of work performed by apprentices to journeymen who shall be employed in the craft or trade on the public work may be the ratio stipulated in the apprenticeship standards under which the joint apprenticeship committee operates, but, except as otherwise provided in this section, in no case shall the ratio be less than one hour of apprentices work for every five hours of labor performed by a journeyman. However, the minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeymen.

D. Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the joint apprenticeship committee, is employed at the job site and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the land surveyor classification. The Contractor shall employ apprentices for the number of hours computed as above before the end of the contract. However, the Contractor shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the job site. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a joint apprenticeship committee, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification.

E. The Contractor or Subcontractor, if he or she is covered by this section, upon issuance of the approval certificate, or if he or she has been previously approved in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the contractor that he or she employs apprentices in the craft or trade in the state on all of his or her contracts on an annual average of not less than one hour of apprentice work for every five hours of labor performed by a journeyman, or in the land surveyor classification, one apprentice for each five journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the...
contractor from the 1-to-5 hourly ratio as set forth in this section. This section shall not apply to contracts of General Contractors or to contracts of specialty Contractors not bidding for work through a general or prime contractor, when the contract of General Contractors or those specialty Contractors involve less than thirty thousand dollars ($30,000) or 20 working days. Any work performed by a journeyman in excess of eight hours per day or 40 hours per week, shall not be used to calculate the hourly ratio required by this section.

F. "Apprenticeable craft or trade," as used in this section, means a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

G. A Contractor to whom the contract is awarded, 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 and who is not contributing to a fund or funds to administer and conduct the apprenticeship program in any craft or trade in the area of the site of the public work, to which fund or funds other contractors in the area of the site of the public work are contributing, shall contribute to the fund or funds in each craft or trade in which he or she employs journeymen or apprentices on the public work in the same amount or upon the same basis and in the same manner as the other Contractors do, but where the trust fund administrators are unable to accept the funds, Contractors not signatory to the trust agreement shall pay alike amount to the California apprenticeship Council. The Contractor or Subcontractor may add the amount of the contributions in computing his or her bid for the contract. The Division of Labor Standards Enforcement is authorized to enforce the payment of the contributions to the fund or funds.

H. The prime Contractor is responsible for compliance with the above to include their Subcontractors.

I. All decisions of the joint apprenticeship committee under this section are subject to Section 3081. (Amended by Stats. 1989, Ch. 1224.)

13.08 WAGES AND PAYROLLS

A. It is hereby understood and agreed that all provisions of Section 1770 et seq. of the California Labor Code are required to be incorporated into every contract for any public work or improvement and are provisions of this Contract. Applicable Labor Code provisions control over any conflicting provision contained herein.

B. It is hereby understood and agreed that all provisions of California Labor Code Sections 1770 et seq. and sections 1810, et seq. are incorporated as provisions of this Contract, including but not limited to the following:

1. The Contractor shall pay to all persons performing labor in and about the Work provided for in this Contract not less than the general prevailing rate of wages as determined by the Director of the California Department of Industrial Relations for their respective crafts and employment, including such wages for holiday and overtime work. The bidder is cautioned to inspect the minimum wage rates as rates are updated periodically.

2. The Contractor shall insert in every subcontract or other arrangement which it may make for the performance of any Work or labor on the Work provided for in this Contract, a provision that said subcontractor shall pay to all persons performing labor or rendering service under said subcontract or other arrangement the general prevailing rate of wages determined as set forth herein after for the respective crafts and employment, including such wages for holiday and overtime work.

3. The Contractor shall keep or cause to be kept an accurate record showing the name, place or residence, occupation, and per diem pay, of each person engaged in the
execution of this Contract, and every subcontractor who shall undertake the performance of any part of the Work herein required shall keep a like record of each person engaged in the execution of the subcontract. All of said records shall at all times be open to the inspection of and examination of the District and its authorized representatives.

4. The Contractor shall submit its monthly-certified payrolls with its progress payment applications to the District.

5. Should the Contractor, or any Subcontractor who shall undertake the performance of any part of the Work herein required, fails or neglects to pay to the persons who shall perform labor under this Contract, subcontract or other arrangement for the Work the general prevailing rate of wages as herein specified, it shall forfeit, and in the case of any subcontractor so failing or neglecting to pay said wage, the original contractor and the subcontractor shall jointly and severally forfeit, to the District the sum of fifty dollars ($50.00) per day for each laborer, worker or mechanic employed for each calendar day or portion thereof, while said person shall be so employed and not paid said highest general prevailing rate of wages. The District will deduct the amount, which would otherwise be due on said payment the amount of said forfeiture, or forfeitures as so certified.

6. No person performing labor or rendering service in the performance of any contract or subcontract for the Work herein required shall perform labor for a longer period than forty (40) hours per week, or five (5) days of eight (8) hours each, excepting those in crafts in which a shorter work day now prevails by agreement in private employment. Any Contractor or subcontractor who violates this provision shall be liable for the same penalties and forfeitures as those specified in Subparagraph 5 above for each laborer, mechanic or artisan employed for each calendar day or portion thereof wherein such laborer, mechanic or artisan is compelled or permitted to work more than the days and hours specified herein. Provided, that if it is so stipulated in the General Conditions, the number of days and hours of labor per week may be extended beyond the limitations above mentioned, but not to exceed eight (8) hours in any one calendar day, or six (6) days in any calendar week. In the event that emergency conditions shall arise making a change advisable during the performance of the Contract, or any portion thereof, the hours and days of labor may be extended beyond the limits hereinabove expressed, but not to exceed an additional 8 hours per day, upon the written authority of the District. Failure of the contractor to perform its contract within the time provided shall not be deemed to constitute an emergency.

C. Certification of Payroll Records: In accordance with Section 1776 of the California Labor Code:

1. The Contractor shall, and shall require that its Subcontractors, keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by it or her in connection with this Contract.

2. The payroll records shall be certified and shall be submitted to the District within five (5) days of each of the payroll periods of the Contractor and his subcontractors, and at least once monthly. Pay requests shall not be processed until certified payroll records have been submitted up-to-date. In addition, the payroll records shall be available for inspection at all reasonable hours at the job site office of the Contractor on the following basis:

   a. A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or its or her authorized representative on request.
b. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the District.

c. A certified copy of all payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District or the Department of Industrial Relations.

3. The Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request.

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

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

6. In the event of noncompliance with the requirements of said Section 1776, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects such Contractor must comply with said section. Should noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty to the District, forfeit twenty-five dollars ($25.00) for each calendar day, or a portion thereof of non-compliance, for each worker, until strict compliance is effected. Upon the request of the Department of Industrial Relations, or the District, such penalties shall be withheld from progress payments then due. All penalties and forfeitures set forth herein shall at the expiration of ninety (90) days after completion of the contract and formal acceptance of the work by the District, be forwarded to the State Treasurer if requested by the Division of Labor Standards Enforcement.

7. The responsibility for compliance with Section 1776 shall be on the Contractor.

8. No progress payments will be processed until the Contractor has submitted, to the District, certified payrolls pursuant to Section 1770 et seq. of the California Labor Code for the periods involved for all employees including those of subcontractors. The District will not be liable to the Contractor for costs arising from the delay in making progress payments.

9. If the District receives formal notice either by service or summons or registered mail of a suit commenced to recover the withheld amounts within the ninety (90) day period following contract completion, it shall retain them until a final court judgment is obtained. It shall distribute the withheld amounts in accordance with said judgment.

10. Should the District not have withheld sufficient funds to cover all penalties and forfeitures due, it shall notify the Department of Labor Standards Enforcement of the judgment and provide whatever assistance is requested by the Division of Labor Standards Enforcement to recover penalties due for failure to pay prevailing wage.

11. Should there be a reasonable belief on the part of the District that prevailing wages are not being paid by the contractor or his subcontractors, it may conduct an investigation to determine if this is the case. After a full investigation, if the District determines that the prevailing wage is not being paid, it shall withhold fifty dollars ($50.00) per day per
worker (in accordance with Labor Code 1775) whom it determines is not being paid the prevailing wage from the next progress payment due, or final payment. Alternatively, the District may notify the Division of Labor Standards Enforcement, requesting a full investigation. Should the result of the investigation conclude that the prevailing wage was not being paid, the District will withhold the amount indicated above in the manner set forth herein.

12. The statutory penalties for willful noncompliance with prevailing wage requirements may be enforced after a formal determination of non-compliance. A willful violation may result in debarment of one (1) to three (3) years in accordance with Labor Code Section 1777.1.

13. The District retains the right to consider the contractor’s willful failure to pay prevailing wage in awarding future contracts, to the extent permitted by law.

D. Copies of such prevailing rates of per diem wages are on file at the Office of the Division of Labor Statistics and Labor Prevailing Wage Unit, 525 Golden Gate Avenue, San Francisco, California 94102 or at Peralta Community College District, Facilities Planning and Construction, 50 Phelan Avenue, Room B-601, San Francisco, CA 94112, (415) 239-3046.

13.09 TEMPORARY FACILITIES

A. The Contractor shall obtain permits for, install and maintain in safe condition, whatever scaffolds, hoisting equipment, barricades, walkways, or other temporary structures, which may be required to accomplish the work on the construction project. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable State and Local codes and regulations. The Contractor is responsible for maintaining access to the buildings at all times.

B. The Contractor shall provide, maintain, and remove all weather protection required to protect the work or District property.

C. The Contractor is responsible for parking and storage as required by the Contractor, Subcontractors, and Suppliers on this project. The Contractor shall provide, maintain, and remove all work required to comply with the Storm Water Run-off Plan.

D. The Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the work it may become necessary for curing and drying of materials, or to warm spaces as may be required for the installation of materials or finishes. If new permanent HVAC equipment is used for this purpose, equipment warranty periods shall not start at this time. All warranties begin at project completion and acceptance by PCCD.

E. The Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the project. If it is necessary for dewatering to occur continually, the Contractor shall have on hand whatever spare parts or equipment that may be required to prevent interruption of dewatering.

F. The Contractor shall provide and maintain all utility services necessary to perform the work under this Contract. These may include, but are not limited to, electricity, water, gas, sewer and telephone, including charges and installation fees. Contractor shall furnish and maintain all means of distribution of utility services required within the site to properly complete the project. Electrical work shall be consistent with Division of Industrial Safety “Electrical Safety Orders (ESO), Public Utilities Commission “Rules of Overhead Line Construction” (G.O. 95), the Division of the State Architect, and CAL-OSHA. The Contractor shall provide and maintain adequate fire extinguishers and safety kits to be used in the event of an emergency.
G. Materials, tools, accessories, etc., shall be stored only where directed by the District. Storage area shall be kept neat and clean. Security of stored items shall be the Contractor's responsibility.

H. When flammable materials are stored on site, extra precaution including clear identification shall be the responsibility of the Contractor and in accordance with all applicable Federal, State, and Local laws.

I. The Contractor shall provide and maintain temporary toilets in quantities and locations as required by CAL/OSHA and other local codes and regulations. They shall be maintained and supplied in a usable and sanitary condition at all times.

J. If water at construction site is determined to be non-potable by Job Inspector, Contractor shall provide and maintain adequate potable water stations at site until final completion of Construction Project.

K. The Contractor shall maintain an office at the project site, which will be his headquarters for this Project. Any communications delivered to this office shall be considered as delivered to the Contractor. Location and size of office shall be such that it will adequately serve the needs of the Contractor's superintendent and assistants in the performance of their duties.

L. The Contractor shall also provide and maintain an office for the use of the Inspector and Architect on the site at a location to be determined by the Owner and/or the Owner's representative. This office will be watertight and of adequate size to accommodate a desk, chair, filing cabinet, plan rack, two stools, and large plan table, all provided by the Contractor. This office shall be provided with windows, lighting, heat and a non-coin operated telephone, all to be paid for by the Contractor for the duration of the Project.

M. The Contractor shall promptly remove all such temporary facilities when they are no longer needed for the work or for completion of the Project, mutually agreed upon by the Contractor and the District.


13.10 CONFLICT OF INTEREST

A. Contractor understands the following and certifies that it does not know of any facts which constitutes a violation:

1. Contractor hereby certifies that no current Board member or employee of the Peralta Community College District, and no one who has been a Board member or who has been employed by the Peralta Community College District within the past two years, has participated in bidding, selling or promoting this contract. Furthermore, Contractor certifies that no such current or former Board member or employee has an ownership interest in this contract, nor shall any such current or former Board member or employee derive any compensation, directly or indirectly, from this contract. Contractor understands that any violation of this provision of the contract shall make the agreement voidable by the District.

2. Government Code of the State of California, Section 87100 et. seq. regarding Public officials; state and local; financial interest:

B. No public official at any level of state or local government shall make, participate in making or in any way attempt to use his official position to influence a governmental decision in which he knows or has reason to know he has a financial interest.
13.11  SUPERVISION BY THE DIVISION OF THE STATE ARCHITECT

A. The District (Owner) shall notify the Division of the State Architect (“ORS”) of the start of construction as required by California Code of Regulations, Title 24, Part 1, Section 4-331, and by California Education Code Sections 39152, 39153, 81142, and 81143.

B. As required by California Code of Regulations, Title 24, Part 1, section 4-334, during construction, reconstruction, repair, alteration of or addition to any school building, the ORS shall make such inspection as in its judgment is necessary or proper for enforcement of the act and the protection of the safety of the pupils, the teachers and the public. If at any time as the work progresses and prior to the issuance of the final approval, it shall be found by the ORS that modifications or changes are necessary to secure safety, orders shall be issued by the DSA for such modifications or changes.

13.12  INSTRUCTIONS AND MANUALS

A. Three copies each of all maintenance instructions, application/installation instructions and service materials called for in the Contract Documents shall be provided by the Contractor. These shall be complete as to drawings, details parts lists, performance data and other information that may be required for the Owner to easily maintain and service the materials and equipment installed under this Contract.

B. All manufacturer’s application/installation instructions shall be given to the Inspector at least ten (10) days prior to first material application or installation of the item by the Contractor.

C. The maintenance instructions and manuals, along with any specified guarantees, shall be delivered by the Contractor to the Architect for review prior to submission to the Owner. The Contractor or appropriate Subcontractors shall instruct Owner’s personnel in the operation and maintenance of the more complex equipment prior to final acceptance of the Project.

13.13  AS-BUILT DRAWINGS

A. The Contractor and all his subcontractors shall maintain a separate complete set of contract drawings at the work site, which will be used solely for the purpose of recording changes made in any portion of the work during the course of construction, regardless of the reason for the change. As changes occur, they will be included or marked on this record set on a daily basis if at all possible to keep them up to date at all times. Actual locations to scale shall be identified on the drawings for all runs of mechanical and electrical work, including all site utilities, etc., installed underground, in walls, floors, and furred spaces, or otherwise concealed areas. Deviations from the drawings shall be shown in detail. All main runs, whether piping, conduit, ductwork, drain lines, etc., shall be located in addition, by dimension and elevation. Where appropriate, the source document of the change shall be noted, i.e., RFI #, etc.)

D. Progress payments may be delayed or withheld until such time as the record set (AS BUILT DRAWINGS) is brought up to date to the satisfaction of the Architect. The Contractor shall verify that all changes in the work are included in the AS-BUILT drawings and shall deliver the complete set thereof to the Architect for his review and satisfaction prior to submittal to the Owner. A necessary condition for release of final retention shall be submission of complete set of AS BUILT drawings to the Owner as approved by the Architect. These drawings shall be submitted to the Owner with request for final payment.

13.14  PREVAILING WAGES

A. The District reserves the right to monitor Prevailing Wages in the work force in accordance with the rights given the District by the Labor Code and the Contractor agrees to cooperate with the District at no additional cost to the District.
13.15 ASBESTOS MATERIALS
A. No materials containing asbestos shall be used or installed in the work on District contracts unless the Contractor has prior written approval from the manager of the District's Asbestos Control Program.

13.16 ASBESTOS ABATEMENT
A. No construction or demolition operations as required by the contract documents shall simultaneously operate in the proximity of an asbestos work area or affect in any way the asbestos abatement work, including air fiber levels. The General Contractor will be fully responsible for any costs associated with delays and/or additional testing directly or indirectly resulting from such interferences. All air samples above the specified criteria of 0.01 f/cc outside asbestos work areas will be required to be analyzed by transmission electron microscopy (TEM) at the Contractor's expense.

13.17 SCHOOL FACILITIES UNDER CONSTRUCTION OR RENOVATION; USE OF LEAD PAINT, PLUMBING, ETC. PROHIBITED
A. New School facilities under construction, or school facilities undergoing a modernization or renovation program, shall not utilize lead-based paint, lead plumbing and solders, or other potential sources of lead contamination (added by stats. 1992, c. 1317 (A.B.1659) 2. of General Education Code Provisions.

13.18 RECYCLING PROGRAM
A. It is the expressed intent of the PCCD to minimize waste and waste generation in all activities under its control and oversight. To that end, the Contractor shall be required to divert, to the maximum extent feasible, all materials from solid waste to other uses. Specific requirements are detailed as follows:

E. The Contractor shall be required to separate construction and demolition debris materials by type and arrange for pick-up or drop-off and re-use or recycle of said materials. Materials shall include, at a minimum, wood (re-usable dimensional lumber, re-usable wood pallets and recyclable untreated wood), ferrous and non-ferrous metals, cardboard, excavation soil, concrete, and asphalt, as appropriate, given the nature of the job. Materials need not be recycled if an appropriate re-use, employing a local firm, such as Building Resources, can be made.

D. The contractor shall provide the District, in advance, a list of material types that will likely become surplus throughout the course of the project and a plan for intended disposition. The Contractor is responsible for the removal of all construction and demolition debris generated by the project. The PCCD Recycling Coordinator can provide the Contractor with a list of acceptable companies that provide recycling and re-use service for construction and demolition debris. The PCCD Recycling Program will provide the Contractor with recycling services for the following materials: aluminum cans, glass bottles, white paper, and mixed paper.

ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

14.01 TERMINATION BY THE DISTRICT FOR CAUSE
A. The District may terminate the Contract if the Contractor:

1. Refuses or fails to supply enough properly skilled workers or proper materials;
2. Persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or

3. Otherwise is guilty of substantial breach of a provision of the Contract Documents.

B. 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 seven days' written notice, terminate employment of the Contractor and may:

1. Take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

2. Accept assignment of subcontracts pursuant to Paragraph 5.03; and

3. Finish the Work by whatever reasonable method the District may deem expedient.

C. When the District terminates the Contract for one of the reasons stated in Article 14 of these General Conditions, the Contractor shall not be entitled to receive further payment until the Work is finished.

D. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the District representatives' services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor and/or the Surety shall pay the difference to the District. The amount to be paid to the Contractor or District, as the case may be, upon application, and be an obligation for payment that shall survive termination of the Contract.

14.02 SUSPENSION BY THE DISTRICT FOR CONVENIENCE

A. The District may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine.

B. An adjustment shall be made for increases in the cost of performance of the Contract caused by suspension, delay or interruption. No adjustment shall be made to the extent:

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

2. That an equitable adjustment is made or denied under another provision of this Contract.

14.03 TERMINATION BY THE DISTRICT FOR CONVENIENCE

A. The District may terminate the performance of Work under this Contract in accordance with this clause in whole, or from time to time in part, whenever the District shall determine that such termination is in the best interest of the District. Any such termination shall be effected by delivery to the Contractor of a notice of termination specifying the extent to which performance of Work under the contract is terminated, and the date upon which such termination becomes effective.

B. After receipt of a notice of termination, and except as otherwise directed by the District, the Contractor shall:

1. Stop Work under the contract on the date and to the extent specified in the notice of termination;
2. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete the portion of the Work under the contract which is not terminated;

3. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the notice of termination;

4. Assign to the District, in the manner, at the times, and to the extent directed by the District, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated. The District shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts with the approval or ratification of the District, in writing, to the extent it may require. Its approval or ratification shall be final for all the purposes of this clause;

6. Transfer title to the District, and deliver in the manner, at the times, and to the extent, if any, directed by the District, (a) the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the Work terminated by the notice of termination, and (b) the completed or partially completed drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the District;

7. Use its best efforts to sell, in the manner, at the times, to the extent, and at the price or prices that the District directs or authorizes, any property of the types previously referred to herein, but the Contractor (a) shall not be required to extend credit to any purchaser, and (b) may acquire any such property under the conditions prescribed and at a price or prices approved by the District. The proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the District to the Contractor under this contract or shall otherwise be credited to the price or cost of the Work covered by this contract or paid in such other manner as the District may direct;

8. Complete performance of such part of the Work as shall not have been terminated by the notice of termination; and

9. Take such action as may be necessary, or as the District may direct, for the protection and preservation of the property related to this contract, which is in the possession of the contractor, and in which the District has or may acquire an interest.

C. After receipt of a notice of termination, the Contractor shall submit to the District its termination claim, in the form and with the certification the District prescribes. Such claim shall be submitted promptly but in no event later than one (1) year from the effective date of termination, unless one or more extension in writing are granted by the District upon request of the Contractor made in writing within such 1-year period or authorized extension. However, if the District determines that the facts justify such action, it may receive and act upon any such termination claim at any time after such one-year period or extension. If the Contractor fails to submit its termination claim within the time allowed, the District may determine, on the basis of information available to the District, the amount, if any, due to the Contractor because of the termination. The District shall then pay to the Contractor the amount so determined.

D. Subject to the previous provisions, the Contractor and the District may agree upon the whole or any part of the amount or amounts to be paid to the Contractor because of the total or partial termination of Work under this Paragraph. The amount or amounts may include a reasonable allowance for profit on Work done. However, such agreed amount or amounts,
exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of Work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing following, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the District to agree upon the whole amount to be paid to the Contractor because of the termination of Work under this Paragraph, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this Subparagraph.

E. If the Contractor and the District fail to agree, as the previous subparagraph provides, on the whole amount to be paid to the Contractor because of the termination of Work hereunder, the District shall determine, on the basis of information available to the District, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:

1. For all Contract Work performed before effective date of the notice of termination, the total (without duplication of any items) of:
   a. The cost of such Work;
   b. The cost of settling and paying claims arising out of the termination of Work under subcontracts or orders as previously provided. This cost is exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the Contractor before the effective date of the notice of termination. These amounts shall be included in the cost on account of which payment is made for the cost of Work previously provided; and
   c. A sum, as profit on the cost of the Work as previously provided, that the District determines to be fair and reasonable. But, if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed, and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

2. The reasonable cost of the preservation and protection of property incurred as previously provided. The total sum to be paid to the Contractor shall not exceed the total Contract price as reduced by the amount of payments otherwise made and as further reduced by the Contract Price of Work not terminated. Except for normal spoilage, and except to the extent that the District shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor the fair value, as determined by the District, of property which is destroyed, lost, stolen, or damaged, to the extent that it is undeliverable to the District, or to a buyer as previously provided.

F. The Contractor shall have the right to dispute as provided hereinafter in the Subparagraph entitled "Remedies," from any determination the District makes under the previous subparagraphs. But, if the Contractor has failed to submit its claim within the time provided and has failed to request extension of such time, it shall have no such right of appeal. In any case where the District has determined the amount owed, the District shall pay to the Contractor the following:

1. If there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the District or;

2. If a "Remedies" proceeding is initiated, the amount finally determined in such "Remedies" proceeding.

G. In arriving at the amount due the Contractor under this clause there shall be deducted:
1. All unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract;

2. Any claim which the District may have against the Contractor in connection with this Contract; and

3. The agreed price for, or the proceeds of sale of, any materials, supplies, or other things kept by the Contractor or sold, under the provisions of this clause, and not otherwise recovered by or credited to the District.

H. If the termination hereunder were partial, before the settlement of the terminated portion of this contract, the Contractor may file with the District a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the notice of termination). Such equitable adjustment as may be agreed upon shall be made in the price or prices. Nothing contained herein shall limit the right of the District and the Contractor to agree upon the amount or amounts to be paid to the continued portion of the contract when the contract does not contain an established contract price for the continued portion.

I. Remedies: All claims, counter-claims, disputes and other matters in question between the District and the Contractor arising out of or relating to this Contract or its breach will be decided in a court of competent jurisdiction within the State of California.

J. The Contractor understands and agrees that the forgoing termination of Contract for convenience provisions shall be interpreted and enforced pursuant to cases interpreting and enforcing similar provisions in federal procurement contracts.

END OF DOCUMENT
# PROJECT LABOR AGREEMENT

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PERALTA COMMUNITY COLLEGE DISTRICT

CONSTRUCTION
PROJECT LABOR AGREEMENT

PREAMBLE

This Project Labor Agreement ("Agreement") is entered into this 21st day of July, 2009 by and between the Peralta Community College District (hereinafter, the "District" and the Building and Construction Trades Council of Alameda County, AFL-CIO (the "Council") and the Unions signatory to this Agreement, collectively referred to as the "Unions" or "Signatory Unions", with respect to the new construction work within the scope of this Agreement as hereinafter defined.

It is understood by the parties to this Agreement that when this Agreement is executed by the Chancellor after authorization by the District's Governing Board, it will become the policy of the District that the construction work covered by this Agreement shall be contracted exclusively to Contractors who agree to be bound by the terms of this Agreement through execution of it or the Letter of Assent (Attachment A). No practice, understanding or agreement between Contractor(s) and a Union party which is not provided for in this Agreement will be binding on any other party or Projects covered by this Agreement unless endorsed in writing by the District PLA Program Manager.

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/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.

The District, through its District PLA Program Manager, on staff or under contract, shall administer this Agreement and shall monitor compliance with it by all Contractors. For purposes of this Agreement, each Contractor recognizes and appoints the District PLA Program Manager as its agent, with full, independent authority to implement and administer this Agreement, and, when and if appropriate or necessary, negotiate amendments to this Agreement. Together with the Union parties, the District shall be considered a "negotiating party" of this Agreement. None of the terms of this Agreement, including specifically this agency designation and the Recitals set out below, shall be interpreted to cause or have the effect of creating a joint or single employer relationship between the District and any Contractor or between Contractors on this Project.

RECITALS

WHEREAS, the Peralta Community College District ("District") is considering the development and construction of various project(s) throughout the District in connection with its PLA covered Projects; and

WHEREAS, it is essential that the construction work required in connection with the PLA covered Projects be done in an efficient and economical manner so as to secure optimum
productivity and to eliminate delays in the construction operations, thus ensuring timely completion in the work undertaken by the contractors; and

WHEREAS, the District desires to enter into a project labor agreement ("Project Labor Agreement") with appropriate building and construction trade councils and related unions to be implemented and enforced on certain projects covered by the PLA; and

WHEREAS, it is the District's intent to negotiate and enter into a Project Labor Agreement with the appropriate building and construction trades council and related unions to ensure all contractors performing work on the project(s) comply with all requirements under the California Labor Code applicable to the project(s), including, but not limited to, prevailing wages and apprenticeship; and

WHEREAS, it is the intent and purpose of the Project Labor Agreement to provide, establish and put into practice effective methods for the settlement of labor disputes which may arise on the project(s) covered without strike, lockout, work stoppage, or slowdown, to the end that the project(s) shall be assured continuity of operation; and

WHEREAS, the District desires to authorize its Chancellor or his designee to negotiate and execute a Project Labor Agreement with the appropriate building and construction trades council and related unions to take any and all action necessary to further the District's interests in negotiating the Project Labor Agreement; and

WHEREAS, The parties agree that one of the primary purposes of this Agreement is to avoid the tensions that might arise on the Project if union and nonunion workers of different employers were to work side by side on the Project thereby leading to labor disputes that could delay completion of the Project, and

WHEREAS, the District reserves the right to control the site at which the Project will be constructed, and the right to coordinate project construction work and scheduling, including, where appropriate, setting uniform start times, and approving the necessity for and the times of shift work.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE 1
DEFINITIONS

1.1 "Agreement" means this Project Labor Agreement.

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

1.3 "Contractor(s)" means any individual, firm, partnership or corporation, or 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 the construction of any part of the PLA Program under contract terms and conditions approved by the District and which incorporate this Agreement.
1.4 "Construction Contract" means the public works or improvement contracts which have been approved and signed by the District and which are part of the PLA Program.

1.5 "PLA Program" means the PLA-eligible Project(s) that are all Covered Work which are all those construction contracts funded in whole or in part by bond funding, State grants, tax increment funding and all other funding that is allocated for construction and may be more generally known as public funding and identified by the District as part of the PLA Program and the construction of which was awarded to a contractor during the term of this Agreement.

1.6 "Project" is an individual construction Project that is a part of the PLA Program and designated to be covered by this Agreement.

1.7 "Union(s)" means the Building and Construction Trades Council of Alameda County, AFL-CIO ("Council") and any other labor organization signatory to this Agreement, acting in their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement ("Signatory Unions").

1.8 "Master Agreement" means the Master Collective Bargaining Agreement of each craft Union signatory hereto covering the corresponding work between a bona fide contractor group or representative and the signatory Unions having jurisdiction over the work on the Project and that are identified and agreed to by the District PLA Program Manager and the Unions.

1.9 "District PLA Program Manager" means the person(s) and/or business entity designated by the District to oversee all phases of construction on the PLA Program and is:

1.10 "District Project Manager(s)" means the person(s) selected by the District on one or more campuses to oversee and/or inspect construction activity, as agents of the District. They will not be engaged in construction work, and their relationship to this Agreement, if any, will be through the District.

The initial term of this Agreement shall be for five (5) years, commencing with the acceptance of this agreement by both parties. At the end of this initial period, this Agreement will be reviewed and considered for extension or renewal with modifications if appropriate. The term of this Agreement will be automatically extended for additional successive five (5) year terms unless the District, prior to the expiration of any such term and, after meeting with the Council and the Unions, finds in a public hearing that the work performed has been unsatisfactory, and gives the Council and Unions notice that it will not renew this Agreement.

1.11 This Agreement shall remain in effect for any Construction Contract awarded under this Agreement but not completed by the end of the term for the duration of that Contract.

1.12 "Local area resident" means Alameda County residents of Alameda, Albany, Berkeley, Emeryville, Piedmont and especially the City of Oakland.
ARTICLE 2
PURPOSE

2.1 The purpose of this Agreement is to promote efficiency of construction operations and provide for peaceful, efficient, and binding procedures for settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the PLA covered Projects. The PLA Program is intended to increase the educational opportunities and raise student achievement through the improvement of academic learning and health and safety conditions on the campuses of the District by the development of campus facilities for students, faculty and staff.

2.2 Further, the purpose of this Agreement is to ensure that all Contractors performing work on all PLA-covered Projects will comply with all requirements under the California Labor Code and utilize resources available in the local area, including those provided by minority and women-owned enterprises.

2.3 In so doing, the parties to this Agreement establish the foundation to promote the public interest, to provide a safe work place, to ensure high quality construction, to ensure uninterrupted construction, and to secure optimum productivity, on-schedule performance and the satisfaction of the Peralta Community College District.

ARTICLE 3
SCOPE OF AGREEMENT

3.1 Covered Work: This Agreement covers, without limitation, all on-site construction, demolition, alteration, painting or repair of buildings, structures and other works and related activities for a Project 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), site preparation, survey work, soils and material inspection and testing, demolition of existing structures, and all construction, demolition or improvements required to be performed as a condition of approval by any public agency. On-site work includes work done or necessary for a Project or in temporary yards or areas adjacent to and dedicated to the Project, and at any on-site batch plant constructed solely to supply materials to the Project, when those sites are dedicated exclusively to the project. The furnishing of supplies, equipment or materials which are stockpiled for later use shall in no case be considered subcontracting, however, this Agreement shall cover and the appropriate Prevailing Wage Rate shall be paid to those workers delivering ready-mix concrete, asphalt, aggregate, sand or other fill materials that will be directly incorporated into the construction process as well as the off-hauling of debris and excess fill and/or mud shall be covered by the terms and conditions of this Agreement. Employers (including brokers), of drivers hauling such materials shall provide certified payroll records to the awarding body within ten (10) days of written request or as required by the bid specifications.

3.2 Project Description: The Agreement shall govern the award of all Construction Contracts and applies to all Covered Work which are all those construction contracts funded in whole or in part by bond funding, State grants, tax increment funding and all other funding that is allocated for construction and may be more generally known as
public funding and identified by the District as part of the PLA Program. “Exhibit A”, attached to this Agreement and incorporated herein by reference, is a list of covered Projects of the current Construction Contracts covered by this Agreement and such list shall be supplemented from time to time, when necessary during the term of this Agreement. The District has the absolute right to combine, consolidate, add, or cancel Project(s) or portions of Project(s) identified as part of the PLA Program. Should the District remove any Project listed in “Exhibit A” from the Program and thereafter authorize that construction work be commenced on the Project, the Project shall be performed under the terms of this Agreement. Once a construction Project is completed, it is no longer covered by this Agreement. For the purposes of this Agreement, a Project shall be considered completed upon the filing by the District of a Notice of Completion to the Contractor.

Further, the District may prohibit some or all work on certain days or during certain hours of the day to accommodate the ongoing operations of the District’s education facilities and/or to mitigate the effect of the ongoing Project work on the businesses and residents in the neighborhood of the Project site; and/or require such other operational or schedule changes that it may deem necessary, in its sole judgment, to effectively maintain its primary mission and to remain a good neighbor to those in the area of its campuses. Such schedule changes shall be in accordance with the Master Agreement requirements. In order to permit the Contractor(s) and Union(s) to make appropriate scheduling plans, the District will provide the PLA Program Manager, the affected Contractor(s) and Union(s) with reasonable notice of any changes it requires pursuant to this Article.

3.3 **Most Favored Nations Clause:** No provision not contained within this Agreement shall be recognized or applied if it may be construed to apply exclusively or predominantly to work covered by this Agreement only.

3.4 **Exclusions:**

(a) The Agreement shall be limited to construction work on the PLA Program and is not intended to, and shall not govern any construction work performed at the District at anytime prior to the effective date, or after the expiration or termination of the Agreement, except as noted in Section 1.11 above that this Agreement shall continue in effect on any Project awarded under this Agreement but not completed by the end of the term of this Agreement for the duration of that Contract.

(b) The Parties acknowledge that the District may utilize $500,000 of funding annually to perform maintenance work on maintenance and operations projects for the duration of this Agreement.

Contractors or subcontractors with “excluded contracts” shall not be subject to the terms of this Agreement but shall meet all State and Federal laws and regulatory requirements governing construction for the project where they are performing work. All excluded contractors will meet the Certified Payroll requirements within the 10 day period required by State Law for submittal of requested Certified Payroll information. The District shall supply the Union(s) with the
inspector's log and all other documents used for oversight of the project when such information is requested.

It is further agreed that, other than the $500,000 per year maintenance exclusion, the following seven projects are the only projects that shall be excluded from the Agreement.

1. Laney: Smart Media, Project # 02314
2. Laney: Buildings F&G Computer Labs, Project # 02314
3. Laney: Photo Lab Gallery Lighting, Project # 02314
4. Merritt: Swing Space (A129), Project #
5. Merritt: Horticulture Department Improvements, Project # 02303-110
6. District Wide: ADA Upgrades, Project # unassigned
7. District Wide: Elevator Cabs, controls and finishes upgrades, Project # 02326

(c) The Agreement is not intended to, and shall not affect the operation or maintenance of the District.

(d) This Agreement shall not apply to a Contractors' executives, managerial employees, engineering employees, supervisors above the classification of general foreman, or any office and clerical employees.

(e) This Agreement shall not apply to employees of the District.

(f) This Agreement is not intended to, and shall not affect equipment and machinery owned or controlled and operated by the District for work not covered by this Agreement.

(g) This Agreement excludes all off-site manufacture and handling of equipment, machinery or materials (except for aggregates, sand or other fill material which are either directly incorporated into the construction process, or directly removed from the site of construction)

(h) Offsite maintenance of leased equipment and on-site supervision of such work is excluded from the Agreement.

(i) The Agreement is not intended to, and shall not affect any work by employees of the District or its contractors involved in general maintenance, emergency repair, and/or cleaning work, except as specifically covered by this Agreement.

(j) In accordance with 3.4(b) and in emergency situations, at the sole option of the District, the Agreement shall not apply to contracts awarded under the Public Contracts Code §20654 and §20655, or any emergency public works resolutions or any project using federal funds where prohibited by law.

(k) Work covered by the Agreement within the craft jurisdiction of the Elevator Constructors will be performed under the terms of the National Agreement of the International Union of Elevator Constructors except that Articles 6, 10, 14 and 15 of the Agreement shall prevail and be applied to such work.
(I) 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 Building and Construction Trades Council of Alameda County, AFL-CIO 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 Building and Construction Trades Council of Alameda County, AFL-CIO shall assist the District in encouraging and soliciting local and other subcontractors in bidding to interested general contractors. The District reserves the right, without reservation, to reject all bids and re-bid the Project.

ARTICLE 4
EFFECT OF AGREEMENT

4.1 By executing this Agreement, the Unions and the District agree to be bound by each and all of the provisions of this Agreement. The provisions of this Agreement shall apply to all covered work, notwithstanding the provisions of any other local, area and/or national agreements which may conflict with or differ from the terms of this Agreement. The District and each Signatory Union shall agree upon the local collective bargaining agreement to be designated as the applicable Master Agreement for work covered by this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Master Agreement, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Master Agreement and is not covered by this Agreement, the provisions of the Master Agreement shall prevail. Any dispute as to the applicable source between this Agreement and any Master Agreement for determining the wages, hours and working conditions of employees on this Project shall be resolved under the procedures established in Article 12. This Agreement represents the complete understanding of the parties, and no Contractor is or will be required to sign any other agreement with a signatory union as a condition of performing work within the scope of this Agreement. No practice, understanding or agreement between a Contractor and a Union party which is not specifically set forth in this Agreement will be binding on any other party unless endorsed in writing by the District or the District's PLA Program Manager.

4.2 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.

4.3 Each Contractor(s) shall alone be liable and responsible for its own individual acts and conduct and for any breach or alleged breach of this Agreement.

4.4 It is mutually agreed by the parties that any liability by a Signatory Union(s) to this Agreement shall be several and not joint. Any alleged breach of this Agreement by a signatory Union(s) shall not affect the rights, liabilities, obligations and duties between the signatory Contractor(s) and the other Union(s) party to this Agreement.
ARTICLE 5
SUBCONTRACTS

5.1 The District, PLA Program Manager, and/or Contractors, as appropriate, have the absolute right to award contracts or subcontracts on this Project notwithstanding the existence or non-existence of any collective bargaining agreements between the prospective contractor and any union party, and provided that such contractor is willing, ready and able to comply with this Agreement. Such contractor shall execute a Letter of Assent, should it be awarded work covered by this Agreement.

5.2 Subcontractors of any tier shall become a party to this Agreement by signing the Letter of Assent (Attachment A). By signing the Letter of Assent, a subcontractor to a Contractor does not thereby establish any contractual relationship with the District, except for this Agreement, and the District shall not become party to nor become responsible for the performance of the construction subcontract between the Contractor and its subcontractor(s).

5.3 The District and each Contractor(s) agree that neither it nor any of its subcontractors will subcontract any work to be done on PLA covered Projects except to a person, firm, or corporation who is or becomes party to the Agreement. Any Contractor(s) working on the Project shall, as a condition to working on the Project, become signatory to and perform all work under the terms of this Agreement.

5.4 A subcontractor is defined as any person, firm or corporation who agrees under contract with the Contractor(s), or a subcontractor of the Contractor, to perform on the Project, any part or portion of the construction work covered by the Construction Contract, including the operating of construction equipment, performance of labor and/or installation of materials. Trucking firms are included as subcontractors when hauling materials in the execution of the Project as provided for in Article 3.1.

5.5 The Contractor(s) has the primary obligation for performance of all conditions of this Agreement. This obligation cannot be relieved, evaded or diminished by subcontracting. Should the Contractor(s) elect to subcontract, the Contractor(s) shall continue to have such primary obligation.

5.6 A Contractor(s) who provides in the subcontract that the subcontractor will pay the wages and benefits and will observe the hours and all other terms and conditions of this Agreement and who requires its subcontractor(s) to execute a Letter of Assent, shall not be liable for any delinquency by such subcontractor in the payment of any wages or fringe benefits provided herein, except as may be required by State or Federal law.

(a) The Contractor(s) will give written notice and a copy of the Letter of Assent to the Council of any subcontract involving the performance of work covered by this Agreement within either five (5) days of entering such subcontract or before the subcontractor commences work on the Project, whichever occurs first, and shall specify the name and address of the subcontractor. Written notice at a Preconstruction Conference shall be deemed written notice under this provision for those subcontractors listed at the Prejob Meeting only.
(b) Thereafter, if such subcontractor should become delinquent in the payment of any wages or benefits as above specified, the Trust Fund shall immediately give written notice thereof to the Contractor(s) and to the subcontractor specifying the nature and amount of such delinquency.

(c) The provision of this Section 5.6 shall be applied only to the extent permitted by law and, notwithstanding any other provision of the Agreement, no aspect of the subcontractors' clause, including its enforcement, may be enforced by or subject to strike or picketing.

(d) If the Contractor(s) selects the subcontractor(s) and is signatory to a Master Agreement that provides the higher level contractor shall remain liable for the defaults of the subcontractor, nothing in this Agreement shall interfere with the Contractor(s)' responsibilities and liabilities under the Master Agreement.

5.7 (a) With regard to any employer that is independently signed to any Master Labor Agreement ("MLA"), this Project Labor Agreement shall in no way supersede or prevent the enforcement of any subcontracting clause contained in such MLA, except as specifically set forth in subsection (b) of this section. Any such subcontracting clause in an MLA shall remain and be fully enforceable between each Union and its signatory employers, and no provision of this Project Labor Agreement shall be interpreted and/or applied in any manner that would give this Project Labor Agreement precedence over subcontracting obligations and restrictions that exist between Unions and their respective signatory employers under an MLA, except as specifically set forth in subsection (b) of this section.

(b) If a Union (hereafter "aggrieved union") believes that an assignment of work on this Project has been made improperly by a contractor or subcontractor, even if that assignment was as a result of another Union's successful enforcement of the subcontracting clause in its MLA, as permitted by subsection (a) of this section, the aggrieved union may submit a claim under the jurisdictional resolution process contained in Article 15 of this Project Labor Agreement, and the decision rendered as part of that process shall be enforceable to require the contractor or subcontractor that made the work assignment to assign that work prospectively to the aggrieved union. An award made to a Union under the subcontracting clause of its MLA, as permitted pursuant to subsection (a) of this section, shall be valid and fully enforceable by that Union unless it conflicts with a jurisdictional award made pursuant to this Project Labor Agreement. If the award made under the MLA conflicts with the jurisdictional award, the award of any damages under the former shall be null and void ab initio.

ARTICLE 6
WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS

6.1 The Unions, District and Contractor(s) agree that for the duration of this Agreement:

(a) There shall be no strikes, sympathy strikes, work stoppages, picketing, handbilling or otherwise advising the public that a labor dispute exists, or slowdowns or disruptions of any kind, for any reason, by the Union(s) or employees employed on a Project, at the job site of the Project or at any other facility of the District because of a dispute on a Project or other projects involving
a contractor or subcontractor, of any tier, or due to any labor dispute arising at
the project site or any other District site. Disputes arising between the Union(s)
and Contractor(s) on other District projects are not governed by the terms of this
Agreement, except that the existence of such disputes or actions taken in
furtherance of such disputes may not be used to affect work on projects covered
by this Agreement. A Union may withhold labor (but not picket) due to a
Contractor's or subcontractor's failure to make Trust Fund contributions or failure
to meet its payroll on this Project, and such withholding of labor shall not be
considered a violation of this Article. In the case of non-payment of Trust Fund
contributions, a Union shall give the General Contractor and the District
Representative five (5) business days notice prior to withholding labor from the
Contractor or Sub-contractor during which time, the General Contractor shall
have the opportunity to cure the default.

(b) As to employees employed on a Project, there shall be no lockout of any kind by
a Contractor(s) covered by the Agreement.

(c) If a Master Agreement between a contractor(s) and the Union(s) expires before
the Contractor(s) completes the performance of a Construction Contract and the
Union or contractor(s) gives notice of demands for a new or modified Master
Agreement, the Union(s) agrees that it will not strike the Contractor(s) on said
contract for work covered under the Agreement and the Union(s) and the
Contractor(s) agree that the expired collective bargaining agreement shall
continue in full force and effect for work covered under the Agreement until a new
or modified Master Agreement is reached between the Union(s) and Contract
Employer. If the new or modified Master Agreement reached between the
Union(s) and contractor(s) provides that any terms of compensation of the
Master Agreement shall be uniformly retroactive for all contractors bound to the
Master Agreement, the Contractor(s) agrees to comply with any retroactive terms
of the new or modified Master Agreement which is applicable to employees
employed on a Project during the interim period within seven (7) days.

6.2 Any party to the Agreement may institute the following procedure, in lieu of or in addition
to any other action at law or equity, when a breach of this Article is alleged to have occurred:

(a) A party invoking this procedure shall notify Gerald McKay, as the permanent
arbitrator, or, Thomas Angelo, 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 12.2. Notice to the arbitrator shall be by the most expeditious
means available, with notices by e-mail, facsimile or telephone to the party
alleged to be in violation and to the Building and Construction Trades Council of
Alameda County, AFL-CIO.

(b) Upon receipt of said notice, the designated arbitrator named above or his/her
alternate will designate a place for, schedule and hold a hearing within twenty-
four (24) hours.
(c) 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.

(d) The sole issue at the hearing shall be whether or not a violation of this Article 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. If the arbitrator determines there
exists a violation of this Article the arbitrator shall 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.

(e) The award shall be final, binding and non-revisable as to the merits. 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 6.2 (d) 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.

(f) 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.

(g) The costs of the arbitration, including the fee and expenses of the Arbitrator, shall
be borne by the losing party.

(h) The District PLA Program Manager is a party of interest in all proceedings arising
under this Article and shall be sent contemporaneous copies of all notifications
required by these Articles, and at its option, may participate as a full party in any
proceeding initiated under these articles.

(i) If the arbitrator determines in accordance with this article that a work stoppage
has occurred, the respondent Union(s) shall, within eight (8) hours of receipt of
the award, direct all the employees they represent on the Project to immediately
return to work. If the craft(s) involved does 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 award, and the respondent Union(s) have not complied
with their obligation to immediately instruct, order, and use their best efforts to
cause a cessation of the violation and return of the employees they represent to
work, the respondent Union(s) shall each pay a sum as liquidated damages to the District, and each shall pay an additional sum per shift for each shift thereafter on which the craft(s) has not returned to work.

Similarly, if the arbitrator determines in accordance with this article that a lock-out has occurred, the respondent Contractor(s) shall, within eight (8) hours of receipt of the award, return all of the affected employees to work on the Project, or otherwise correct the violation as 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 respondent Contractor(s) shall pay a sum 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 appropriate and designated by the Arbitrator) and each shall pay an additional sum per shift for each shift thereafter in which compliance by the respondent Contractor(s) has not between completed.

The Arbitrator shall retain jurisdiction to determine compliance with this article and to establish the appropriate sum of liquidated damages, which shall not be less than one thousand dollars ($1,000.00) nor more than fifteen thousand dollars ($15,000.00) for each shift.

ARTICLE 7
PRE-JOB MEETING

7.1 A pre-job meeting shall be held at the Building Trades offices prior to the commencement of each Construction Contract to establish the scope of work in each Contractor's Construction Contract. It shall be the responsibility of the Prime Contractor(s) to set such meeting. The District will notify the Union(s) of award of all covered projects prior to commencement of work. Such pre-job meeting shall be attended by a representative each from the participating Contractor(s) and Union(s) and the District PLA Program Manager. When a Construction Contract has been let to a Contractor, a pre-job meeting shall be required unless waived by agreement of the Council, the Contractor and the District.

7.2 All work assignments shall be disclosed by each Contractor at the pre-job meeting. The Contractor(s) shall notify the District PLA Program Manager at least two weeks before starting work under the Agreement, and the District PLA Program Manager shall coordinate the scheduling of the pre-job meeting with the Council, the Contractor(s) and the affected Union(s).

ARTICLE 8
NONDISCRIMINATION

8.1 The Union(s) and Contractor(s) shall not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, national origin, age, religion, disability as identified in the Americans with Disabilities Act, union or non-union membership or any other basis recognized by law.
ARTICLE 9
UNION RECOGNITION

9.1 The Contractor(s) recognize the Union(s) as the sole bargaining representative of all craft employees working within the scope of the Agreement. The Parties acknowledge that the collective bargaining relationship so established is a "pre-hire" relationship permitted by Section 8(f) of the National Labor Relations Act, except that this provision does not change any pre-existing Section 9(a) collective bargaining relationship that exists between any Contractor and Union parties to this Agreement.

9.2 No employee covered by the Agreement can be required to join any Union as a condition of being first employed on the Project; provided, however, that an employee who is a member of the referring Union at the time of the referral shall maintain that membership while employed on a Project subject to this Agreement. All employees shall, however, on or before the 8th day of consecutive or cumulative employment on the Project pay the uniform initiation fees and dues of the applicable craft Union and shall comply with the Union Recognition provision for the period during which they are performing Project construction work on the property of the District. The Contractor(s) agree to deduct initiation fees, Union dues or representation fees from the pay of any employee who executes a voluntary authorization for such deductions and to remit the dues and fees to the applicable Union or Council.

ARTICLE 10
REFERRAL

10.1 The selection of craft foremen and general foremen shall be entirely the responsibility of the Contractor(s), it being understood that in the selection of such foremen, the Contractor(s) will give first consideration to the qualified individuals available in the local area. Foremen and general foremen shall take orders from the designated Contractor(s) representatives.

The Unions shall be the first source of referral of employees to the Project and the contractor(s) agree to be bound by the lawful hiring hall rules and procedures of the respective Union(s). Contractors agree to be bound by the hiring practices of the respective Unions, including the hiring of apprentices, and to utilize their registration facilities and referral systems when workers are available, capable and willing to work on PLA covered projects.

10.2 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Union(s).

10.3 In the event that referral facilities maintained by the Unions are unable to fill the requisition of a Contractor(s) for employees within a forty-eight (48) hour period (Saturday, Sundays and Holidays excluded) after such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain work persons from any source. Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s). The parties to this Agreement support the development of increased numbers of skilled construction workers from the residents of Alameda County; residents of Alameda, Albany, Berkeley, Emeryville, Piedmont and especially
the City of Oakland; to meet the needs of the PLA Program 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 Alameda County residents as journeymen and apprentices on this PLA Program and, consistent with the State-approved Apprenticeship Standards, encourage entrance into such apprenticeship and training programs as may be offered by the Peralta Community College District or operated by the signatory Unions.

10.4 The Parties recognize the District’s commitment to provide opportunities to participate on the Project to emerging small business enterprises that may not have previously had a relationship with the Unions signatory to this Agreement. To ensure that such enterprises will have an opportunity to employ their “core” employees on this Project, the parties agree that in those situations where a Contractor not a party to a current collective bargaining agreement with the signatory Union having jurisdiction over the affected work is a successful bidder, the Contractor may request by name, and the local will honor, referral of persons who have applied to the local union for Project work and who demonstrate the following qualifications:

(a) possess any license required by state or federal law for the Project work to be performed;

(b) have worked a total of at least one thousand (1000) hours in the construction craft during the prior three (3) years;

(c) were on the Contractor’s active payroll for at least ninety (90) out of the one-hundred eighty (180) calendar days prior to the contract award; and

(d) have the ability to perform safely the basic functions of the applicable trade.

(e) The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor’s “core” employees as a journeyman and shall repeat the process, one and one, until such Contractor’s crew requirements are met or until such Contractor has hired five (5) “core” employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor’s work the ratio shall be maintained and when the Contractor’s workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

ARTICLE 11
WAGES AND BENEFITS

11.1 All Contractors, agree to pay contributions to the established vacation, pension and other form of deferred compensation plan, apprenticeship, and health benefit Trust Funds established by the applicable Master Agreement(s) for each hour worked on the Project in the amounts designated in the Master Agreements of the appropriate local Unions for all of those benefits and contributions contained in the applicable prevailing wage determination. The Contractor(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) 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.

11.2 By signing a Letter of Assent binding this Agreement, the Contractor(s) adopt and agree to be bound by the written terms of the legally established Trust Agreements, specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds.

11.3 **Wages, Hours, Terms and Conditions of Employment:** The wages, hours, classifications and other terms and conditions of employment on a Project shall be governed by the Master Agreement of the respective craft Unions, copies of which shall be on file with the District, to the extent such Master Agreement is consistent with the applicable prevailing wage determination and this Agreement.

(a) At all times while working under the Agreement, the Contractor(s) is obligated to make compensation payments and benefit contributions to or on behalf of the employee in a total amount no less than required by the applicable prevailing wage.

(b) Each Contractor and subcontractor shall be required to certify in writing that it has paid all wages and benefit contributions due and owing prior to receipt of its final payment and/or retention.

(c) Contractors of whatever tier shall make regular and timely contributions required by this section in the amounts set forth in the appropriate prevailing wage determination and on the time schedule required by the Master Agreement. Delinquency in remission of contributions is a breach of this Agreement. If a Contractor or subcontractor is delinquent in any such contributions, the Union or the Trust Fund shall provide timely notification to District or the District PLA Program Manager after efforts by the Fund to resolve the delinquency have been exhausted, and provide documentary evidence of the delinquency endorsed by the Fund. Upon such notification, the District or the District PLA Program Manager will attempt to resolve the delinquency among the Contractor or subcontractor, the Union and the Fund. If the delinquency is not resolved within ten (10) working days thereafter, the Contractor, in the case of a delinquent subcontractor, shall withhold an amount to cover the delinquency from any retained funds otherwise due and owing to the subcontractor and shall not release such withholding until the subcontractor is in compliance, provided, however, that if the delinquent amount is undisputed in whole or in part between the Fund and the delinquent subcontractor, the Contractor shall issue a joint check payable to the Fund and the subcontractor in the amount of the undisputed delinquency. In the case of a delinquent prime Contractor, the District or the District PLA Program Manager shall withhold, in an appropriate amount, any funds due and owing to the Contractor. Pursuant to the announced commitment of the District, and to the extent permitted by law, the Contractor shall be subject to withholding of retained amounts which may only be released upon the Contractor's resolution of the delinquency as evidenced by a written statement endorsed by the Fund. Where there is no dispute as to the amount of the delinquency, retained amounts may be released by a joint check payable to the Contractor and the Fund in the amount of any undisputed delinquency.
ARTICLE 12
GRIEVANCE ARBITRATION PROCEDURE

12.1 Any dispute alleging violation of this Agreement, including the applicable Master Agreement, but excluding jurisdictional disputes and alleged violations of Article 6, shall be considered a grievance and resolved in accordance with the procedures set forth herein. A signatory Contractor and Union shall agree to resolve a grievance that involves solely the interpretation of the Master Agreement under the grievance and arbitration provisions of the Master Agreement. A grievance shall be considered null and void if not brought in writing and delivered to both the involved party and Program Manager within ten (10) working days after the incident that initiated the alleged grievance was discovered. The term 'working days' as used in this section shall exclude Saturdays, Sundays or holidays regardless of whether any work is actually performed on such days.

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 Council, or its designee, or the representative of the employee, and the representative of the involved Contractor(s) 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, either involved party may submit it within five (5) 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 one (1) representative of the District; one (1) representative of the District PLA Program Manager; and two (2) representatives of the Alameda County Building and 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 thereafter 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 arbitration. The parties agree that an arbitrator shall be selected by the alternate striking method from the following list noted. The selection party who shall strike the first name shall be selected by the toss of a coin.

1. Barbara Kong-Brown
2. Thomas Angelo
3. William Riker
4. Gerald McKay
5. Jerri-Lou Cossack

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 provisions of the Agreement. The expense of the Arbitrator shall be borne by the losing party. 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
SAFETY AND HEALTH

13.1 In accordance with the requirements of the Occupational Safety and Health Act, it shall be the exclusive responsibility of each Contractor on the job site to ensure safe working conditions for its employees and their compliance with any safety rules contained herein or established by the District, its representatives, and/or the Contractor(s). Nothing in this Agreement shall be interpreted to make the Unions liable for safety violations that may occur on the Project. It is understood that the employees have an individual obligation to use diligent care to perform their work in a safe manner and to protect themselves and the property of the Contractor(s) and the District. An employee’s failure to satisfy his/her obligation under this article will subject him/her to corrective action.

13.2 In order to minimize any disturbance to the student population, Contractors’ employees are to restrict their presence to the Project site and not visit other areas of the campus to the extent possible of carrying out their duties.

ARTICLE 14
COMPLIANCE

14.1 It shall be the responsibility of the Contractor(s) and Union(s) to investigate and monitor compliance with the provisions of the Agreement contained in Article 11. 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 Contractors on the Project.

14.2 The District, through the services of the District PLA Program Manager, shall monitor compliance enforcement measures to ensure the Contractor(s) compliance with the Construction Contract conditions of the Agreement.

14.3 The parties to this Agreement intend to ensure the best possible harmony in labor-management relations on the Project and recognize that the Administrator shall strive to encourage the Parties toward that end.

In an effort to achieve that labor-management harmony the Parties shall establish a four (4) person Joint Administrative Committee. This Committee shall be comprised of two (2) representatives selected by the Administrator and two (2) from the Unions, one of whom will be a representative from the Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement. The Committee will be co-chaired by the Administrator and the representative from the Council.

The Joint Administrative Committee shall meet as required to review the implementation of the Agreement and the progress of the Project and resolve problems and/or grievances by majority vote with such resolutions to be binding on all signatories of the Agreement as provided herein. Any question regarding the meaning, interpretation, or application of the provisions of this Agreement shall be first referred directly to the Joint Administrative Committee for resolution. The Joint Administrative Committee will meet upon the call of either co-chair, upon provision of sufficient notice of the issue to be discussed.

ARTICLE 15
JURISDICTIONAL DISPUTES

15.1 The Contractor/Employer(s) shall assign work on the basis of traditional craft jurisdictional lines.

15.2 There shall be no strikes, picketing, sympathy strikes, leafleting or work disruption or stoppages of any kind because of jurisdictional disputes.

15.3 When conflicting claims for work on the Project are submitted to a Contractor/Employer, the dispute shall be resolved pursuant to agreed upon Jurisdictional Dispute Procedures, as adopted by the National Building & Construction Trades Department, or by the Mechanical Allied Crafts (MAC), or by the Northern California Basic Crafts Alliance (NCBCA) Jurisdictional Dispute Resolution Procedures. It is understood by the parties that these Procedures might be amended from time to time. In the event a jurisdictional dispute arises between two or more Unions affiliated with the National Building & Construction Trades Department, such dispute shall be resolved by the procedure set forth in the Plan for the Settlement of Jurisdiction Disputes in the Construction Industry. In the event a jurisdictional dispute arises between two or more Unions affiliated with the MAC, such dispute shall be resolved under the MAC Procedure. In the event a jurisdictional dispute arises between two or more Unions affiliated with the NCBCA, such dispute shall be resolved under the NCBCA Procedure.
15.4 In the event a jurisdictional dispute arises between two or more Unions that are not stipulated to the same jurisdictional dispute resolution procedure, the dispute shall be handled in accordance with and resolved as follows:

15.5 In the event a jurisdictional dispute arises while the parties are attempting to negotiate an alternative resolution mechanism either party may refer the jurisdictional dispute to the General Presidents of the affected unions, and if the General Presidents cannot resolve the dispute within five (5) business days of the dispute being referred to them for resolution, the dispute shall be resolved as follows:

15.6 The dispute shall be submitted to arbitration before an arbitrator selected from the Panel of Permanent Arbitrators for resolution. The Panel of Permanent Arbitrators shall be composed of: David Nevins, Gerald McKay, Robert Hirsch, William Riker and Barry Winograd. The Arbitrator shall be selected by alternately striking the names of Arbitrators from the list of five (5) permanent Arbitrators. The order of striking names from the list of arbitrators shall be determined by a coin toss, the winner of which shall decide whether they wish to strike first or second. Such striking shall take place within three (3) days. If a party does not respond within three (3) days, this means any Arbitrator from the list is acceptable. The remaining Arbitrator shall serve as the Arbitrator who shall hear the dispute on an expedited basis, but in no case longer than seven (7) days, and resolve the dispute. The Arbitrator shall render his decision within three (3) days of the hearing.

15.7 In rendering his decision, the Arbitrator shall determine:

1. First, whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between the National and International Unions to the dispute governs;

2. Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten (10) years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality.

3. Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.

4. The Arbitrator shall comply with the Code of Professional Responsibility for Arbitrators of Labor Management Disputes jointly adopted by the National Academy of Arbitrators, the American Arbitration Association and the Federal Mediation and
Conciliation Service. The Arbitrator shall set forth the basis for his decision and shall explain his findings regarding the applicability of the above criteria. If lower-ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the job in dispute.

5. Agreements of record are applicable only to the parties signatory to such agreements. Decisions of record are applicable to all trades.

6. The Arbitrator is not authorized to award back pay or any other damages for a misassignment of work. Nor may any party to this Plan bring an independent action for back pay or any other damages, based upon a decision of an Arbitrator.

7. Each party to the arbitration shall bear its own expense for the arbitration and agrees that the fees and expenses of the Arbitrator shall be borne by the losing party or parties.

15.8 ENFORCEMENT

1. Any decision or interpretation rendered by an arbitrator shall be immediately accepted and complied with by all parties subject to this Agreement. If a party fails to accept and comply with a decision or interpretation rendered by an arbitrator, any party to the dispute may seek court enforcement of the decision or ruling.

2. The Arbitrator shall have no authority to undertake any action to enforce his decision after a hearing beyond informing the affected parties of his decision. Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision. The prevailing party in any enforcement proceeding shall be entitled to recover its reasonable costs and attorney fees from the non-prevailing party. In the event the Arbitrator is made a party to, or is otherwise required to participate in any such enforcement proceedings for whatever reason, the non-prevailing party shall bear all reasonable costs, attorney fees, and any other expenses incurred by the Arbitrator in those proceedings.

15.9 If there is a strike, sympathy strike, work stoppage, slowdown, picketing or otherwise advising the public that a labor dispute exists or interference with the progress of the Project by reason of a jurisdictional dispute, the Contractor/Employer (who has complied with the Arbitrator's decision) affected by said Union conduct, shall have the right to seek full legal redress in the Courts of California, including injunctive relief and damages.

ARTICLE 16
LOCAL HIRING PROGRAM

16.1 The objective of the District in creating a Local Hiring Program is to enhance and encourage employment opportunities for local area residents to enable effective pathways into the construction industry and into Union Apprenticeship programs. To that end, as part of the Agreement, the District establishes goals for the hiring and retention of local area residents.
16.2 **Local Hiring Program Goals**

(a) Hiring Priority:

1. Fifty percent (50%) of all hours worked on covered projects, on a craft by craft basis will be worked by local area residents as defined in Article 1, Section 1.12, if such workers are available, capable and willing to work on the project and dispatched through the utilization of the normal hiring hall procedures.

2. (i) Subject to any restrictions contained in law, the Parties agree to a goal that apprentices will perform twenty percent (20%) of the total craft work hours unless an applicable Schedule A provides for a greater percentage. The Union agrees to cooperate with the Contractor in furnishing apprentices as requested and they shall be properly supervised and paid in accordance with provisions contained within the Schedule A.

   (ii) The parties agree to a goal that only local area residents as defined in Article 1, Section 1.12 shall be utilized as apprentices. The Contractor shall make good faith efforts to reach this goal through the utilization of normal hiring hall and apprentice procedures and, when appropriate, the identification of potentially qualified apprentices through community-based organizations working in collaboration with the apprentice programs. The Unions are committed to working with the contractors and community-based organizations to reach these goals.

   (iii) All apprentices referred to Contractors under this Agreement shall be enrolled in State of California approved Joint Apprenticeship Programs.

16.3 (a) Contractors may achieve up to fifty percent (50%) compliance with these local hiring goals and timelines through the employment, of local area resident journeymen, existing apprentices and newly indentured resident apprentices on non-District projects during the time period that the Contractors are working on District Projects.

16.4 **Good Faith Efforts:**

A Contractor and its subcontractors must take the following good faith steps to demonstrate that it has made every effort to reach the local hiring goals of the District. The contractor shall attend scheduled pre-job meetings held by the PLA Program Manager pertaining to work they will performed. The contractor must submit written workforce projections and projected work hours on a craft by craft basis.

(a) Within seven calendar days after the Notice to Proceed, the Contractor shall meet with the PLA Program Manager to present its plan for reaching the local hiring goals.

(b) The Contractor shall notify the PLA Program Manager by US mail or email, if a Union hiring hall cannot, upon request of the contractor, dispatch local area residents, as defined herein. It shall be the responsibility of the contractor to retain all evidence of such good faith efforts.
(c) The contractor shall use the “Name Call,” “Rehire” or other available hiring hall procedures to reach goals.

(d) The contractor shall use local CBOs working in collaboration with the apprentice programs for recruiting local residents to apprentice programs specified in section 16.2.(c), if a union cannot provide local area residents as requested, and in conformity with the collectively bargained union hiring hall agreement.

16.5 Consequences for Non-Compliance with Goals

(a) The PLA Program Manager in coordination with District staff and the Local Hiring Committee shall consider allegations of non-conformance with the goals. If there is a determination that a Contractor has not complied with the goals or demonstrated good faith efforts to do so, the PLA Program Manager will refer the issue to the Local Hiring Committee for review.

(b) If the Local Hiring Committee (see 16.6) finds a Contractor to be in apparent non-compliance, it will be referred to arbitration in accordance to step 3 of the grievance arbitration procedure upon direction by the Committee.

(c) At any time during the process of compliance review, the Contractor can negotiate a settlement with the Local Hiring Committee.

16.6 Local Hiring Committee

(a) The Parties agree to various provisions of the Agreement to attempt to achieve the inclusion of local area residents in the employment opportunities created by the covered work. In order to implement and monitor the progress of these provisions, the District and the Unions, in recognition of their mutual commitment to and the partnership they have established, to achieve those goals, shall form a Local Hiring Committee composed of participants mutually agreed upon by both Parties.

(b) The Local Hiring Committee will serve as the central forum and deliberative body for representatives of all interested or affected parties to exchange information and ideas concerning the operation and results of the District’s local hiring program and the ongoing role of this Agreement as an integral component of the local hire program. As part of these responsibilities, the Committee will assess the obstacles to success for achieving inclusion of local workers in the construction opportunities. The Committee shall make program recommendations to overcome obstacles to effective local hiring.

(c) The Local Hiring Committee will be comprised of three (3) representatives of the community one of whom will be primarily involved in preparatory training for prospective construction applicants, three (3) representatives from the Unions, three (3) Contractor representatives, one (1) representative from the PLA Program Manager and one (1) representative from the Council.

(d) The Committee shall establish its rules of procedure.

(e) Committee meeting will by chaired by the District and the Council on a rotating basis.

16.7 Local Hiring Committee Meetings

(a) The Committee will meet monthly at the call of the Chair.
(b) The PLA Program Manager will establish agenda topics with input from the Committee and send notices of meetings with the agenda in advance of the meetings.

(c) The Committee will receive reports and consider work progress and practices, pre-apprentice recruitment, training and referral, apprentice development and utilization, contractor compliance with local hire goals and other issues of concern to the Program.

(d) The PLA Program Manager and the contractors shall report monthly on progress for these issues and provide ongoing workforce projections for each trade.

16.8 Monitoring and Reporting

The PLA Program Manager will assist the District in monitoring compliance with all local hiring policies and will report to the Local Hiring Committee. This monitoring will include attending progress meetings, site visits, monitoring of progress payments, utilization and verification of performance forms. Forms specific to this monitoring process will be developed. Monthly reports will be submitted to the District.

ARTICLE 17
MANAGEMENT RIGHTS

17.1 The Contractor retains the full and exclusive authority for the management of its operations and shall be responsible for the management and prosecution of the work consistent with the provisions of this Agreement. Except as expressly limited by other provisions of this Agreement and the attached applicable Master Agreement(s), the Contractor retains the right to direct the workforce, including the hiring, promotion, transfer within a contract, layoff, discipline or discharge for just cause of its employees; the selection of foremen; the assignment and schedule of work; the promulgation of reasonable work rules; and, the requirement of overtime work, the determination of when it will be worked and the number and identity of employees engaged in such work. No rules, customs, or practices which limit or restrict productivity, efficiency or the individual and/or joint working efforts of employees shall be permitted or observed. The Contractor may utilize any methods or techniques of construction. The lawful manning provisions of the applicable Master Agreement shall be recognized.

17.2 There shall be no limitation or restriction by a signatory Union upon a Contractor’s choice of materials or design, nor, regardless of source or location, upon the full use and utilization of equipment, machinery, packaging, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tools, or other labor saving devices. This Agreement covers all on-site fabrication work over which the District, Contractor(s) or subcontractor(s) possess the right of control (including work done for the Project in any temporary yard or area near the Project.) This Agreement also covers all off-site fabrication work traditionally performed by any of the Unions, that is directly or indirectly part of the Project, provided such off-site fabrication work is covered by a provision of a local Master Labor Agreement or local addenda to a national agreement of the applicable Union(s). All of the work described in this paragraph is within the scope of this Agreement and is referred to as “Covered Work.”

The on-site installation, incorporation or application of all items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that
installation of manufactured items may be performed by employees employed under this Agreement who may be directed by other personnel of the manufacturer in a supervisory role. For any work performed pursuant to this provision, the Contractor shall provide copies of the written warranty requirement to the Union and the District's PLA Program Manager prior to the commencement of work.

17.3 The use of new technology, equipment, machinery, tools and/or laborsaving devices and methods of performing work may be initiated by the Contractor from time-to-time during the Project. The Union agrees that it will not in any way restrict the implementation of such new devices or work methods. If there is any disagreement between the Contractor and the Union concerning the manner or implementation of such device or method of work, the implementation shall proceed as directed by the Contractor, and the Union shall have the right to grieve and/or arbitrate the dispute as set forth in Article 12 of this Agreement.

ARTICLE 18
SAVINGS CLAUSE

18.1 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 work 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 work in question.

18.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of the Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

18.3 If a court of competent jurisdiction determines that all or part of the Agreement is invalid and/or enjoins the District from complying with all or part of its provisions and the District accordingly determines that the Agreement will not be required as part of an award to a Contractor(s), the Union(s) will no longer be bound by the provisions of Article 6.

ARTICLE 19
MISCELLANEOUS PROVISIONS

19.1 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.

19.2 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.

19.3 **Ratification by Governing Board:** This Agreement shall not be binding on the District until it is approved by the Peralta Community College District Governing Board.

**ARTICLE 20**

**TERM**

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

20.2 This Agreement shall become effective on the day the District Governing Board ratifies the Agreement 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 term of this Agreement will be automatically extended for additional successive five (5) year terms unless the District, prior to the expiration of any such term and, after meeting with the Council and the Unions, finds in a public hearing that the work performed has been unsatisfactory, and gives the Council and Unions notice that it will not renew this Agreement. After the expiration of any term of this Agreement, the provisions of the Agreement shall continue to apply to those Projects subject to this Agreement until construction is completed. The parties may mutually agree in writing to amend, extend or terminate this Agreement at any time.

20.3 The parties agree to meet and confer annually, subsequent to approval of this Project Labor Agreement by the Peralta Community College District Governing Board, regarding the status of and experience with Projects covered by the Agreement and future projects to be covered by the Agreement.

**Peralta Community College District**

**BY:**

Elihu Harris
Chancellor

**DATE:** 7/21/69

**Alameda County Building & Construction Trades Council AFL-CIO (Council)**

**BY:**

Barry Luboviski
Secretary-Treasurer

**DATE:**

**Asbestos Workers, Local 16**

**BY:**

Steve Steele

**Boilermakers, Local 549**

**BY:**

Frank Secreet
Bricklayers & Allied Craftsmen, Local 3

By: Tom Spear

Northern California Regional Council of Carpenters on behalf of, Carpenters, Local 713, Carpenters, Local 2236, Lathers, Local 68L, Pile Drivers, Local 34, Millwrights, Local 102

By: Robert Alvarado

District Council of Plasterers and Cement Masons of Northern California

By: Steve Scott

Cement Masons, Local 300

By: Steve Scott

Plasterers, Local 66

By: Chester Murphy, Jr.

Electrical Workers, Local 595

By: Victor Uno

Elevator Constructors, Local 8

By: Pat McGarvey

Laborers District Council on behalf of, Hod Carriers, Local 166, Laborers, Local 67, Laborers, Local 304

By: Jose Moreno
Hod Carriers, Local 166  
By: Sam Robinson

Laborers, Local 67  
By: Victor Para

Laborers, Local 304  
By: Jose Zapien

Operating Engineers, Local 3  
By: Russ Burns

District Council Ironworkers of the State of California and Vicinity  
By: Joe Standley

Ironworkers, Local 378  
By: Emilio Rivera

District Council 16, Painters & Allied Trades on behalf of Auto & Marine Painters, Local 1176, Carpet & Linoleum Layers, Local 12, Glaziers, Architectural Metal & Glassworkers, Local 169, Painters & Tapers, Local 3  

Roofers and Waterproofers, Local 81  
By: Emilio Rivera
By: ________________________
Doug Christopher

Sheet Metal Workers, Local 104

By: ________________________
Doug Ziegler

Sign Display & Allied Crafts, Local 510

By: ________________________
Bruce Word

Sprinkler Fitters, Local 483

By: ________________________
Mike Hardeman

Teamsters, Local 853

By: ________________________
Stan Smith, Jr.

United Association of Steamfitters, Pipefitters, Plumbers & Gasfitters, Local 342

By: ________________________
Rome Aloice

United Association of Journeyman & Apprentices of the Pipe Fitting Industry, Underground Utility / Landscape, Local 355

By: ________________________
Jay Williams

By: ________________________
Dennis Soares
LETTER OF ASSENT

PROJECT LABOR AGREEMENT

The undersigned, as a Contractor on the Peralta Community College Project, ("Project"), subject to the Project Labor 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.

DATED: ___________ Name of Contractor ____________________________

(Authorized Officer & Title) ____________________________

Contractor's State License #______________________________

Project Name ________________________________________

Contract Number ____________________________________

Name of Prime Contractor or Higher Level Subcontractor ____________________________

Peralta Community College District
Project Labor Agreement
Page 30 of 30
We, the undersigned parties agree to the two side letters, dated July 21, 2009:

“Term of Project Labor Agreement Side Letter” and
“Helmets to Hardhats Program Side Letter”

These two side letters are addendum to the Project Labor Agreement, and shall constitute the entire Agreement. The effective date of the Agreement is July 21, 2009. Mr. Barry Luboviski, Secretary-Treasurer confirms that all parties agree to the side letters, along with the Project Labor Agreement, and all Union Signatories will confirm their agreement below.

Peralta Community College District Construction

BY: [Signature]  
Elihu Harris  
Chancellor

DATE: 7/21/09

Alameda County Building & Trades Council AFL-CIO (Council)

BY: [Signature]  
Barry Luboviski  
Secretary-Treasurer

DATE: 

Asbestos Workers, Local 16

By: [Signature]  
Steve Steele

Boilermakers, Local 549

By: [Signature]  
Frank Secreet

Bricklayers & Allied Craftsmen, Local 3

Northern California Regional Council of Carpenters on behalf of, Carpenters, Local 713, Carpenters, Local 2236, Lathers, Local 68L, Pile Drivers, Local 34, Millwrights, Local 102

By: [Signature]  
Tom Spear

By: [Signature]  
Robert Alvarado

District Council of Plasterers and Cement Masons of Northern California

Cement Masons, Local 300
By: ____________________________  By: ____________________________

   Steve Scott

**Plasterers, Local 66**

By: ____________________________  By: ____________________________

   Chester Murphy, Jr.

**Elevator Constructors, Local 8**

By: ____________________________  By: ____________________________

   Pat McGarvey

**Hod Carriers, Local 166**

By: ____________________________  By: ____________________________

   Sam Robinson

**Laborers, Local 304**

By: ____________________________  By: ____________________________

   Jose Zapien

**Laborers District Council on behalf of, Hod Carriers, Local 166, Laborers, Local 67, Laborers, Local 304**

By: ____________________________  By: ____________________________

   Jose Moreno

**Operating Engineers, Local 3**

By: ____________________________  By: ____________________________

   Russ Burns
District Council Ironworkers of the State of California and Vicinity

Ironworkers, Local 378

By: ____________________________________________

Joe Standley

By: ____________________________________________

Emilio Rivera

District Council 16, Painters & Allied Trades on behalf of Auto & Marine Painters, Local 1176, Carpet & Linoleum Layers, Local 12, Glaziers, Architectural Metal & Glassworkers, Local 169, Painters & Tapers, Local 3

Roofers and Waterproofers, Local 81

By: ____________________________________________

Doug Christopher

By: ____________________________________________

Doug Ziegler

Sheet Metal Workers, Local 104

Sign Display & Allied Crafts, Local 510

By: ____________________________________________

Bruce Word

By: ____________________________________________

Mike Hardeman

Sprinkler Fitters, Local 483

Teamsters, Local 853
By: ______________________  By: ______________________

Stan Smith, Jr.  Rome Aloice

United Association of Steamfitters,
Pipefitters, Plumbers & Gasfitters,
Local 342  United Association of Journeyman &
Apprentices of the Pipe Fitting
Industry, Underground Utility /
Landscape, Local 355

By: ______________________  By: ______________________

Jay Williams  Dennis Soares
Term of Project Labor Agreement Side Letter

Chancellor Elihu Harris
Peralta Community College District
333 East 8th Street
Oakland, CA 94606

Re: Peralta Community College District Construction Project Labor Agreement: Term of Agreement

Dear Chancellor Harris:

In our negotiations of the captioned Project Labor Agreement, the District and the Unions came to agreement on the Term of the Project Labor Agreement, in Article 1, Definitions and Article 20, Term. It is clearly understood by the Unions and the District that the parties agree that Section 20.2 shall be modified as follows:

20.2 This Agreement shall become effective on the day the District Governing Board ratifies the Agreement 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 term of this Agreement will be extended for additional successive five (5) year terms unless the District, 60 to 90 days prior to the expiration of any such term, after meeting with the Council and the Unions, gives written notice to the Council that it wishes to re-open the contract and make proposals to amend, modify, add to, or delete from the Agreement. After the expiration of any term of this Agreement, the provisions of the Agreement shall continue to apply to those Projects subject to this Agreement until construction is completed. The parties may mutually agree in writing to amend, extend or terminate this Agreement at any time.

Sincerely,

[Signature]

Barry Luboviski, Secretary-Treasurer,
Alameda County Building and Construction Trades Council
on behalf of the signatory Unions and Councils to the Project Labor Agreement

[Signature]

Chancellor Elihu Harris
Peralta Community College District

Acknowledged and agreed to this 21st day of July 2009
Helmets to Hardhats Program Side Letter

Chancellor Elihu Harris
Peralta Community College District
333 East 8th Street
Oakland, CA 94606

Re:  Peralta Community College District Construction Project Labor Agreement: Helmets to Hard Hats

Dear Chancellor Harris:

In our negotiations of the captioned Project Labor Agreement, the District and the Unions discussed career pathways. To insure that all avenues are available to effectively reach out to potential applicants and to insure entry into the building and construction trades of men and women veterans who have served their Country and are interested in careers in the building and construction industry, we subscribe to the following:

When appropriate, the Employers and Unions will agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter “Center”) 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.

We further agree that the Unions and Employers will, as a consequence of signing the Letter of Assent, coordinate with the Center to create and maintain an integrated database of veterans interested in working on Projects covered by this Agreement and which of them are interested in apprenticeship and employment opportunities made available by such Projects. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

Sincerely,

[Signature]

Barry Luboviski, Secretary-Treasurer,
Alameda County Building and Construction Trades Council
on behalf of the signatory Unions and Councils to the Project Labor Agreement

[Signature]

Chancellor Elihu Harris
Peralta Community College District

Acknowledged and agreed to this 21st day of July 2009.
Specifications

For

Merritt College -

Electrical to Bldg. L

SOBE No. 10200.1

4/10/2012

305 South 11th Street
San José, California 95112-2218
408.282.1500 | 408.297.2995 (f)
SPECIFICATIONS

Merritt Community College – Building L
Project #10200.1

Merritt Community College
12500 Campus Drive
Oakland, CA 94619

PERALTA COMMUNITY COLLEGE DISTRICT
OAKLAND, CA. 94619

Approval Stamps

ARCHITECT
Joseph Gonzalez
Salas O'Brien Engineers, Inc.
305 South 11th Street
San Jose, Ca. 95112

ELECTRICAL ENGINEER
Jeffry Gosal
Salas O'Brien Engineers, Inc.
305 South 11th Street
San Jose, Ca. 95112

STRUCTURAL ENGINEER
Stephen Ward
AKH Structural Engineers
1505 Meridian Ave., Ste. B
San Jose, Ca. 95125

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ARCHITECT
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SUMMARY

PART 1 GENERAL

1.01 PROJECT
A. Project Name: Merritt College Electrical to Building L.
B. Owner's Name: Peralta Community College District
C. Engineer's Name: Salas O'Brien Engineers, Inc.
D. The Project consists of the alteration of Electrical Infrastructure for service to Renovated Building L and future Science Building.

1.02 CONTRACT DESCRIPTION
A. Contract Type: A single prime contract based on a Stipulated Price as described in Invitation to Bid and related Contract Documents.

1.03 DESCRIPTION OF ALTERATIONS WORK
A. Scope of demolition and removal work is shown on drawings and specified herein.
B. Work includes, but is not limited to:
   1. Providing and installing manholes and switches for medium voltage distribution.
   2. Providing and installing underground conduit and cabling to provide electrical service to Building L.
   3. Providing and installing conduit pathways and pullboxes for future service to future Science Building.
   4. Providing and installing Unit Substation E for electrical service to Building L, including support structure, security/sight wall with access and lighting, high voltage section, transformer and low voltage distribution section.
   5. Providing and installing low voltage conduit and cable, pullboxes and other appurtenances to provide final connections to Building L electrical system.
   6. Providing and maintaining temporary power provisions as delineated on the Contract Drawings to provide continuous service to Building L during construction.
   7. Providing an underground electrical and telecommunications survey, to include underground locator services to document existing active electrical and telecom services and distribution within the areas of work and as shown on the Contract Drawings. Provide marked up site plan to Engineer showing locations of all electrical and telecom duct banks in designated area. Identify service of each duct bank (elect or tcom).
   8. Work includes extensive trenching and earthwork for the installation of ductbanks, manholes, foundations and equipment pads. Site conditions are considered extremely rocky and trenching/digging operations shall be considered and priced accordingly. See Allowances and Unit Prices Sections for further information. Soils report is available as an appendix to these Specifications.
   9. Include costs for commissioning and acceptance testing of electrical equipment installed.
   10. Retain the service of a licensed electrical engineer to prepare and submit overcurrent protection device coordination, short circuit and arc flash studies based on the proposed electrical switchgear & equipment. Studies shall begin with the utility company’s feeder protective device and include all new equipment provided as part of this contract.
C. Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.

1.04 FUTURE WORK
A. Project is designed for future electrical point of connection to Science Building. For this project we have included a isolation switch (SSW-9).

1.05 OWNER OCCUPANCY
A. Owner intends to continue to occupy portions of the existing building and campus during the entire construction period.
B. Cooperate with Owner to minimize conflict and to facilitate Owner’s operations.
C. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES
   A. Construction Operations: Limited to areas noted on Drawings.
   B. Arrange use of site and premises to allow:
      1. Owner occupancy.
      2. Use of site and premises by the public.
   C. Provide access to and from site as required by law and by Owner:
   D. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   E. Utility Outages and Shutdown, if necessary, shall be coordinated with utility provider and Owner with a minimum of 14 calendar days in advance and shall occur over single weekends.
   F. Electrical shutdowns for medium voltage splicing and final building connections shall be coordinated with Owner a minimum of 14 calendar days in advance and shall occur over single weekends. Available weekend shutdown shall be determined by the District and may occur over holiday weekend(s). Contractor is responsible for temporary power requirements. These costs shall be included in the base bid.

1.07 WORK SEQUENCE
   A. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 01 13 00
PROJECT COORDINATION

PART 1 GENERAL

1.01 GENERAL COORDINATION

A. The requirements of this Section relate to various requirements of the Agreement, General and Special Conditions, specifications, drawings, and all modifying documents which are part of the construction contract. Responsibility for coordination of all such applicable requirements shall be that of the Contractor.

B. The Contractor shall coordinate and cooperate with the Owner and other Contractors, and shall execute the work of this contract in a timely manner so as to cause no delay in the work of other contracts.

C. The Contractor shall be responsible for the coordination of all Work, including but not limited to, all trades including specialized trades to accomplish all aspects of the Work.

D. The Contractor shall coordinate scheduling, submittals, and work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items to be installed later.

E. Contractor shall verify that utility requirement characteristics of operating equipment are compatible with building utilities. Contractor shall coordinate work of various Sections having interdependent functions and be responsible for installing, connecting to, and placing in service, related equipment.

F. Contractor shall coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on drawings. This shall include, but not be limited to: following routing shown for pipes, ducts, and conduit, as closely as practicable; placing runs parallel with line of building, and utilizing spaces efficiently to maximize accessibility for other installations, for maintenance and for repairs.

G. In finished areas except as otherwise indicated, Contractor shall ensure that pipes, ducts, and wiring are concealed within the construction.

H. Contractor shall coordinate locations of fixtures and outlets with finish elements.

I. Contractor shall coordinate daily clean up of Work in each area of work and at the end of each work shift.

J. Contractor shall coordinate completion and clean up of Work of separate Sections in preparation for substantial completion and for portions of Work designated for Owner's occupancy.

K. Contractor shall coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner activities.

L. In addition to the above requirements and requirements of the General Conditions, Contractor shall be responsible for the coordination of the following:
   1. Provisions for future installation of work not included in the contract as shown or specified.
   2. Primary, major and accessory materials, and items necessary to complete the installation.
   3. Labor operations and material items reasonably incidental for finishing.
   4. Performing of Work and delivery of materials in accordance with established construction schedules.
   5. Development of procedures for implementation of all utility shutdowns, pathway closures; wayfinding signage and directives; development and construction of alternative pathways, barricading and related signage.
   6. Coordination of and obtaining approval for all schedules, schedule modifications, Work Plans, utility shutdowns, pathway closures, wayfinding and alternative pathways, barricading, and all signage with Owner.
   7. Submittal of Access Request Forms and development, coordination and submittal of other forms as appropriate for communicating work efforts, changes or clarifications to the Owner and impacted personnel.
8. Coordination with Campus Facilities and Trades personnel as regards on-going support of peripheral equipment and systems (e.g. electric panels, manhole access, central plant shutdown, fire water and fire alarm system shutdown or relocation, security/alarm system shutdown or relocation, etc.).

M. Contractor shall coordinate all aspects of his construction operations, generally, and specifically as required under various Articles of this Section and other parts of the Contract Documents, to provide the Owner with a complete and operable facility. Other Contractors working at the project site, including those delivering materials or equipment, shall coordinate their operations with each other to provide the Owner with a complete and operable facility.
   1. Any dispute over coordination, or failure to coordinate, shall be brought to the Owner for resolution.
   2. If any part of the work depends on proper execution or on proper results of the work or systems or equipment of any other provider or of the Owner, Contractor shall inspect and promptly report to the Owner, any defects in the work that render it unsuitable for such proper execution and necessary results. Failure to so inspect the providers’ or Owner’s work or equipment as fit and proper for the reception of this work, shall constitute acceptance of the provided work, system or equipment. This requirement is waived only to the extent that defects develop in the other providers’ or Owner’s work or systems or equipment after the execution of subsequent work.
   3. Contractor shall cooperate with other Contractors on the project site and with the Owner so that completion of all work may proceed with all possible speed. Contractor shall attend a monthly Campus project coordination meeting and shall furnish other Contractors, whose work is fitted to this work, details and erection drawings giving full information regarding the scheduling, fabrication and assembly of this Work. So far as possible, drawings shall indicate checked field measurements. Contractor shall cooperate in timing this work to join with the work of other Contractors or the Owner.
   4. Contractor shall check the drawings of other Contractors for interferences with this work and promptly report, in writing, any such interferences to the Owner. In addition, Contractor shall submit complete information, including drawings, descriptions, sketches, marked prints, etc., as required for Owner coordination of drawings by others which are not a part of this work.
   5. To ensure the proper evaluation of subsequent work of this contract, Contractor shall measure work already in place and report to the Owner any discrepancy between the executed work and the contract documents. Failure to so measure work or equipment as fit and proper for the reception of this work, shall constitute acceptance of the available space(s).
   6. Contractor shall do all cutting and fitting of this work and of other work that may be required to properly fit this work to receive, or be received by, the work of other Contractors as shown on or reasonably implied by, the contract documents. Contractor shall properly finish and complete this work after other Contractors have finished. Any costs for additional cutting and fitting caused by defective work shall be borne by the party responsible thereof. Contractor shall not endanger any work by cutting, fitting or otherwise, and shall not cut or alter the work of other Contractor without the consent of the Owner.

1.02 INCIDENTAL COSTS
   A. Contractor shall furnish at his own cost and expense all tools, consumable supplies, appliances, equipment, etc. necessary for the execution of his work, and shall be responsible for care and guarding thereof.
   B. Contractor shall be entirely responsible for professional trade, business, or other licenses required by State statute or local government.

1.03 CORRESPONDENCE AND NOTICES
   A. Contractor shall clearly identify correspondence, notices, requests for information (RFI's) and submittals with project name, subject, and detailed references to drawings and specifications.
In order to properly track and document all correspondences and notices, a unique sequential numbering system shall be applied for each type of correspondence or notice.

B. Contractor shall notify the Owner's representatives in writing 6 working days, unless otherwise specified, in advance of all required inspections.

1.04 MISCELLANEOUS PROVISIONS

A. Contractor shall immediately refer to the Owner, any requirement shown or specified which Contractor finds or believes:
   1. Is not equal to industry standards for achieving the intended results.
   2. Is excessive in cost or effort to effect the intended results.
   3. Is below standard for proper enforcement of the guaranties required.
   4. Is at variance with governing laws, regulations, codes or standards.

B. Failure to so inform the Owner, in advance of Work, shall constitute acceptance by the Contractor for resolution of the requirements at Contractors expense.

C. Contractor shall shop fabricate and preassemble interrelated parts where possible.

D. Closing up of walls, partitions or furred spaces, backfilling, or other "covering up" operations shall not proceed until all required tests and inspections have been completed.

E. Prior to starting a particular type or kind of work, Contractor shall:
   1. Examine for relevant information all contract documents and subsequent data issued to the project.
   2. Check accepted submittals and verify dimensions at job site.
   3. Consult manufacturers for instructions applicable to conditions under which work is to be installed.
   4. Inspect areas, surfaces, or any construction location receiving the work. Start of work shall signify compliance with the above requirements and acceptance of previously placed construction or substrates as being in satisfactory condition to achieve proper installations and first quality workmanship as intended under these specifications.

1.05 WORK ON OCCUPIED FACILITIES

A. This section shall apply to all modifications or additions to work on all occupied facilities. In this case, all buildings and all grounds are considered fully occupied.

B. Contractor shall cooperate with the Owner to sequence his work so as not to unnecessarily interfere with operation of occupied facilities. Prior to demolition or construction work, Contractor shall consult with the Owner as a part of the Work Plan process and Contractor shall develop a construction schedule and Work Plan which will permit the existing users (staff, students, administrators) to function without interruption; while remaining in compliance with the schedules and limitations as delineated in other portions of the Contract Documents. This includes power outages, noise levels greater than 65dB, dislocation, or other interruptions as would cause intrusion to users or disruption of the user environment.

C. Campus operations cannot be impacted by the Contractor without prior written approval from the Owner's representatives. Requests to perform activities which potentially impact campus operation, or occur in occupied buildings, shall be made by utilizing the Access Request Form. The Contractor shall sequentially number each access request and maintain a log of the requests issued. After receiving approval for Contractor's 3 week Work Plan, Contractor will submit properly completed Access Requests to the Owner's representative. Each Access Request shall occur a minimum of two weeks prior to the proposed date of the work. Submittal of the Access Request Form shall provide the Owner a minimum of 4 days during which the Owner may coordinate with campus personnel and ongoing campus activities; and subsequently suggest changes to the requested Access. Such changes to the requested access time shall not form a basis for Contract time extensions regardless of the critical nature of the proposed activity. For this reason, Contractor shall always have one or more "spare" locations or operations planned for construction as a part of the Work Plan process.

D. In planning and performing the work, every effort shall be made to control the noise, dirt and fugitive dust levels as required by these contract specifications.
E. Ingress and egress to and from existing buildings shall be continuously maintained for purposes of normal personnel access (i.e. to classes, offices, administrative events and social events), fire and emergency entrances and escape, loading and delivery, and building maintenance, to the satisfaction of the Owner, and the local fire and building departments. Contractor shall determine and install all necessary wayfinding signage as indicated on the Work Plan and approved in advance by the Owner. Said signage shall be installed prior to any shutout or interruption of access to a room, pathway, system, building, doorway or hallway.

F. All utilities shall be protected against interruption, damage, or contamination during construction. Temporary utilities shall be installed, if necessary, to maintain services continuously. Such utilities shall include but shall not be limited to electricity, water, gas, sewerage, chilled water, steam, telephone and data.

G. Contractor shall limit equipment and vehicles in ingress and egress and use of service areas to the minimum essential to Contractor's operations. Other vehicles and equipment shall be kept out of such areas. In the event of unavoidable conflict with Contractor's equipment in such areas, upon request of the Owner, Contractor shall remove such equipment immediately.

PART 2 PRODUCTS
2.01 NOT USED

PART 3 EXECUTION
3.01 GENERAL
A. Because of the sensitive nature of campus operations, to the extent that unplanned outages create unreplaceable loss of time, and operation deficiencies, the planning and execution of work procedures to reduce outages to an absolute minimum is of prime importance in this project. Such planning and execution is the full responsibility of the Contractor performing the work under these contract documents.

3.02 POWER OUTAGES
A. Interruption of the power to any electrical system for performing the construction work shall be scheduled in advance by use of an Access Request and approval will be at the convenience of the Owner.

B. Time of outages in individual buildings shall be scheduled for the times that the classrooms are not in session. Contractor to mobilize required work force and equipment to be able to accomplish individual tasks within permitted Work sequences.

C. Scheduling of any power outages shall be performed and approved as a part of the Work Plan and Scheduling process. In all cases, approval of power outages and procedures shall be obtained in writing by use of an Access Request at least two weeks prior to the Work. Request to be filed on Access Request Forms. This includes shut down of any equipment, system or system(s).

D. The work to any area with power outages shall be performed and proceed on a continuous, non-stopping basis until power is restored to all areas.

E. Activation and deactivation of any campus power systems as scheduled and requested by the Contractor shall be by Owner personnel.

F. Contractor to consider all costs associated with difficulty of performing the work under restricted conditions in its bid price. Contractor shall also be responsible for any damages to Owner properties resulting from lack of performance in accordance with the requirements of this section and these contract documents.

3.03 FIELD INVESTIGATION OF INFORMATION
A. The information regarding each feeder and feeding each individual building as appear on the existing single line diagrams, is based on the best information available. However, it was considered impractical to verify the data by test outages prior to the actual need. The Contractor shall thus verify all buildings power sources, feeders data and initiate the work accordingly.
3.04 SPECIAL REQUIREMENTS FOR TRENCHING/EXCAVATING

A. To minimize access interference and facility disruption, open trench headings shall be limited to a maximum of 300 feet of trench. Owner may, upon written request allow additional headings to be open concurrently, if acceptable access and wayfinding means are provided by contractor.

B. Existing utilities shall be located by contractor through the contractor provided utility locating service subcontractor. USA will not locate utilities that are not within the public right of way (ie, no locating on campuses or private property). Utilities shall be clearly marked with non-permanent paint with depth estimates provided by the locating subcontractor.

C. Contractor shall pothole a minimum of 10' in advance of any powered trenching or excavating operations. Potholing shall locate and expose any and all utilities in the path of trenching or excavating activities. Potholing shall be by vacuum excavating equipment or hand digging. All utilities encountered shall be clearly marked, and hand excavated to prevent damage. (Exception: irrigation utilities are usually not readily located with underground survey equipment, and breakage is expected to occur - see Section 01 21 12 Allowances, for special allowances).

D. All utilities located, whether or not shown on contract drawings are to be marked on the project record drawings, as to size and service, with either a reference to station number or reference to permanent surface features, and elevations noted (referenced to sea level). At completion of the project, all such located utilities shall be incorporated in the electronic As-Built drawings required to be provided by this contract. Regardless of other requirements (or lack thereof) for As-Built Drawings, contractor shall provide As-Built, electronic documentation of ALL utilities crossed or exposed, indicating location, size, service and elevation, whether shown on contract documents or not.

3.05 SAFETY - (REGARDING POWER OUTAGES)

A. Contractor shall coordinate through the Owner, and implement a procedure to prevent accidental shut-down or injury. The procedure shall include a systematic method of tagging and locking the circuit breakers and switches. All circuit breakers and switches which can energize a circuit wherein work needs to be performed must be opened, tagged with warning signs and locked. Temporary grounding of the circuit and locking the circuit breaker(s)/switch(es) is required for all long circuits and for all circuits with operating voltage above 480 volts. Proper isolation of circuits on which work is to be performed shall be required for safety of the workers. The Contractor shall be fully responsible for implementing all required safety procedures to protect personnel.

B. The Contractor shall never assume, no matter how obvious the circumstances, that any conductor or piece of equipment is de-energized before it is handled by the workman, without actually testing for de energization. Primary conductors shall be tested with hot stick or similar means.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
MERRITT COLLEGE – ELECTRICAL TO BUILDING L

ACCESS REQUEST NO.: ___

SCHEDULE ACTIVITY ID#: ___________________________    DATE: ______________________

LOCATION

DESCRIPTION OF WORK: __________________________________________________________

PCCD FACILITIES, PROCESS, OR UTILITIES IMPACTED: ________________________________

CONTRACTOR’S PERSONNEL AND TRADES INVOLVED IN WORK: __________________________

PCCD ASSISTANCE REQUIRED: ____________________________________________________

EMERGENCY BACKUP AND PROCEDURES: ____________________________________________

SCHEDULE:     Time Interval Requested:      _____
                Preferred Start Date/ Time:      __/____
                Signature: __________________________

ACCESS REQUEST APPROVAL:     Start Date/Time:      __/____
                                Completion Date/Time: __/____

STIPULATIONS: _________________________________________________________________

__________________________________ __________________           __________________________________    _______________
Construction Manager              Date          PCCD Representative                    Date

DISTRIBUTION: Contractor ☐    File ☐    Field ☐    PCCD ☐    Other: ______
SECTION 01 14 00
WORK RESTRICTIONS

PART 1 GENERAL

1.01 OCCUPANCY

A. The Owner intends to occupy all buildings and to run a normal campus schedule and environment over the entire duration of the Work. All activities, all classes and all operations associated with the entire population of students, staff and administrators will be in full operation. Therefore, access to and through the Campus and to and through each and every building must be available and clearly marked at all times.

B. The Contract, the Work, the Work Sequences and the Work Schedules shall be developed and deployed so as to accommodate this fully operational Campus environment. For this reason, a formal Work Plan shall be developed and updated weekly. Within the Work Plan process, the Contractor shall be responsible to notify the Owner a minimum of three weeks in advance of work which will directly affect a specific area.

C. This Work is of critical importance to the long range viability of the campus. For this reason, it is the intent of the Owner to develop a high functioning, supportive and fully cooperative relationship between the Contractor and the Owner. Critical components relating to this relationship include that:
   1. The Contractor shall cooperate with the Owner to minimize conflict and to facilitate Owner operations.
   2. The Contractor shall ensure that all work is scheduled (and, as necessary, rescheduled) to accommodate anticipated and unanticipated interference to Campus learning activities, operations and social activities.
   3. The Contractor shall implement all possible procedures to protect property adjacent to the construction project from damage resulting from work specified and performed within this Contract.
   4. The Contractor shall provide safe, clearly marked, unobstructed access to and throughout the Campus and to and throughout each building over the entire duration of the project. Furthermore, the Contractor shall maintain fire lanes and related access at all times.
   5. The Contractor shall take special considerations for pedestrian safety and convenience when any work area encroaches upon a sidewalk, walkway or crosswalk area.
   6. The Owner will make every possible effort to ensure that the Contractor is paid on a timely basis.
   7. The Owner will make every possible effort to ensure that Contractors submittals, requests, and Work Plans are reviewed, modified and approved in a timely and realistic manner.

1.02 INTERFACE WITH EXISTING FACILITIES

A. Contractor is required to protect and maintain in service all existing plumbing, mechanical, electrical, communications, security, fire protection, and control systems and components. In the event that existing systems are being replaced, the existing system shall be maintained fully operational until the new system is fully tested and accepted by the Owner's Representative. To permit this to occur without adversely impacting continuity, specific procedures must be developed as a part of the Work Plan process. This procedure shall be approved in advance by the Owner and shall identify and incorporate necessary accommodations to the systems and equipment which will ensure the desired continuity.

B. Where new products are to be installed in existing systems, the existing elements are shown on the Contract Drawings as schematic and are not necessarily shown to scale. As a result, in preparing proposed new equipment and piping layouts (and related schedules and Work Plan), the Contractor must base each plan and procedure upon the actual as-built existing conditions in the affected mechanical/electrical room and/or mechanical/electrical/telecommunications/domestic/water/sewer/storm/or-other system or component; and must locate new or relocated equipment in a manner which does not conflict with existing equipment and which complies with all manufacturer's recommended installation requirements, such as clearances, anchorage, accessibility, and applicable code requirements.
C. Access to or modification of any existing system for any purpose must be coordinated with Campus Facilities through the Owner's Representative. Access requests must be submitted in writing, using the Access Request Form and each must be consecutively and uniquely numbered. Access requests must be submitted a minimum of fourteen (14) calendar days prior to the date required. Delays which occur due to the failure of the Contractor to follow the access request procedure will be the responsibility of the Contractor.

1.03 CONTRACTOR GENERAL CONSIDERATIONS

A. Superintendent
   1. In addition to the requirement of the General Conditions:
      a. Failure to maintain a Superintendent on the Project site at all times work is in progress shall be considered a material breach of this Contract entitling the Owner to terminate the Contract or, alternatively, issue a Stop Work order until the Superintendent is on the Project site. If, by virtue of issuance of said stop order notice, Contractor fails to complete the Contract on time, it will be assessed liquidated damages in accordance with this. No extension of this to the Contract will be allowed as a result of the stoppage of work as a result of the absence of a Superintendent.
      b. Superintendent approved for this Project shall be able to read, write and verbally communicate fluently in English.

B. Storage of Materials and Equipment:
   1. All materials and equipment to be incorporated in the work shall be placed so as not to cause any damage to any part of the Work or to any existing facilities and so that free and safe access can be had at all times to all parts of the Campus and environs and to all public utility installations in the vicinity of the Work.
   2. Material and equipment storage shall be only as provided for in the Contract Documents and/or only as approved in writing (by the Owner) and in advance of placement. Material or equipment stored at other than pre approved and pre-designated areas may be removed by the Owner and at no liability to the Owner if the Contractor is notified of an improper storage situation or improper placement (and if no action has been taken by the Contractor within 2 days after notification). Fees incurred by the Owner for removal of the equipment or material shall be back-billed to the Contractor.

C. Safety:
   1. The Contractor shall take all necessary precautions and provide all necessary safeguards to prevent personal injury and to prevent property damage.
   2. The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This responsible safety officer shall have the authority to take immediate action to correct unsafe or hazardous conditions and to enforce safety precautions and programs. This responsible person shall have a cellular telephone on his or her person at all times.

D. Owner Access to Contractor and Crews:
   1. In order to facilitate open and rapid communications between the Owner and the Contractor (and subsequent response to issues regarding safety, interference, unexpected field conditions, field changes and field clarification) Contractor's key and responsible personnel (supervisors, foremen and managers) shall have a cellular phone and/or an active and available 2-way radio on their person at all times. This requirement applies to:
      a. The Contractor's superintendent - cellular phone
      b. Each foreman on each active crew - cellular phone or active 2-way radio in constant communication with the superintendent's trailer and the superintendent.

E. Use of Campus Facility and Equipment - see Section 01 5000.

F. Security: Workers are subject to all rules of the Campus applicable to their conduct. Each worker and all Contractor personnel must wear a photo identification badge at all times. This badge shall contain a photograph of the person wearing the badge and shall clearly describe the persons name and affiliation with the Contractor and, if applicable, the subcontractor of his employ.
G. Utilities Services: Each and every existing utility service must be maintained on the Campus at all times. No interruption of any utility or service is allowed without advance written approval as discussed in other sections of this document and as a part of the Work Plan process.

1.04 NO SMOKING
A. The Owner has adopted a no-smoking provision in all Campus buildings. The Contractor, his forces and his employees will observe this requirement while performing work in and around Owner buildings. Smoking shall not be permitted except in Contractor designated smoking areas, away from Campus personnel, and as approved in advance by the Owner.

1.05 WORK BY OTHERS
A. Coordinate the work for this Contract with other construction operations as directed by the Owner. This includes the scheduling of traffic and use of roadways.
B. The Owner has awarded (or will award) other contracts which will be under construction in full or in part during construction of this project. The Contractor shall coordinate his/her work with the Owner in order to identify any and all interface or interference issues. These "other" contracts include, but are not limited to, the following:
   1. Library Renovation (should be complete prior to start of this Contract).
   2. New Central Plant Construction
   3. New Science Building
C. Contractor's Superintendent shall attend a monthly coordination meeting. This meeting is separate from the normal project/progress meetings, and is for the express purpose of assisting the Contractor in meeting his responsibilities with respect to coordination of his Work with the other independent, concurrent construction contracts which will be underway on campus including, but not limited to, the projects listed herein. The Contractor is required to bring a current Work Plan and CPM schedule to the meeting to aid the discussion.

1.06 DISPOSAL AND RETENTION
A. Materials and equipment accruing from work removed (temporary or permanent) and from demolition of equipment, systems, buildings or structures, or parts thereof, shall be disposed of as follows:
   1. Reserved items or items to be reused and/or relocated and/or which are to remain the property of the Owner are noted in the contract documents or will be identified by Facilities or the Engineer and shall be clearly marked, by the Contractor, as items to be reused and/or retained.
   2. Items which remain the property of the Owner shall be removed or dislodged from present locations in such a manner as to prevent damage and shall be stored in a local area as designated by the Owner.
   3. In the event that damage to the equipment or property occurs during the Work, Contractor shall notify the Owner immediately and shall upon approval of the repair procedure by the Owner, shall commence repair at his/her own cost so as not to affect the Work schedule.
   4. Items or materials not retained by the Owner shall become the property of the Contractor and shall be removed by the Contractor from the Campus and shall be disposed of by the Contractor at Contractor's expense (or recycled as appropriate). Disposal or recycling shall be in compliance with local, State and Federal laws. Once the item or material is removed from its existing location it becomes the sole property (and liability) of the Contractor.

1.07 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES AND IMPROVEMENTS
A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the Work or work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall remove trees which are absolutely an obstruction for installation of the new work, only with prior, written authorization by the Owner (unless specifically shown to be removed on the Contract Drawings).
B. Avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workers, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-painting compound as approved by the Owner. In the event that trees or foliage are damaged beyond repair due to careless operation or improper activity, the Contractor shall be responsible to replace the lost item(s) with equivalent trees or foliage as approved by the Owner.

C. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work.

D. If the Contractor fails or refuses to repair the damage promptly, the Owner may have the necessary repair or replacement work performed and charge the cost to the Contractor.

1.08 STOP WORK

A. The Owner shall have the right, at any time, to stop any or all of the Contractor's work by written notification to the Contractor by the Owner's Construction Manager or by the Owner's Project Manager. Such notification does not relieve the Contractor of other contract requirements, such as maintenance of the site, and does not modify specified milestones if not a critical path activity. Upon receipt of a notice to Stop Work, the Contractor shall immediately and in a safe manner halt the associated work and, as directed by the Owner, clean up and stabilize the work by fencing, backfilling, or other action deemed appropriate by the Owner.

1.09 USE OF ELEVATORS

A. Unless otherwise approved in writing, only freight elevators shall be used for material moving. Use of elevators which are not specifically defined or designated as freight elevators must be approved in advance and in writing by the Owner. Contractor shall assume that there is at least one elevator in each building (containing three floors or more), but that this elevator is not necessarily a freight elevator.

B. It shall be the sole responsibility of the Contractor to prepare the elevator to accommodate any and all material moving so as to protect elevator(s) from damage. By use of the elevator, Contractor accepts full responsibility for repair of any and all damage or breakage that occurs during the time of material transfer. If the Contractor fails or refuses to repair the damage promptly, the Owner may have the necessary work performed and charge the cost to the Contractor.

C. Contractor shall make every effort to accommodate and allow access to handicapped persons for use of elevator when needed. To this end, at least one (1) elevator in the building must be operable at all times during construction to provide access for disabled persons.

D. Whenever the contractor uses an elevator which requires that student(s) or member(s) of the general public share the elevator (i.e. in the event that the contractor's means and methods require joint use of the elevator with the general public), Contractor shall name the general public as additionally insured.

1.10 SYSTEMS STARTUP, INTERRUPTION OR SHUTDOWN

A. The University Representative shall be present during deactivation/reactivating of any system and, unless otherwise approved in advance and in writing, shall be directly responsible for physically deactivating and reactivating the system. Scheduling of these outages and of University representation shall occur as a part of the Work Plan process.

B. A formal and detailed procedure and schedule shall be submitted to the Owner and approved prior to deactivation or reactivation of any system or component. This shall be in the form of an attachment to the Access Request Form and shall be provided as a part of the Work Plan process. This is particularly critical of activities that shut down services to buildings (e.g. transformer installation, electric power, domestic water connection, sanitary sewer connections, cooling, telecommunications, etc.).
C. Systems critical to building safety or security (such as fire protection system(s), and building security systems) which are required to be interrupted, altered, relocated or temporarily shut down as a result of any of this Work shall only be shut down upon advance notification to the Owner and upon implementation of a procedure approved by the Owner and which is in compliance to prevailing codes and standards (including but not limited to providing an NFPA Fire Watch when a Fire Protection System is interrupted or shut down, and providing fire sprinkler piping relocation in compliance with NFPA 13). Development of these procedures is the responsibility of the Contractor and these procedures shall be approved as part of the Work Plan process.

PART 2 PRODUCTS
2.01 NOT USED

PART 3 EXECUTION
3.01 NOT USED

END OF SECTION
SECTION 01 21 12
ALLOWANCES

PART 1 GENERAL

1.01 SECTION INCLUDES:
A. Product/Installation Allowances
B. Contract Sum Allowances
C. Allowances for Specific Campus Situations

PART 2 PRODUCTS

2.01 PRODUCT/INSTALLATION ALLOWANCES
A. This Section of the Specification sets forth the extent of Allowances described hereafter. Work performed under allowances shall conform fully to all applicable parts of these specifications and drawings.
   1. As shown on the bid form, Contractor shall include in the total amount, the base bid and all allowances stated in the Contract Documents.
   2. The Contractor shall cause the work/materials and critical path time covered by these allowances to be performed for such amounts and by such persons as the Owner may direct, but Contractor will not be required to employ persons against whom Contractor makes a reasonable objection. If the actual cost, when determined, is more than or less than the allowance, the contract sum shall be adjusted accordingly by Change Order.
   3. Cash allowances shall include complete work in place with all costs fully accounted for.
   4. Payment to the contractor shall be made as per normal payment procedures discussed in other portions of the Contract Documents.
   5. Payment to a Owner-designated third party shall be made by the Contractor as approved by the Owner. Contractor shall pay designated third party within 15 days of receipt of payment from the Owner.
   6. Funds unused in any allowance item will be credited to the contract by credit change order, and shall carry no contractor markup.

2.02 CONTRACT SUM ALLOWANCES
A. The Allowances below correspond to the total allowance amounts defined on the Bid Form. In addition, each allowance item has applied to it a critical path duration that shall be included within the critical path schedule in anticipation of the Allowance activity (i.e. in order to accomplish the completion time as provided for in the Contract Documents, the critical path duration, below, shall be accommodated within the progress schedules defined elsewhere in these contract documents):
   1. Unforeseen Site Conditions:
      a. Cash Allowance:
         1) A cash allowance of $50,000 shall be available for the purpose of accommodating unforeseen site conditions.
      b. Critical Path Duration:
         1) Add 5 calendar days of critical path time.
   2. Unforeseen Hazardous Material Abatement:
      a. Cash Allowance:
         1) A cash allowance of $5,000 shall be available for proper handling of asbestos, lead, PCB or other hazardous materials which are not defined as part of the bid documents. This allowance is for work over and above that already defined in the Contract Documents.
      b. Critical Path Duration:
         1) Add 3 calendar days of critical path time.
   3. Facilities Services:
      a. Cash Allowance:
1) A cash allowance of $5,000 shall be available for time applied by the Owner’s trades (i.e. in the Facilities Department) in support of the Contractor or Contractors construction activities.

b. Critical Path Duration:
   1) Add 0 calendar days of critical path time.

2.03 ALLOWANCES FOR SPECIFIC FACILITY SITUATIONS

A. Excavation work interference with irrigation piping:
   1. The Contractor shall assume in the base bid, that during the course of excavation, irrigation piping will be accidentally cut or in some way broken. This base bid allowance shall include all material and labor to repair the irrigation piping in 1 break per 10 feet of trench separate locations including:
      a. capping, cutting and replacement of damaged irrigation pipe
      b. repair of control wiring
      c. repair and replacement of control valves
      d. pumping of excess water or any pooled water into the nearest storm drain
      e. immediate notification to the Owner of the irrigation piping incident
   2. Active irrigation piping must be capped immediately upon line breakage and the Owner must be notified immediately.
   3. Inactive irrigation piping must be capped immediately and the Owner shall be notified immediately.
   4. In the event that water is allowed to flow unchecked from a broken or ruptured line for greater than 15 minutes, the Owner shall have the right to have the line repaired and the Contractor shall be billed for the repair work (i.e. against the base bid contract amount).
   5. This allowance item has been identified in order to accommodate the inevitable breakage of irrigation piping and related wiring, valves and controls. It is believed that the 1 break per 10 feet of trench incidents are realistic for a facility of this size and type. If Contractor anticipates a request for payment for breakage associated with more than the number of incidents listed above, Contractor shall keep continuous count, on a formal log, and document on a pre-approved form, all of the incidents which have occurred and been repaired by the Contractor.

PART 3 EXECUTION

3.01 UNDERGROUND PIPING - UNFORESEEN ALLOWANCE

A. Existing soil is unusually rocky, that is a known condition of the site. The contractor shall assume in the base bid that large rocks/boulders up to three feet (3’) in approximate diameter will be encountered for every ten feet (10’) of lineal trench. Base bid shall include the cost for boulder removal, off hauling and removal from site, as well as subsequent backfilling with suitable clean fill. If Contractor anticipates a request for payment for removal of larger boulders, or an increased quantity of boulders from the Unforeseen Conditions Allowance as listed above, Contractor shall keep continuous count, on a formal log, with pictures, and document on a pre-approved form, all of the boulders encountered and corrective actions taken. Additional payment, if any, shall be made in accordance with this Allowance and the Unit Prices as set forth in Section 01 22 00.

END OF SECTION
SECTION 01 22 00
UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. List of unit prices, for use in preparing Bids.
B. Measurement and payment criteria applicable to Work performed under a unit price payment method.
C. Defect assessment and non-payment for rejected work.

1.02 COSTS INCLUDED
A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit. This includes both excavation and backfill associated with removed rock as defined as unforeseen conditions in Section 012112, Allowances.

1.03 MEASUREMENT OF QUANTITIES
A. Take all measurements and compute quantities. Measurements and quantities will be verified by Engineer.
B. Assist by providing necessary equipment, workers, and survey personnel as required.
C. Measurement Devices:
   1. Weigh Scales: Inspected, tested and certified by the applicable state Weights and Measures department within the past year.
   2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
   3. Metering Devices: Inspected, tested and certified by the applicable State department within the past year.
D. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
E. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.04 PAYMENT
A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Engineer, multiplied by the unit price.
B. Payment will not be made for any of the following:
   1. Products wasted or disposed of in a manner that is not acceptable.
   2. Products determined as unacceptable before or after placement.
   3. Products remaining on hand after completion of the Work.
   4. Loading, hauling, and disposing of rejected Products.

1.05 SCHEDULE OF UNIT PRICES
A. Item: Rock; Provide units pricing by unit volume as $/CY (Cubic Yards). Provide Unit Price (and extension) on Bid Form.

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.
B. Progress meetings.
C. Construction progress schedule.
D. Coordination drawings.
E. Submittals for review, information, and project closeout.
F. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Owner will schedule a meeting after Notice of Award.
B. Attendance Required:
   1. Owner.
   2. Engineer.
   3. Contractor.
C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract, ________ and Engineer.
   7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   8. Scheduling.
D. Record minutes and distribute copies within two days after meeting to participants, with one copies to Engineer, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.
D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of off-site fabrication and delivery schedules.
   7. Maintenance of progress schedule.
   8. Corrective measures to regain projected schedules.
   9. Planned progress during succeeding work period.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to Work.
E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE
A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.
D. Within 10 days after joint review, submit complete schedule.
E. Submit updated schedule with each Application for Payment.

3.04 COORDINATION DRAWINGS
A. Provide information required by Project Coordinator for preparation of coordination drawings.
B. Review drawings prior to submission to Engineer.

3.05 SUBMITTALS FOR REVIEW
A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.
B. Submit to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
C. Samples will be reviewed only for aesthetic, color, or finish selection.
D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - CLOSEOUT SUBMITTALS.

3.06 SUBMITTALS FOR INFORMATION
A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer’s instructions.
   6. Manufacturer’s field reports.
   7. Other types indicated.
B. Submit for Engineer’s knowledge as contract administrator or for Owner. No action will be taken.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT
A. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   5. As-Built Drawings.
6. Other types as indicated.

B. Submit for Owner's benefit during and after project completion.

3.08 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Review:
   1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: Submit the number of copies that Contractor requires, plus two copies that will be retained by Engineer.

B. Documents for Information: Submit two copies.

C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Engineer.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES

A. Transmit each submittal with approved form.

B. Sequentially number the transmittal form. Revised submittals shall be indicated with original number and a sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

E. Contractor shall verify both the field dimensions and the drawing layouts prior to submitting products for review to verify that installation is properly coordinated. It is the contractor's responsibility to submit products that are appropriate for the actual field conditions.

F. Deliver submittals to Engineer at business address.

G. Schedule submittals to expedite the Project, and coordinate submission of related items.

H. For each submittal for review, allow 15 calendar days excluding delivery time to and from the Contractor.

I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

J. Provide space for Contractor and Engineer review stamps.

K. When revised for resubmission, identify all changes made since previous submission.

L. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

M. Submittals not requested will not be recognized or processed.

N. Engineer's review will result in the return of the submittal with one of the following marks:
   1. "No Exceptions - materials may be provided as described in the submittal.
   2. "Exceptions Noted, Resubmittal Not Required" - materials may be provided as described in the submittal, in accordance with comments or notes or additional requirements noted by the reviewer.
   3. "Not Acceptable" - Materials are unacceptable and shall not be provided.
   4. "Exceptions Noted, Resubmit" - Requires that the submittal be modified, according to requirements noted, and resubmitted.

O. Materials or equipment shall not be delivered to the jobsite without first obtaining a submittal which has the "No Exceptions" or "Exceptions Noted, Resubmittal Not Required" stamp mark.

END OF SECTION
SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1  GENERAL

PART 3  EXECUTION

2.01  CONTROL OF INSTALLATION
A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
B. Comply with manufacturers' instructions, including each step in sequence.
C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
E. Have Work performed by persons qualified to produce required and specified quality.
F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02  DEFECT ASSESSMENT
A. Replace Work or portions of the Work not conforming to specified requirements.
B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct an appropriate remedy or adjust payment.

END OF SECTION
SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Temporary utilities.
B. Temporary telecommunications services.
C. Temporary sanitary facilities.
D. Temporary Controls: Barriers, enclosures, and fencing.
E. Security requirements.
F. Vehicular access and parking.
G. Waste removal facilities and services.
H. Project identification sign.
I. Field offices.

1.02 TEMPORARY UTILITIES
A. Owner will provide the following:
   1. Electrical power and metering, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.
B. New permanent facilities may be used.
C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TELECOMMUNICATIONS SERVICES
A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
B. Telecommunications services shall include:
   1. Email: Account/address reserved for project use.
   2. Facsimile Service: Minimum of one dedicated fax machine/printer, with dedicated phone line.

1.04 TEMPORARY SANITARY FACILITIES
A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
B. Maintain daily in clean and sanitary condition.
C. At end of construction, return facilities to same or better condition as originally found.

1.05 BARRIERS
A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
C. Provide protection for plants designated to remain. Replace damaged plants.
D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
E. Gates in barriers shall be maintained in the closed position when not in use. Provide signs on all gates stating: "NOTICE - GATES MUST BE CLOSED AFTER ENTRY OR EXIT."
F. Shield all welding operations from public view with solid barrier.
G. Protective barricades, fencing, handrails and bridges, together with warning and guidance devices and signs, must be utilized so that passageway for pedestrians, especially blind and other physically disabled persons, is safe and well defined.
H. Walkways in construction areas shall be maintained at least 4 feet in width or equal to sidewalk/entry way width, whichever is greater, unless expressly permitted otherwise by the district in writing; and shall be free of abrupt changes in the grade. These walkways shall be clearly marked and shall provide safe passage for pedestrians (i.e. free from potential danger from construction activities). Obstructions within the walkways shall be illuminated during hours of darkness. Minimum vertical clearance to any obstruction within the walkway shall be seven feet.

I. Where walks, pathways or accessways are closed by the Work, an ADA compliant, alternate walkway shall be provided, preferably within the immediate location of the pathway or access to be closed. Where it is necessary to divert pedestrians into a major detour and/or into a parking lane or traffic area, at no time shall pedestrians be diverted into a portion of a street used for vehicular traffic. Any deviation from the above must have prior approval of the Owner.

J. At locations where adjacent alternate walkways cannot be provided (i.e. where no pathway or access is available within the immediate location of the interruption) ADA compliant detours shall be clearly planned, marked and constructed. Appropriate signs and barricades must be installed at the limits of construction and in advance of the closure (or detour) in order to divert pedestrians to the appropriate walkway or detour.

K. Wherever it is necessary that trenches and excavation be bridged, bridges shall be constructed in an ADA compliant manner. These bridges shall permit unobstructed flow of traffic or pedestrians and shall meet the following criteria:
   1. Bridging shall be secured against displacement by using adjustable cleats, angles, bolts or other devices.
   2. Bridging shall be installed to operate with minimum noise.
   3. The trench shall be adequately shored to support the bridging and traffic.
   4. Only steel plates shall be used for bridging. Steel plates used for bridging shall extend one foot (minimum) beyond the edges of the trench. The steel plates shall be beveled in order to provide smooth and uninterrupted wheelchair and other access. Temporary paving materials may be used in conjunction with the beveled steel plates. Provide handrails.

L. Remove barriers and enclosures only after acceptance of that portion of the Work.

1.06 FENCING
   A. Construction: Commercial grade chain link fence.
   B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.07 EXTERIOR ENCLOSURES
   A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 SECURITY
   A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
   B. Coordinate with Owner's security program.

1.09 VEHICULAR ACCESS AND PARKING
   A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
   B. Coordinate access and haul routes with governing authorities and Owner.
   C. Provide and maintain access to fire hydrants, free of obstructions.
   D. Provide means of removing mud from vehicle wheels before entering streets.
   E. Designated existing on-site roads may be used for construction traffic.
F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.10 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
B. Provide containers with lids. Remove trash from site weekly.
C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.11 PROJECT IDENTIFICATION

A. Provide project identification sign of design, construction, and location approved by Owner.
B. No other signs are allowed without Owner permission except those required by law.

1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
B. Remove underground installations to a minimum depth of 2 feet.
C. Clean and repair damage caused by installation or use of temporary work.
D. Restore existing facilities used during construction to original condition.
E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Re-use of existing products.
   B. Transportation, handling, storage and protection.
   C. Product option requirements.
   D. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS
   A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
      1. Submit within 15 days after date of Agreement.
      2. For products specified only by reference standards, list applicable reference standards.
   B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
   C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
   D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
      1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS
   A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
   B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
   C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS
   A. Provide new products unless specifically required or permitted by the Contract Documents.
   B. Do not use products having any of the following characteristics:
      1. Made using or containing CFC's or HCFC's.

2.03 PRODUCT OPTIONS
   A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
   B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
   C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS
   A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. A Substitution is a change from one product or material to another of equal or like value, quality, features, appearance or durability. The burden of proof is on the submitter and the determination of equality rests solely with the Owner's Representative and Owner. In general, substitutions will be considered and indicated in the "Conditions" or when the cost differential and benefit is favorable to the Owner without affecting the final results of the Project. All "Requests for Substitutions" must be accompanied by a completed request form. See enclosed form at the end of this section.

B. Within a period of fifteen (15) calendar days after award of Contract, the Owner's Representative will consider formal requests from the Contractor for substitution of products in place of those specified.

C. After end of that period, requests will be considered only in case of product unavailability or other conditions beyond the control of Contractor.

D. Product unavailability shall be verified in writing by manufacturer.

E. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it is equal or better than the specified product in all aspects.
   2. Will provide the same warranty for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the Owner.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse Owner's Representative for review or redesign services associated with approval and re-approval by authorities.

F. Submit separate Requests for each substitution with requirements stated in Contract Documents:
   1. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
      a. Product identification, including manufacturer's name and address.
      b. Manufacturer's literature identifying:
         1) Product's description.
         2) Reference Standards.
         3) Performance and test data.
         4) Samples: as applicable.
         5) Name and address of similar projects on which product has been used, and date of each installation.
   2. Itemized comparison of the proposed substitution with product specified; list significant variations. Provide tabbed and marked manufacturer's data for specified product and the substitution for documentation.
   3. Data relating to changes in Construction Schedule.
   4. Any effect of substitution on separate Contracts.
   5. List of changes required in other work or products.
   6. Detailed cost data comparing proposed substitution with product specified.
   7. Designation of availability of required license fees or royalties.

G. Substitutions will not be considered for acceptance when:
   1. They are indicated or implied on Shop Drawings or product data submittals without a formal request from Contractor.
   2. They are requested directly by a Subcontractor.
   3. Acceptance will require substantial revision of Contract Documents.
4. Insufficient information is available.

H. Products and materials described on the Drawings and in these Specifications are known to be available at the time of bidding. Failure on the part of the Contractor to procure, receive and store such products and materials will not be considered as a basis for substitution or an increase in the Contract Price.

I. Should the Contractor fail to furnish specified products or materials in a timely manner and such products or materials are no longer available, the Contractor shall furnish such substitution as determined by the Owner's Representative to be equal to the original Specification at no additional cost to the Owner.

J. The Owner shall assume no responsibility for failure on the part of the Contractor to provide the specified products or materials.

K. Substitute products shall not be ordered or installed without prior written review by the Owner's Representative.

L. Owner's Representative shall determine acceptability of proposed substitutions and reserves the right to reject proposals due to insufficient information or to reject proposals, if, in the Owner's Representative's judgment, the proposed substitution does not meet the aesthetic criteria of the specified materials.

M. Compensation: Contractor shall reimburse Owner for compensation paid to the Owner's Representative for evaluation of substitution proposals made during construction, whether or not substitution is accepted by Owner.

3.02 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

H. Prevent contact with material that may cause corrosion, discoloration, or staining.

I. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
J. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION
# SUBSTITUTION REQUEST

(After the Bidding Phase)

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<th>Project:</th>
<th>Substitution Request #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To:</td>
<td>From:</td>
</tr>
<tr>
<td>Date:</td>
<td>A/E Project #:</td>
</tr>
<tr>
<td>Re:</td>
<td>Contract For:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specification Title:</th>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section:</td>
<td>Page:</td>
</tr>
<tr>
<td>Article/Paragraph:</td>
<td></td>
</tr>
</tbody>
</table>

**Proposed Substitution:**

<table>
<thead>
<tr>
<th>Manufacturer:</th>
<th>Address:</th>
<th>Phone:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Trade Name:</th>
<th>Model No:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Installer:</th>
<th>Address:</th>
<th>Phone:</th>
</tr>
</thead>
</table>

**History:**

- [ ] New Product
- [ ] 2-5 yrs old
- [ ] 5-10 yrs old
- [ ] More than 10 yrs old

**Differences between proposed substitution and specified product:**

- [ ] Point-by-point comparative data attached - REQUIRED BY A/E

**Reason for not providing specified item:**

**Similar Installation:**

<table>
<thead>
<tr>
<th>Project:</th>
<th>Architect:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Owner:</th>
<th>Date Installed:</th>
</tr>
</thead>
</table>

**Proposed substitution affects other parts of Work:**

- [ ] No
- [ ] Yes; explain

**Savings to Owner for accepting substitution:**

$( $ )

**Proposed substitution changes Contract Time:**

- [ ] No
- [ ] Yes; [Add] [Deduct] days.

**Supporting Data Attached:**

<table>
<thead>
<tr>
<th>Drawings</th>
<th>Product Data</th>
<th>Samples</th>
<th>Tests</th>
<th>Reports</th>
<th>Other</th>
</tr>
</thead>
</table>

**The Undersigned certifies:**

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product
- Same warranty will be furnished for proposed substitution as for specified product
• Same maintenance service and source of replacement parts, as applicable, is available.
• Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
• Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
• Proposed substitution does not affect dimensions and functional clearances.
• Payment will be made for changes to building design, including A/E design, detailing and construction costs caused by the substitution.
• Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by:

Signed by:

Firm:

Address:

Telephone:

Attachments:

A/E’s REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330
☐ Substitution rejected - Use specified materials
☐ Substitution Request received too late - Use specified materials.

Signed by: ____________________________ Date: ____________________________

Additional Comments:

☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐

Comment:
SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Examination, preparation, and general installation procedures.
B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
C. Pre-installation meetings.
D. Cutting and patching.
E. Surveying for laying out the work.
F. Cleaning and protection.
G. Starting of systems and equipment.
H. Demonstration and instruction of Owner personnel.
I. Closeout procedures, except payment procedures.
J. General requirements for maintenance service.

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Efficiency, maintenance, or safety of any operational element.
   4. Work of Owner or separate Contractor.
   5. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

1.04 QUALIFICATIONS
A. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS
A. Use of explosives is not permitted.
B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.

H. Pest Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work or invading the premises.

I. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

J. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

K. Moisture Control: Provide methods, means, and facilities to prevent moisture from entering the building.

1.06 COORDINATION

A. Coordinate work of alterations and renovations to expedite completion sequentially and to accommodate occupancy requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
B. Verify that 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. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Cut, move, or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.
B. Remove debris and abandoned items from area and from concealed spaces.
C. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity. Insulate ducts and piping to prevent condensation in exposed areas.
D. Prepare surfaces and remove surface finishes to provide for proper installation of new work and finishes.
E. Clean substrate surfaces prior to applying next material or substance.
F. Seal cracks or openings of substrate prior to applying next material or substance.
G. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
B. Require attendance of parties directly affecting, or affected by, work of the specific section.
C. Notify Engineer seven days in advance of meeting date.
D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.
E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Promptly notify Engineer of any discrepancies discovered.
B. Promptly report to Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
C. Establish elevations, 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. Building foundation, column locations, ground floor elevations.
D. Periodically verify layouts by same means.
E. Maintain a complete and accurate log of control and survey work as it progresses.
F. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

3.05 GENERAL INSTALLATION REQUIREMENTS
A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.
B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS
A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Engineer before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.
B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.
C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
b. Provide temporary connections as required to maintain existing systems in service.

4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

H. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.

I. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Engineer review and request instructions.

J. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

K. Refinish existing surfaces as indicated:

L. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

M. Clean existing systems and equipment.

N. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

O. Do not begin new construction in alterations areas before demolition is complete.

P. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-conforming work.

D. Execute cutting and patching including excavation and fill to complete the work, to uncover work to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit Products together to integrate with other work.

E. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
F. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

G. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

H. Restore work with new products in accordance with requirements of Contract Documents.

I. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

J. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.

K. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

L. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.08 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site weekly and dispose off-site; do not burn or bury.

3.09 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Engineer and owner seven days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
E. Verify that wiring and support components for equipment are complete and tested.
F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION
A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.
B. Provide a qualified person who is knowledgeable about the Project to perform demonstration.
C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

3.12 ADJUSTING
A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.13 FINAL CLEANING
A. Execute final cleaning after Substantial Completion but before making final application for payment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
B. Use cleaning materials that are nonhazardous.
C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
D. Clean site; sweep paved areas, rake clean landscaped surfaces.
E. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.
F. Clean Owner-occupied areas of work.

3.14 CLOSEOUT PROCEDURES
A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer and Owner.
B. Notify Engineer when work is considered ready for Substantial Completion.
C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer's review.
D. Notify Engineer when work is considered finally complete.
E. Complete items of work determined by Engineer's final inspection.
F. The Engineer will make only two (2) inspections to determine substantial completion. If these inspections determine that the work is not substantially complete, either because of major items not completed or an excessive number of punchlist items, successive inspections requested by the Contractor shall be charged to the Contractor at a rate of $400.00 per person per half day.

3.15 MAINTENANCE
A. Provide service and maintenance of components indicated in specification sections.
B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION
SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Project Record Documents.
   B. Operation and Maintenance Data.
   C. Warranties and bonds.
   D. As-Built Drawings

1.02 SUBMITTALS
   A. Project Record Documents: Submit documents to Engineer with claim for final Application for Payment.
   B. Operation and Maintenance Data:
      1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
      2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
      3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer comments. Revise content of all document sets as required prior to final submission.
      4. Submit two sets of revised final documents in final form within 10 days after final inspection.
   C. Warranties and Bonds:
      1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
      2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
      3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
   D. As-Built Drawings:
      1. Submit two compact disks with electronic as-built drawings in AutoCad 2008 or newer. Include all pen settings.
      2. Submit two opaque copies and one reproducible original of drawings to Engineer.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION
3.01 PROJECT RECORD DOCUMENTS
   A. Maintain on site one set of the following record documents; record actual revisions to the Work:
      1. Drawings.
      2. Specifications.
      3. Addenda.
      4. Change Orders and other modifications to the Contract.
      5. Reviewed shop drawings, product data, and samples.
      6. Manufacturer's instruction for assembly, installation, and adjusting.
   B. Ensure entries are complete and accurate, enabling future reference by Owner.
   C. Store record documents separate from documents used for construction.
   D. Record information concurrent with construction progress.
   E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

C. Include color coded wiring diagrams as installed.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Include manufacturer's printed operation and maintenance instructions.

G. Include sequence of operation by controls manufacturer.

H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

I. Additional Requirements: As specified in individual product specification sections.

3.04 OPERATION AND MAINTENANCE MANUALS

A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

B. Prepare data in the form of an instructional manual.

C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.

F. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

H. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

I. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
   3. Part 3: Project documents and certificates, including the following:
      a. Shop drawings and product data.

3.05 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

3.06 AS BUILT DRAWINGS

A. Prepare as-built drawings utilizing AutoCad 2008 or later. Use nationally recognized drawing standards, including layer management and organization.

B. Engineer will provide original design drawing files for starting point of as-builts.

C. Drawings shall indicate actual installed location, elevation, orientation, size and features of all equipment and materials installed under this contract.
D. Revise all sheets from the design drawings as required to reflect actual construction. This includes but is not limited to all diagrams, panel schedules, equipment schedules, controls points lists, floor plans, elevations, profiles and sequences.

END OF SECTION
SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Concrete formwork.
B. Floors and slabs on grade.
C. Concrete foundation walls.
D. Concrete reinforcement.
E. Miscellaneous concrete elements, including equipment pads, light pole bases, and thrust blocks.
F. Concrete curing.

1.02 REFERENCE STANDARDS
A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2010.
B. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (errata 2007).
C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
D. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
F. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2009b.
M. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2008a.
N. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".

1.03 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Shop Drawings; Reinforcement: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangements of concrete reinforcement. Include special reinforcement required and openings through concrete structures.
C. Shop Drawings; Formwork: Submit shop drawings prepared by a registered professional Engineer for fabrication and erection of forms for specific finished concrete surfaces, as indicated. Show general construction of forms including jointing, special form joint or reveals,
location and pattern of form tie placement, and other items which affect exposed concrete visually.

1. Architect's review is for general architectural applications and features only. Design of formwork for structural stability and efficiency is Contractor's responsibility.

D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design tests as specified.

1.04 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301, ACI 318, and Concrete Reinforcing Steel Institute, "Manual of Standard Practice".

B. Concrete Testing Service: Engage a testing laboratory acceptable to Architect to perform material evaluation tests and to design concrete mixes.

C. Materials and installed work may require testing and retesting, as directed by Architect, at anytime during progress of work. Allow free access to material stockpiles and facilities. Tests, including retesting of rejected materials and installed work, shall be done at Contractor's expense.

PART 2 PRODUCTS

2.01 FORMWORK

A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

C. Forms for Textured Finish Concrete: Form textured finish concrete surfaces with units of face design, size, arrangement, and configuration as shown on drawings or as required to match existing building 8 inch boards. Provide solid backing and form supports to ensure stability of textured form liners.

D. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.02 REINFORCEMENT

A. Reinforcing Steel: ASTM A 615/A 615M Grade 40 (280) for # 4 or smaller bars, ASTM A615-60 for # 5 and larger bars
   1. Type: Deformed billet-steel bars.
   2. Finish: Unfinished, unless otherwise indicated.

B. Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain type.

C. Reinforcement Accessories:
   1. Steel Wire: ASTM A 82, plain, cold-drawn, steel.
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
   3. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications, unless otherwise acceptable.
      a. For slabs-on-grade, use supports with sand plates or horizontal runners where base materials will not support chair legs.
b. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class I) or stainless steel protected (CRSI Class 2).

2.03 CONCRETE MATERIALS
   A. Cement: ASTM C150, Type I - Normal Portland type.
      1. Use one brand of cement throughout project, unless otherwise acceptable to Architect.
      1. Provide aggregates from a single source for exposed concrete.
      2. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.
      3. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Architect.
   C. Fly Ash: ASTM C618, Class F.
   D. Limit use of fly ash to not exceed 15 percent of cement content by weight.
   E. Water: Clean, not detrimental to concrete, and drinkable.

2.04 ACCESSORY MATERIALS
   A. Liquid Curing Compound: ASTM C309, Type 1, clear or translucent.

2.05 CONCRETE MIX DESIGN
   A. Submit all concrete mix designs to Testing Agency of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been approved by Testing Agency.
   B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience, as specified in ACI 301.
   C. Use admixtures for water-reducing and set-control in strict compliance with manufacturer's directions.
   D. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
      E. Ramps, slabs, and sloping surfaces: Not more than 4”.
      F. Reinforced foundation systems: Not less than 1” and not more than 4”.
      G. Other non-structural concrete: Not more than 5”.
   H. Normal Weight Concrete:
      1. Design mixes to provide normal weight concrete with the following properties, as indicated on drawings and schedules:
      2. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 psi.
      3. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.

2.06 MIXING
   A. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.
   B. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 EXECUTION
3.01 EXAMINATION
   A. Verify lines, levels, and dimensions before proceeding with work of this section.
   B. Notify Engineer 24 hours before concrete is to be placed or forms closed to allow for inspection of excavations and reinforcing placement.
3.02 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

C. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

D. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

F. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set time to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

G. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

H. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

1. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is 1” inside concrete and will not leave holes larger than 1” diameter in concrete surface.

I. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

J. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement is required to eliminate mortar leaks and mortar proper alignment.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 JOINTS:

A. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect.

B. Provide keyways at least 1-1/2” deep in construction joints in walls, slabs and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
C. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints.

D. Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs-on-ground at points of contact between slabs on ground and vertical surfaces, such as column pedestals, foundation walls, grade beams and elsewhere as indicated.
   1. Joint filler and sealant materials are specified in Division-7 sections of these specifications.

E. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. Use inserts 1/8" to 1/4" wide x 1/4 of slab depth, unless otherwise indicated.

F. Form contraction joints by inserting premolded plastic, hardboard or fiberboard strip into fresh concrete until top surface of strip is flush with slab surface. Tool slab edges round on each side of insert. After concrete has cured, remove inserts and clean groove of loose debris.
   1. Contraction joints may be formed by saw cuts as soon as possible after slab finishing as may be safely done without dislodging aggregate.

3.05 INSTALLATION OF EMBEDDED ITEMS:

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.

B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.06 PLACING CONCRETE

A. Pre-placement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete, where form coatings are not used.

B. Place concrete in accordance with ACI 304R.

C. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

D. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

E. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

F. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

G. Place concrete for floor slabs in accordance with ACI 302.1R.

H. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

I. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
J. Bring slab surfaces to correct level with straightedge and strike off. Use bull floats or darbies to
smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning
finishing operations.
K. Maintain reinforcing in proper position during concrete placement operations.

3.07 SLAB JOINTING
A. Locate joints as indicated on the drawings.
B. Anchor joint fillers and devices to prevent movement during concrete placement.
C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total
height equal to thickness of slab, set flush with top of slab.
D. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which
could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and
as herein specified.
E. When air temperature has fallen to or is expected to fall below 40 degrees F (4 degrees C),
uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of
not less than 50 degrees F (10 degrees C), and not more than 80 degrees F (27 degrees C) at
point of placement.
F. Do not use frozen materials or materials containing ice or snow. Do not place concrete on
frozen subgrade or on subgrade containing frozen materials.
G. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical
accelerators, unless otherwise accepted in mix designs.
H. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and
strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
I. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90
degrees F (32 degrees C). Mixing water may be chilled, or chopped ice may be used to control
temperature provided water equivalent of ice is calculated to total amount of mixing water. Use
of liquid nitrogen to cool concrete is Contractor’s option.
J. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature
will not exceed the ambient air temperature immediately before embedment in concrete.
K. Fog spray forms, reinforcing steel and subgrade just before concrete is placed.
L. Use water-reducing retarding admixture (Type D) when required by high temperatures, low
humidity, or other adverse placing conditions.

3.08 FLOOR FLATNESS AND LEVELNESS TOLERANCES
A. Correct defects by grinding or by removal and replacement of the defective work. Areas
requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.09 CONCRETE FINISHING
A. Repair surface defects, including tie holes, immediately after removing formwork.
B. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Other Surfaces to Be Left Exposed: "Steel trowel" as described in ACI 302.1R, minimizing
      burnish marks and other appearance defects.

3.10 FINISH OF FORMED SURFACES:
A. Rough Form Finish: For formed concrete surfaces not exposed-to- view in the finish work or by
other construction, unless other- wise indicated. This is the concrete surface having texture
imparted by form facing material used, with tie holes and defective areas repaired and patched
and fins and other projections exceeding 1/4” in height rubbed down or chipped off.
B. Smooth Form Finish: For formed concrete surfaces exposed-to- view, or that are to be covered
with a coating material applied directly to concrete, or a covering material applied directly to
concrete, such as waterproofing, dampproofing, painting or other similar system. This is as-cast
concrete surface obtained with selected form facing material, arranged orderly and
symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.

C. Smooth Rubbed Finish: Provide smooth rubbed finish to scheduled concrete surfaces, which have received smooth form finish treatment, not later than one day after form removal.

D. Moisten concrete surfaces and rub with carborundum brick or other abrasive until a uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

E. Grout Cleaned Finish: Provide grout cleaned finish to scheduled concrete surfaces which have received smooth form finish treatment.

F. Combine one part portland cement to 1-1/2 parts fine sand by volume, and mix with water to consistency of thick paint. Proprietary additives may be used at Contractor's option. Blend standard portland cement and white portland cement, amounts determined by trial patches, so that final color of dry grout will match adjacent surfaces.

G. Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.

3.11 MONOLITHIC SLAB FINISHES:

A. After placing slabs, plane surface so that depressions between high spots do not exceed 1/2" under a 10' straightedge. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff brushes, brooms or rakes.

B. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified, and slab surfaces which are to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo, and as otherwise indicated.

C. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane so that depressions between high spots do not exceed 5/16" under a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a uniform, smooth, granular texture.

D. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a level surface plane so that depressions between high spots do not exceed 1/8" under a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system.

E. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.

F. Non-Slip Aggregate Finish: Apply non-slip aggregate finish to concrete stair treads, platforms, ramps, sloped walks, and elsewhere as indicated.

G. After completion of float finishing, and before starting trowel finish, uniformly spread 25 lbs. of dampened non-slip aggregate per 100 sq. ft. of surface. Tamp aggregate flush with surface using a steel trowel, but do not force below surface. After broadcasting and tamping, apply trowel finishing as herein specified.

H. After curing, lightly work surface with a steel wire brush, or an abrasive stone, and water to expose non-slip aggregate.
I. Apply dry shake materials for colored wear-resistant finish at rate of not less than 60 lbs. per 100 sq. ft., unless greater amount is recommended by material manufacturer.

J. Immediately following first floating operation, uniformly distribute approximately 2/3 of required weight of dry shake material over concrete surface, and embed by means of power floating. Follow floating operation with second shake application, uniformly distributing remainder of dry shake material at right angles to first application, and embed by power floating.

K. After completion of broadcasting and floating, apply trowel finish as herein specified. Cure slab surface with curing compound recommended by dry shake hardener manufacturer, waiting up to 48 hours (depending on humidity and drying) before application. Do not use moisture-cover or moisture curing methods.

3.12 CURING AND PROTECTION

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

C. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

D. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days and in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

E. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.
      a. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

F. Curing Methods: Perform curing of concrete by curing and sealing compound, by moist curing, by moisture-retaining cover curing, and by combinations thereof, as herein specified.

G. Provide moisture-cover curing as follows:
   1. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3” and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

H. Sealer and Dustproofer: Apply a second coat of specified curing and sealing compound only to surfaces given a first coat.

3.13 REMOVAL OF FORMS:

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees F (10 degrees C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.14 MISCELLANEOUS CONCRETE ITEMS:

A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.
B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.

C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

D. Grout base plates and foundations as indicated, using specified non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.

3.15 FIELD QUALITY CONTROL

A. Provide free access to concrete operations at project site and cooperate with appointed firm.

B. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

C. Compressive Strength Tests: ASTM C39/C39M. For each test, mold and cure four concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.

D. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

E. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

3.16 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Engineer. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.17 PATCHING AND RESTORATION

A. Patch areas where equipment pads have been removed to a smooth and level surface. Install per Manufacturer's Instruction.

B. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.

C. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.

D. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

E. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.

F. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
G. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness using a template having required slope.

H. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets and other objectionable conditions.

I. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.

J. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.

K. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete, and apply concrete bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

L. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

M. Perform structural repairs with prior approval of Architect for method and procedure, using specified epoxy adhesive and mortar.

N. Repair methods not specified above may be used, subject to acceptance of Architect.

END OF SECTION
 SECTION 05 50 00  
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel, aluminum, and ________ items.
B. Extent of metal fabrications is indicated on drawings and schedules.
C. Types of work in this section include metal fabrications for:
D. Ladders.
E. Steel pipe railings.
F. Ornamental Gates and Frames

1.02 REFERENCE STANDARDS

G. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2009.
L. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions for products used in miscellaneous metal fabrications, including paint products and grout.
B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others.

1.04 SYSTEM PERFORMANCES:

A. Structural Performances: Provide assemblies which, when installed, comply with the following minimum requirements for structural performance, unless otherwise indicated.
B. Handrails and Toprails: Capable of withstanding the following loads applied as indicated when tested per ASTM E 935.
1. Concentrated loads of 200 lbf applied at any point in any direction.
C. Guards: Intermediate rails, balusters and panel fillers capable of withstanding a uniform load of 25 lbf per sq. ft. of gross area of guard, including any open areas, of which they are a part.
   1. Above load need not be assumed to be acting concurrently with uniform horizontal loads on toprails of railing assembly in determining stress on guard supporting members.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL
A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions for products used in miscellaneous metal fabrications, including paint products and grout.
B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others.
   1. Where materials or fabrications are indicated to comply with certain requirements for design loadings include structural computations, material properties and other information needed for structural analysis.
C. Steel Tubing: Cold formed, ASTM A 500; or hot rolled, ASTM A 501.
D. Steel Pipe: ASTM A 53; Type and grade (if applicable) as selected by fabricator and as required for design loading; black finish unless galvanizing is indicated; standard weight (schedule 40), unless otherwise indicated.
E. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
F. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers and shims as required, hot-dip galvanized, ASTM A 153.
G. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
I. Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, galvanized to ASTM A 153/A 153M where connecting galvanized components.
J. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
L. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 MATERIALS - ALUMINUM
A. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
B. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.
C. Sheet Aluminum: ASTM B209 (ASTM B209M), 5052 alloy, H32 or H22 temper.
D. Bolts, Nuts, and Washers: Stainless steel.

2.03 FABRICATION
A. Fit and shop assemble items in largest practical sections, for delivery to site.
B. Fabricate items with joints tightly fitted and secured.
C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.04 FABRICATED ITEMS

A. Ladders: Aluminum; in compliance with ANSI A14.3; with mounting brackets and attachments; prime paint finish.
   1. Rungs: 1-1/4 inch diameter tubular rod spaced 12 inches on center.
   2. Space rungs 7 inches from wall surface.

B. Posts and Guard Rails: As detailed; prime paint finish.

C. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.

D. Ornamental Gate and Frame: Steel Galvanized as indicated on drawings.

2.05 FINISHES - STEEL

A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

B. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

2.06 FINISHES - ALUMINUM

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Obtain approval prior to site cutting or making adjustments not scheduled.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
A. Stair railings and guardrails.

1.02 REFERENCE STANDARDS
B. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2010a.

1.03 SUBMITTALS
A. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS
A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E985 and applicable local code.
B. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E 935.
C. Dimensions: See drawings for configurations and heights.
   1. Top Rails and Wall Rails: 1-1/2 inches diameter, round.
D. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

2.02 STEEL RAILING SYSTEM
A. Steel Tube: ASTM A 500, Grade B cold-formed structural tubing.
B. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.
C. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.
D. Galvanizing: In accordance with requirements of ASTM A123/A123M.
   1. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic.

2.03 FABRICATION
A. Accurately form components to suit specific project conditions and for proper connection to building structure.
B. Fit and shop assemble components in largest practical sizes for delivery to site.
C. Fabricate components with joints tightly fitted and secured.
D. Welded Joints:
1. Exterior Components: Continuously seal joined pieces by continuous welds. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
2. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that field conditions are acceptable and are ready to receive work.

3.02 INSTALLATION
   A. Install in accordance with manufacturer's instructions.
   B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.
   C. Anchor railings securely to structure as indicated on drawings.

END OF SECTION
SECTION 26 05 01
MINOR ELECTRICAL DEMOLITION

PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Electrical demolition.

PART 2 PRODUCTS
2.01 MATERIALS AND EQUIPMENT
   A. Materials and equipment for patching and extending work: As specified in individual sections.

PART 3 EXECUTION
3.01 EXAMINATION
   A. Verify field measurements and circuiting arrangements are as shown on Drawings.
   B. Verify that abandoned wiring and equipment serve only abandoned facilities.
   C. Demolition drawings are based on casual field observation and existing record documents.
   D. Report discrepancies to Engineer before disturbing existing installation.
   E. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION
   A. Disconnect electrical systems in walls, floors, and ceilings to be removed.
   B. Coordinate utility service outages with utility company and Merritt College Campus.
   C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized (480 volts or less) equipment or circuits, use personnel experienced in such operations.
   D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK
   A. Remove, relocate, and extend existing installations to accommodate new construction.
   B. Remove abandoned wiring to source of supply.
   C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Remove electrical devices made abandoned by removal of mechanical equipment. Cut conduit flush with walls and floors, and patch surfaces.
   D. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
   E. Repair adjacent construction and finishes damaged during demolition and extension work.
   F. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

3.04 CLEANING AND REPAIR
   A. Clean and repair existing materials and equipment that remain or that are to be reused.
   B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

END OF SECTION
**SECTION 26 05 10**

**ELECTRICAL GENERAL PROVISIONS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

A. Furnish all labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working electrical installation, as shown on the drawings or described in these specifications.

**1.02 REFERENCES**

A. Reference to codes, standards, specifications and recommendations of technical societies, trade organizations and governmental agencies shall mean the latest edition of such publications adopted and published prior to submittal of the bid proposed. Such codes or standards shall be considered a part of this specification as though fully repeated herein.

B. When codes, standards, regulations, etc., allow work of lesser quality or extent than is specified under this Division, nothing in said codes shall be construed or inferred as reducing the quality, requirements or extent of the drawings and specifications.

C. FM P7825 - Approval Guide; Factory Mutual

D. NEMA MG 1 - Motors and Generators

E. California Code of Regulations (CCR) Title 24, Part 3, Basic Electrical Requirements, State Building Standards Electrical Code

F. National Fire Protection Association (NFPA).


I. Equipment and materials specified under this Division shall conform to the following standards where applicable:
   1. UL Underwriters' Laboratories
   2. ASTM American Society for Testing Materials
   3. CMB Certified Ballast Manufacturers
   4. IPCEA Insulated Power Cable Engineer Assoc.
   5. NEMA National Electrical Manufacturer's Assn.
   6. ANSI American National Standards Institute
   7. ETL Electrical Testing Laboratories

J. All base material shall be ASTM and/or ANSI standards.

K. All electrical apparatus furnished under this Section shall conform to National Electrical Manufacturers Association (NEMA) standards and the NEC and bear the Underwriters' Laboratories (UL) label where such label is applicable.

L. NECA (INST) Standard of Installation; National Electrical Contractors Association.

**1.03 SUBMITTALS**

A. See Division 1 for submittal procedures.

B. Where items are noted as "or equal" a product of equal design, construction and performance will be considered. Contractor must submit all pertinent test data, catalog cuts and product information required to substantiate that the product is in fact equal. Refer to Division 1, General Requirement for additional requirements. Only ONE substitution will be considered for each product specified.

C. Submittals shall consist of detailed shop drawings, specifications, "catalog cuts" and data sheets containing physical and dimensioned information, performance data, electrical characteristics, material used in fabrication, material finish and shall clearly indicate those optional accessories which are included and those which are excluded. Furnish one reproducible and 4 prints of each shop drawing.
1.04 CUTTING, PAINTING AND PATCHING
   A. Structural members shall in no case be drilled, bored or notched in such a manner that will impair their structural value. Cutting of holes, if required, shall be done with core drill and only with the approval of the Engineer.
   B. Cutting and digging shall be under the direct supervision of the General Contractor. Include as necessary for the work in this section.
   C. The contractor shall be responsible for returning any surface from which he has removed equipment or devices to the condition and finish of the adjacent surfaces.

1.05 SUPERVISION
   A. Contractor shall personally or through an authorized and competent representative constantly supervise the work from beginning to completion and, within reason, keep the same workmen and foreman on the project throughout the project duration.

1.06 PROTECTION
   A. Keep conduits, junction boxes, and outlet boxes, and other openings closed to prevent entry of foreign matter: cover fixtures, equipment, and apparatus and protect against dirt, paint, water, chemical, or mechanical damage, before and during construction period. Restore to original condition any fixture, apparatus, or equipment damaged prior to final acceptance, including restoration of damaged shop coats of paint, before final acceptance. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.

1.07 EXAMINATION OF SITE
   A. The Contractor shall visit the site prior to submitting bid, and determine the locale, working conditions, conflicting utilities, and the conditions in which the electrical work will take place. No allowances will be made subsequently for any costs which may be incurred because of any error or omission due to failure to examine the site and to notify the Engineer of any discrepancies between drawings and specifications and actual site conditions. Schedule visits at least 1 week in advance with Owner’s Maintenance staff.

1.08 PROJECT CONDITIONS
   A. Coordinate new 15 KV substation installation with size, location and installation of service utilities.
   B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

1.09 ENVIRONMENTAL REQUIREMENTS
   A. After other work such as sanding, painting etc. has been completed, clean lighting fixtures, panelboards, switchboards, and other electrical equipment to remove dust, dirt, and grease, or other marks, and leave work in clean condition.

1.10 VOLTAGE CHECK
   A. At the start and completion of job, check voltage at several points of utilization on the system which has been installed and reinstalled under this contract. During test, energize all loads installed. Measure 3-Phase voltages and note percentage differences. Verify phase rotation at the start and completion of job and prior to re-energizing electrical systems and before and after shutdowns. Submit report to Engineer. Include copy in O&M Manual.

1.11 WARRANTY
   A. See Division 1 - Closeout Submittals, for additional warranty requirements.
   B. Correct defective Work within a five year period after Date of Substantial Completion.

1.12 TESTS
   A. Perform tests as specified to prove installation is in accordance with contract requirements. Perform tests in the presence of the Engineer and furnish test equipment, facilities, and technical personnel required to perform tests. Tests shall be conducted during the construction
period and at completion to determine conformity with applicable codes and with these Specifications. Tests, in addition to specific system test described elsewhere, shall include:

1. Insulation Resistance: All 600 volt insulation shall be tested at 1,000 volts D.C. for one minute on all feeder and branch circuit conductors including the neutral, and make a typed record of all readings to be included in the maintenance instructions. The direct current amperes shall be recorded at start and at one minute. The value shall be declining and not more than one microampere. All 15kV insulation shall be tested at 5,000 volts D.C. for 15 minutes, under IEEE 400.(3) Acceptance Test Standard.

2. Circuit Continuity: Test all feeder and branch circuits for continuity. Test all neutrals for improper ground.

B. Equipment Operations: Test motors for correct operation and rotation.

C. Product Failure: Any products which fail during the tests or are ruled unsatisfactory by the Engineer shall be replaced, repaired, or corrected as prescribed by the Engineer at the expense of the Contractor. Tests shall be performed after repairs, replacements, or corrections until satisfactory performance is demonstrated.

D. Miscellaneous: Include all test results in the maintenance manual. Cost, if any, for all tests shall be paid by the Contractor.

1.13 DRAWINGS

A. Layout: General layout shown on the drawing shall be followed except where other work may conflict with the drawings.

B. Accuracy:
   1. Drawings for the work under this section are diagrammatic.
   2. Contractor shall verify lines, levels, and dimensions shown on the drawings and shall be responsible for the accuracy of the setting out of work and for its strict conformance with existing conditions at the site.
   3. Contractor shall insure reconnection of existing equipment and circuits affected by contract demolition whether or not reconnection is specifically shown on the contract documents.

1.14 PROJECT RECORD DRAWINGS

A. Refer to General Conditions for contractual requirements. Provide project record drawings as required by the General Provisions of the specifications and as required herein. Such drawings shall fully represent installed conditions including actual locations of outlets, true panelboard connections following phase balancing routines, correct conduit and wire sizing as well as routing, revised fixture schedule listing the manufacturer and products actually installed and revised panel schedule. All changes to drawings shall be made by qualified draftpersons to match existing linework and lettering as close as possible. When all the changes have been made to the trade drawings, contractor shall produce one (1) full size (E-Size) updated set of trade drawing(s) utilizing AutoCad 2008 or newer and supply one (1) set of Compact Discs (CD’s) reflecting same.

1.15 MAINTENANCE AND OPERATING INSTRUCTIONS

A. Furnish to the Engineer four (4) hard back 3-ring binders containing all bulletins, operating and maintenance instructions and part lists and other pertinent information for each and every piece of equipment furnished under this specification. Include service telephone numbers. Each binder shall be indexed into sections and labeled for easy reference. Bulletins containing more information than the equipment concerned shall be properly stripped and assembled.

B. At the time of completion, a period of not less than eight hours shall be allotted by the Contractor for instruction of building operating and maintenance personnel in the use of all systems. All personnel shall be instructed at one time, the Contractor making all necessary arrangements with manufacturer's representative. The equipment manufacturer shall be requested to provide product literature and application guides for the user's reference. Costs, if any for the above services shall be paid by the Contractor.
1.16 WARRANTIES
A. Furnish to the Campus three (3) and to the Engineer one (1) hard back 3-ring binders containing all warranties of every piece of equipment furnished under this specification. Include terms and limitations of warranties, contact names, addresses, and telephone numbers of manufacturer. Each binder shall be indexed into sections and labeled for easy reference for each equipment warranty.

1.17 EXTRA MATERIALS
A. See Division 1 - Product Requirements, for additional provisions.
B. All special tools for proper operation and maintenance of the equipment provided under this Section shall be delivered to the District's representative

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 WORKMANSHIP
A. Preparation, handling, and installation shall be in accordance with manufacturer’s written instructions and technical data particular to the product specified and/or accepted equal except as otherwise specified. Coordinate work and cooperate with others in furnishing and placing this work. Work to reviewed shop drawings for work done by others and to field measurements as necessary to properly fit the work.
B. Conform to the National Electrical Contractor's Association "Standard of Installation" for general installation practice.

3.02 INSTALLATION
A. Install in accordance with manufacturer's instructions.

3.03 STARTING EQUIPMENT AND SYSTEMS
A. Provide manufacturer's field representative to prepare and start equipment.
B. Adjust for proper operation within manufacturer's published tolerances.
C. Demonstrate proper operation of equipment to Campus's designated representative.

END OF SECTION
SECTION 26 05 12
BASIC MATERIAL AND METHODS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Conduit, raceways and fittings.
B. Wires and Cables for 600 Volts and less.
C. Wire connections.
D. Pull and junction boxes.
E. Supporting Devices.
F. Identifying Devices.
G. Grounding and Bonding

1.02 SUBMITTALS

A. Submit in accordance with the requirements of Division 1 the following items:
B. A list of conduit types indicating where each type of conduit will be used. Indicate conduit manufacturers and fittings to be used.
C. Wires and Cables.
D. Wiring Devices and Plates
E. Nameplates, including engraving schedules where engraved plates are specified.

1.03 QUALITY ASSURANCE

A. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

1.04 REFERENCES

B. ANSI C80.3 - American National Standard for Steel; Electrical Metallic Tubing, Zinc Coated - latest edition.
C. ANSI C80.5 - Rigid Aluminum Conduit - latest edition.
D. NECA (INST) - National Electrical Contractors Association; Standard for Installing Steel (Rigid, IMC, EMT) - latest edition.
E. NEMA FB 1 - National Electrical Manufacturers Association; Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable Assemblies; latest edition.
F. NECA 1 - National Electrical Contractor Association; Standard Practices for Good Workmanship in Electrical Contracting; 2006
G. NEMA RN 1 - National Electrical Manufacturer Association; Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit - latest edition.
I. NEMA 3R - National electrical manufacturer Association; Indoor and Outdoor Protected Enclosure; 2005
PART 2 PRODUCTS

2.01 CONDUIT, RACEWAYS AND FITTINGS

A. Rigid Steel Conduit
   1. Rigid steel conduit shall be full weight, pipe size, finished inside and out by hot-dip galvanizing after fabrication, and shall conform with ANSI C80.1 and UL.
   2. Couplings shall be electroplated steel.
   3. Insulating Bushings: Threaded polypropylene or thermo-setting phenolic rated 150°C minimum.
   4. Insulated grounding Bushings: Threaded cast malleable iron body with insulated throat and steel "lay-in" ground lug with compression screw.
   5. Insulated Metallic Bushings: Threaded cast malleable iron body with plastic insulated throat rated 150°C.
   6. Running threads are not acceptable.

B. Electrical Metallic Tubing (EMT):
   1. Conduit: Conduit shall be formed of cold rolled strip steel, and shall comply with ANSI C80.3 and UL requirements.
   2. Couplings: Electroplated steel, UL listed rain and concrete tight through 1-1/4" trade size. All EMT fittings shall be compression type.
   3. Connectors: Steel, gland compression type with insulated plastic throat, 150°C temperature rated. All EMT fittings shall be compression type.

C. Liquid Tight Flexible Metal Conduit:
   1. Conduit: Conduit shall be fabricated in continuous lengths from galvanized steel strip, spirally wound. Flexible conduit, except where installed in concealed dry locations, shall be liquid tight with plastic jacket extruded over the outer zinc coating. No aluminum substitute will be accepted.
   2. Fittings: Connectors shall be the screw clamp on screw-in (Jake) variety with cast malleable iron bodies and threaded male hubs with insulated throat or insulated bushings. Set screw type connectors are not acceptable. Liquid tight fittings shall be of cadmium plated cast malleable iron, with insulated throat.

D. Rigid Non-Metallic Conduit:
   1. Conduit and fittings shall be homogeneous plastic 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 damage conductors or cables.

2.02 WIRING AND CABLES

A. Acceptable manufacturers: Cerro Wire Inc, Southwire, Industrial Wire & Cable or approved equal.

B. Conductor material: All wire and cable shall be insulated, stranded copper conductors. Soft drawn annealed copper wire 98% conductivity, bearing the UL label.

C. Minimum conductor size: AWG No. 12 for all power and lighting branch circuits. AWG No. 14 for all signal and control circuits.

D. Color Coding: System conductors shall be identified as to voltage and phase connections by means of color impregnated insulation or approved colored marking tape as follows:

   E. For 120/240 volt, single phase, 3 wire system.
      1. Phase A - Black
      2. Phase B - Red
      3. Phase C - Orange for High Leg (208v to neutral)
      4. Neutral - White
      5. Ground - Green

   F. For 120/208 volt, 3 phase, 4 wire systems.
1. Phase A - Black
2. Phase B - Red
3. Phase C - Blue
4. Neutral - White
5. Ground - Green

G. for 277/480 Volt, 3 phase, 4 wire system
1. Phase A - Brown
2. Phase B - Orange
3. Phase C - Yellow
4. Neutral - Grey
5. Ground - Green

H. Secondary Wire and Cable, 0 to 600 Volts;
1. NEC Type THWN, or Type XHHW for feeders and branch circuits in wet or dry locations. NEC type THHN for branch circuits in dry locations.

2.03 WIRE CONNECTION

A. Wire Joints: Wires in sizes from #18 to #8 AWG, stranded conductor, with insulation rated 105 degrees C. or less shall be joined with electrical spring connectors of three part construction incorporating a non-restricted, zinc coated steel spring enclosed in a steel shell with an outer jacket of vinyl plastic with a flexible insulating skirt.

B. Mechanical Compression Connectors and Taps: Stranded conductors from #6 AWG to 750 Kcmil shall be joined or tapped using bolted pressure connectors having cast bronze compression bolts. Fittings shall be wide range-taking and designed to facilitate the making of parallel taps, tees, crosses or end-to-end connections. Split-bolt connectors will not be acceptable.

C. Fixture Connections: Splice fixture wire to circuit wiring with solderless connectors as specified above in paragraph A.

D. Terminating Lugs: Conductors from size No. 6 AWG to 750 Kcmil, copper, shall be terminated using tin plated hydraulically operated crimping tools and dies as stipulated by the lug manufacturer. Lugs shall be 3M "Scotchlok" series 30000, Burndy Type Ya-L series, or equal.

E. Splicing and Insulating Tape (600 volts and below): General purpose electrical tape shall be suitable for temperatures from minus 18 degrees C to 105 degrees C, shall be black, ultraviolet proof, self-extinguishing, 7 mil thick vinyl with a dielectric strength of 10,000 volts. Apply 4 layers half-lap with 2” over-lay on each conductor.

F. Insulating Putty (600 volts and below): Pads or rolls of non-corrosive, self-fusing, one eight inch thick rubber putty with PVC backing sheet. Putty shall be suitable for temperatures from minus 17.8 degrees C to 37.8 degrees C and shall have a dielectric strength of 570 volts/mil minimum.

G. Insulating Resin: Two Part liquid epoxy resin with resin and catalyst in pre measured, sealed mixing pouch. Resin shall have a set up time of approximately 30 minutes at 21.1 degrees C, and shall have thermal and dielectric properties equal to the insulation properties of the cables immersed in the resin.

H. Terminal Strip Connectors: Terminate wire in locking tongue style, pressure type, solderless lug where applicable.

2.04 OUTLET BOXES

A. Standard outlet boxes: Galvanized, die formed or drawn steel, knock-out type of size and configuration best suited to the application indicated on the plans. Minimum box size, 4 inch square by 1-1/2 inch deep, indoor use. FS cast boxes are required for outdoor use.

B. Cast Metal Outlet Boxes: FS/FD cast boxes are required for outdoor use. Malleable iron alloy with threaded hubs and mounting lugs as required. Boxes shall be furnished with cast cover plates of the same material as the box and neoprene cover gaskets. Thomas and Betts, Crouse-Hinds, Appleton or equal.
C. Conduit Outlet Bodies: Cadmium plated, cast iron alloy. Obround conduit outlet bodies with threaded conduit hubs and neoprene gasketed, cast iron covers. Outlet bodies shall be used to facilitate pulling of conductors or to make changes in conduit direction only. Splices are not permitted in conduit outlet bodies. Thomas and Betts, Crouse Hinds Form 8 Condulets, Appleton form 35 Unilets, or equal.

2.05 PULL AND JUNCTION
A. Sheet Metal Boxes: Use standard outlet or concrete ring boxes wherever possible; otherwise use minimum 15 gauge get metal, NEMA 1 boxes, sized to code requirements with covers secured by cadmium plated machine screws located 6 inches on centers. Circle AW Products, Hoffman Engineering Co., or equal.
B. Cast Metal Boxes: Use standard cast malleable iron outlet or device boxes wherever possible; otherwise use cadmium plated, cast malleable iron junction boxes with bolt-on, interchangeable conduit hub plates with neoprene gaskets. Appleton FS/FD series; Crouse Hinds FS/FD series, or equal.

2.06 ELECTRICAL SUPPORTING DEVICES
A. Concrete Fasteners: Phillips "Red-Head" or equal, self drilling expansion type concrete anchor.
B. Conduit Straps: Hot-dip galvanized, cast malleable iron, two hole type strap with cast clamp-backs and spacers as required. OZ/Gedney No. 14-50G strap and #141G spacer; Efcor No. 231 strap, and No. 131 spacer; or approved equal.
C. Construction Channel: 1-1/2 inch by 1-1/2 inch 12 gauge galvanized steel channel with 9/16 inch diameter bolt holes, 1-1/2 inch on center, in the base of the channel. Kindorf 905 series, Unistrut P-1000-HS or equal.
D. Cable Ties and Clamps: Thomas and Betts Co. "Ty-Raps" Panduit "Pan-Ty" or equal one piece, nylon, reusable type lashing ties.
E. Fasteners (General) : Wood screws for fastening to wood. Machine screws for fastening to steel. Toggle bolts for fastening to hollow concrete block, gypsum board, or plaster walls. Expansion anchors for attachments to pre-poured concrete.

2.07 IDENTIFYING DEVICES
A. Nameplates: Type NP: Engraved black bakelite, 1 inch by 3-1/2 inch, 1/8 inch high white letters, machine screw retained. For permanent identification of all switchboards, panelboards, circuit breakers in separate enclosures, motor starters, relays, time switches, disconnect switches and other cabinet-enclosed apparatus including terminal cabinets or match existing as closely as possible.
B. Legend Plates: Type LP: Die-stamped metal legend plate with mounting hole and positioning key for attachment to panel mounted operators' devices. Engraved paint-filled characters as specified.
C. Wire & Terminal Markers: Self-adhering, pre-printed vinyl with self-laminating wrap around strip. Markers shall be legible after termination. Brady B191 series, Thomas & Betts WSL series or equal.
D. Conductor Phase Markers: Thomas & Betts WCPHAS series or similar in addition to colored marking as specified under this section of the specifications.

2.08 GROUNDING AND BONDING
A. Ground Rods 
   1. Manufacturer: Blackburn, Erico, or approved Equal
   2. Size: 3/4" x 10' Ground Rods
B. Grounding Electrode Conductor, 2/0 for foundation foots, and per NEC.
C. Grounding Well - Christy Box, G5 Traffic Valve Box.
PART 3 EXECUTION

3.01 CONDUIT AND RACEWAY APPLICATIONS

A. Rigid Steel Conduit: Use rigid steel conduit for the following locations or conditions:
   1. All exterior applications
   2. All conduits larger than 2” trade diameter.
   3. All conduits indoor below eight (8) feet above finished floor.

B. Electrical Metallic Tubing (EMT): EMT is allowed for the following conditions:
   1. Interior only and above eight (8) feet from finished floor.
   2. Interior only and when entering a panel from above.

C. Liquidtight Flexible Metallic Conduit: Use Liquidtight for the following conditions:
   1. In damp and wet locations for connections to motors, transformers, vibrating equipment and machinery.
   2. Connections to all pump motors, flow switches, and similar devices.

D. Rigid Non-Metallic Conduit, Polyvinyl Chloride (PVC) Schedule 40:
   1. Underground installation.

3.02 CONDUIT INSTALLATION

A. General
   1. All conduit runs shown on the plans are sized based on the use of rigid steel conduit and THWN copper conductors. If conductor type is changed the contractor shall be responsible for resizing conduits to meet code. In no case is conduit to be sized smaller than 3/4” trade diameter.
   2. Low voltage wiring shall be installed in conduit, minimum 3/4” trade diameter.
   3. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing "pennies" to seal open ends.
   4. In making joints in rigid steel conduit, ream conduit smooth after cutting and threading.
   5. Clean any conduit in which moisture or any foreign matter has collected before pulling in conductors. Paint all field threaded joints to prevent corrosion.
   6. In all empty conduits or ducts, install an 1100 pound tensile strength polyethylene pulling rope.
   7. Conduit systems shall be electrically continuous throughout. Install code size, uninsulated, copper grounding conductors in all conduit runs, grounding conductor shall be bonded to conduit, equipment frames and properly grounded.

B. Layout:
   1. All new conduits shall be concealed. Any field conditions that does not allow concealment of conduits shall be reviewed with the Engineer prior to rough-in.
   2. Locations of conduit runs shall be planned in advance of the installation and coordinated with concrete work, plumbing and framing.
   3. Where practical install conduits in groups in parallel vertical or horizontal runs and at elevations that avoid unnecessary off-sets.
   4. Low voltage conduit shall be grouped separately and labelled every 10 ft interval as to system (i.e. fire, control, etc)
   5. Exposed conduit shall be run parallel or at right angles to the centerlines of the columns and beams.
   6. Conduits shall not be placed closer than 12 inches from a parallel hot water or steam line or three inches from such lines crossing perpendicular to the runs.
   7. In long runs of conduit, provide sufficient pull boxes per NEC inside buildings to facilitate pulling wires and cables. Support pull boxes from structure independent of conduit supports. These pull boxes are not shown on the plans.

C. Supports:
   1. All raceway systems shall be secured to building structures using specified fasteners, clamps and hangers spaced according to Code.
2. Support single runs of conduit using two hole pipe straps. Where run horizontally on walls in damp or wet locations, install "clamp blocks" to space conduit off the surface.

3. Multiple conduit runs shall be supported using "trapeze" hangers fabricated from 3/8 inch diameter, threaded steel rods secured to building structures. Fasten conduit to construction channel with standard two hole pipe clamps. Provide lateral seismic bracing for hangers.

4. Installation
   a. Locate and install anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
      1) Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
      2) Do not drill or cut structural members.
   b. Rigidly weld support members or use hexagon-head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
   c. Install surface-mounted cabinets and panelboards with minimum of four anchors.
   d. In wet and damp locations use steel channel supports to stand cabinets and panelboards 1 inch off wall.
   e. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

D. Terminations and Joints:
   1. Raceways shall be joined using specified couplings or transition couplings where dissimilar raceway systems are joined.
   2. Rigid conduit connection to enclosures shall be made by Myers type grounding hubs only. EMT connections to enclosures shall be made with compression connector with grounding lock-nuts or bushings.
   3. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using appropriate connectors and hubs.
   4. Install expansion couplings where any conduit crosses a building separation or expansion joint.
   5. Install cable sealing bushings on all conduits originating outside the building walls and terminating in switchgear, cabinets or gutters inside the building. Install cable sealing bushings or caulk conduit terminations in all grade level or below grade exterior pull, junction or outlet boxes.

E. Penetrations:
   1. Furnish and install metal sleeves for all exposed interior conduit runs passing through concrete floors or walls. Following conduit installation, seal all penetrations using non-iron bearing, chloride free, non-shrinking, dry-pack, grouting compound.
   2. Install specified watertight conduit entrance seals and membrane clamps at all below grade wall and floor penetrations. Conduits penetrating exterior building walls and building floor slab shall be insulated rigid steel.
   3. Conduits penetrating rated walls, floors, etc. shall be fireproofed.

3.03 CABLE AND WIRE INSTALLATION

A. Examination
   1. Verify that interior of building has been protected from weather.
   2. Verify that mechanical work likely to damage wire and cable has been completed.
   3. Verify that raceway installation is complete and supported.
   4. Verify that field measurements are as indicated.

B. Preparation
   1. In existing conduits that will be reused, pull out existing conductors.
   2. Completely and thoroughly swab raceway before installing wire.
   3. Use 50/50 solution of Simple Green. Use CO2 to blow water and soap into conduit - let soak to break up dried out pulling compounds, then pull conductors. Pull one conductor at a time if will not pull all out together.

C. General:
1. Conductors shall not be in conduit until all work of any nature that may cause injury is completed. Care should be taken in pulling conductors that insulation is not damaged. U.L. approved non-petroleum base and insulating type pulling compound shall be used as needed.
2. All cables shall be installed and tested in accordance with manufacturer's requirements and warranty.
3. Block and tackle, power driven winch or other mechanical means shall not be used in pulling conductors of size smaller than AWG # 1.

D. Splicing and Terminating:
1. All aspects of splicing and terminating shall be in accordance with cable manufacturer's published procedures.
2. Make up all splices in outlet boxes with connectors as specified herein with separate tails of correct color to be made up to splice. Provide at least six (6) inches of tails packed in box after splice is made up.
3. All wire and cable in panels, control centers and equipment enclosures shall be bundled and clamped.
4. Encapsulate splices in exterior outlet, junction and pull boxes using insulating resin kits. All splices for exterior equipment in pump rooms shall be made up watertight.
5. Insulate mechanical compression taps AWG # 1/0 and larger using pre-molded, snap-on insulating boots or specified conformable insulating putty overwrapped with two half-lapped layers of insulating tape.

E. Identification:
1. Securely tag all branch circuits, noting the purpose of each. Mark conductors with vinyl wrap-around markers. Where more than two conductors run through a single outlet, mark each circuit with the corresponding circuit number at the panelboard.
2. Color code conductors size #6 and larger using specified phase color markers and identification tags.
3. All terminal strips are to have each individual terminal identified with specified vinyl markers.
4. All identification shall be legible and readable after completion of installation.

3.04 INSTALLATION:
A. Route wire and cable as required to meet project conditions.
1. Wire and cable routing indicated is approximate unless dimensioned.
2. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.
3. Include wire and cable of lengths required to install connected devices within 10 ft of location shown.
B. Install wire and cable in accordance with the NECA "Standard of Installation."
C. Use wiring methods indicated.
D. Pull all conductors into raceway at same time.
E. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
F. Protect exposed cable from damage.
G. Support cables above accessible ceiling, using spring metal clips or metal cable ties to support cables from structure or ceiling suspension system. Do not rest cable on ceiling panels.
H. Use suitable cable fittings and connectors.
I. Neatly train and lace wiring inside boxes, equipment, and panelboards.
J. Clean conductor surfaces before installing lugs and connectors.
K. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
L. Terminate aluminum conductors with tin-plated aluminum-bodied compression connectors only. Fill with anti-oxidant compound before installing conductor.
M. Use suitable reducing connectors or mechanical connector adaptors for connecting aluminum conductors to copper conductors.
N. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
O. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
P. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
Q. Trench and backfill for direct burial cable installation as specified in Underground Structure Section. Install warning tape along entire length of direct burial cable.

3.05 ELECTRICAL CONNECTIONS
A. Make electrical connections in accordance with equipment manufacturer's instructions.
B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.
D. Provide receptacle outlet to accommodate connection with attachment plug.
E. Provide cord and cap where field-supplied attachment plug is required.
F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.
H. Install terminal block jumpers to complete equipment wiring requirements.
I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.

3.06 INSTALLATION OF BOXES
A. General:
   1. Leave no un-used openings in any box. Install close-up plugs as required to seal openings.
   2. Exposed outlet boxes and boxes in damp or wet locations shall be cast metal with gasketed cast metal cover plates.
B. Box Layout:
   1. Outlet boxes shall be installed at the locations and elevations shown on the drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades.
   2. Install junction or pullboxes where required to limit bends in conduit runs to not more than 360 degrees or where pulling tension achieved would exceed the maximum allowable for the cable to be installed. Consult wire and cable manufacturer.

3.07 INSTALLATION OF WIRING DEVICES
A. General
   1. Install all devices flushmounted unless otherwise noted on the drawings. Comply with layout drawings for general locations. Consult Engineer or Owner's Representative for locations that have conflict with other devices or manner not suitable for installation. Avoid placing devices behind open doors.
   2. Align devices horizontally and vertically. Device plates shall be aligned vertically with tolerance of 1/16". All four edges of device plates shall be in contact with the wall surface.
3. Mounting height as indicated on the drawings and according to ADA requirements.
4. Install device plates on all outlet boxes. Provide blank plates for all empty, spare, and boxes for future use.
5. Securely fasten devices into boxes and attach appropriate cover plates.
6. Caulk around edges or outdoor device plates and boxes when rough wall surfaces prevent raintight seal. Use caulking materials approved by Engineer. Fireproof around opening of devices located or penetrating firerated construction assemblies.
7. Fireproof around opening of devices located or penetrating firerated construction assemblies.

B. Identification
1. Label all outlets and switches. Mark each wiring device where circuits and panel supply is derived from.
2. All identification shall be legible and readable after completion of installation

3.08 ELECTRICAL EQUIPMENT GROUNDING
A. Ground non-current carrying metal parts of electrical equipment enclosures, frames, conductor raceways or cable trays to provide a low impedance path for line-to-ground fault current and to bond all non-current carrying metal parts together. Install a ground conductor in each raceway system in addition to conductors shown. Equipment ground conductor shall be electrically and mechanically continuous from the electrical circuit source to the equipment to be grounded. Size ground conductors per NEC 250 unless larger conductors are shown on the drawings.

B. Grounding conductors shall be identified with green insulation, except where a bare ground conductor is specified. Where green insulation is not available, on larger sizes, black insulation shall be used and suitably identified with green tape at each junction box or device enclosure.

C. Install metal raceway couplings, fittings and terminations secure and tight to insure good ground continuity. Provide insulated grounding bushing and bonding jumper where metal raceway is not directly attached to equipment metal enclosure and at concentric knock-outs.

D. Conduit terminating in concentric knockouts at panelboards, cabinets and gutters shall have insulated grounding bushings and bonding jumpers installed interconnecting all such conduits and the panelboard cabinet, gutter, etc.

E. Performance: Measure ground resistance, 10 Ohms or less.

3.09 BONDING
A. Bonding shall be provided to assure electrical continuity and the capacity to conduct safely any fault current likely to be imposed.

B. Bonding shall be in accordance with NEC Article 250, Part V.

3.10 WORKMANSHIP
A. Preparation, handling, and installation shall be in accordance with manufacturer's written instructions and technical data particular to the product specified and/or accepted equal except as otherwise specified. Coordinate work and cooperate with others in furnishing and placing this work. Work to reviewed shop drawings for work done by others and to field measurements as necessary to properly fit the work.

B. Conform to the National Electrical Contractor's Association "Standard of Installation" for general installation practice.

3.11 INSTALLATION
A. Install in accordance with manufacturer's instructions.

END OF SECTION
SECTION 26 05 13
MEDIUM-VOLTAGE CABLE

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Medium voltage cable.
B. Cable terminations

1.02 REFERENCE STANDARDS
B. IEEE 386 - Separable Insulated Connectors for Power Distribution Systems above 600 volts.
C. IEEE 404 - Power Cable Joints
D. IEEE 592 - Exposed Semiconducting Shields on Premolded High Voltage Cable Joints and Separable Insulated Connectors.
E. IEEE 48 - IEEE Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV; Institute of Electrical and Electronic Engineers; 1996 (R2009).
G. AEIC CS-6 - Association Electric Illuminating Company
H. ICEA S-68-516 - Insulated Cable Electric Association
I. UL MV-105 - Underwriter's Lab
J. NFPA 70 - National Electrical Code; 2008. Article 310 - Type MV-90-UL

1.03 SUBMITTALS
A. See Division 1 for submittal procedures.
B. Product Data: Provide for cable, terminations, and accessories.
C. Samples: Submit two samples of each size cable, 24 inches in length.
   1. Select each length to include complete set of manufacturer markings.
   2. Attach tag indicating cable size and application information.
D. Test Reports: Indicate results of cable test in tabular form and in plots of current versus voltage for incremental voltage steps, and current versus time at 30 second intervals at maximum voltage. Submit six (6) copies of certified factory test reports and four (4) copies of field test reports.
   1. Perform Factory high voltage AC and DC corona level tests per NEMA WC-AEIC Standards on each length of cable. Submit certified reports of the factory tests, together with all data necessary to determine that cable is as specified, including type of conductor, AWG size and stranding; type and thickness of insulation and jacket; type of shielding; insulation resistance constant corrected to standard temperature; voltage rating. Use standard ICEA terminology in reports.
   2. Perform field tests as noted in these specifications and per NETA Standard Acceptance Testing.
E. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
F. Project Record Documents: Record actual sizes and locations of cables.
G. Certificate of Compliance: Indicate approval of installation by Campus Facilities electrical department.
H. Warranty: Cables shall be warranted for 40 years minimum.
I. Maintenance Data: Include instructions for testing and cleaning cable and accessories.
J. Prior to installation, submit for approval calculated allowable pulling tensions and projected tensions. Measure pulling tensions and submit for approval. State allowable sidewall pressure in pounds and calculated values. State and provide jam ratio calculations.

1.04 QUALITY ASSURANCE

A. Comply with NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.

C. Each reel shall have printed on reel or a weather-proof (metal or plastic) tag firmly attached indicating: Manufacturer's Name, Conductor Material, Conductor Size, Insulation type and thickness, Jacket thickness, Temperature rating, Length of cable, Manufacturer's type, Voltage class, PO Number, Cable weight, Reel weight, and if shielded or non-shielded.

D. Each reel shall be lagged with suitable lagging to protect cable from damage during shipping. Cable ends shall be sealed to prevent the entrance of water.

E. Installer Qualifications: Authorized installer of specified manufacturer with service facilities within 100 miles of Project.

1. Submit medium voltage cable splicer/terminator certification of competency and experience 20 days before splices or terminations are made in medium voltage cables. Splicer/Terminator experience during the immediate past 3 years shall include performance in splicing and terminating cables of the type and classification being provided under this contract.

2. Utilize companies regularly engaged in cable splicing; Californina Splicing (Pleasanton, CA); High Voltage Splicing (Danville, CA); PCS Corp (Concord, CA), and STT.

F. Acceptance Testing: Contractor shall hire an independent testing agency experienced in high voltage testing to test medium voltage cable. Testing agency qualification shall be submitted to Engineer for review and approval. Acceptable testing agencies shall be as specified in section 26-08-02 - Electrical Acceptance Testing.

G. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 CABLE

A. Manufacturer: Okonite or approved equal

B. General: Furnish, install and test cable manufactured per latest applicable requirements of ASTM, ICEA, UL, and AEIC for service specified.

1. All cable must have been manufactured within one year of purchase.

2. The Engineer may require that adequate service records be submitted to prove competence of cable manufacturer.

C. The cable shall be suitable for use in wet and dry locations in conduit, underground duct systems, direct burial, an aerial installation. The cable shall be rated 105 degree C for normal operation, 130 degree C for emergency overload operation and 250 degree C for short circuit conditions. Emergency overload operation may occur for periods up to 1500 hours cumulative during the life of the cable.

D. Technical Requirements

1. Voltage and Gauge: As per Construction Drawings

2. Conductor: Uncoated soft copper compact stranded.

3. Conductor shield: Extruded layer of semiconducting EPR thermosetting compound.

4. Insulation: The insulation shall be EPR. The ethylene content in the elastomer used shall not exceed 72% by weight of ethylene nor shall the insulation contain any polyethylene, both features to limit the degree of susceptibility to treeing experienced by highly crystalline materials. The minimum average insulation thickness shall be 220 mils (133% insulation level). The insulation shall be compounded by the cable manufacturer in its own facility.
using a closed system to insure maximum cleanliness. The EPR insulation system shall be triple tandem extruded with the EPR conductor and insulation shields to prevent intersurface contamination. The extrusion operation shall be performed by three separate in line extruder heads thereby permitting the measurement and accurate individual control of the wall thickness of each layer of compound as the cable is being manufactured.

5. Insulation shield: Extruded layer of semiconducting EPR thermosetting compound.
6. Metallic shield: Bare 5 mil copper tape helically applied.
7. Jacket: Black flame retardant PVC.

E. Cable Test: Cable shall be tested in accordance with AEIC CS-8

2.02 CONDUCTOR PULLING LUBRICANT:
A. Manufacturer: General Machine Products Inc., Tevose, PA or equal.
B. Winter grade lubricant, suitable for use at all temperatures down to 9 degrees F (-18C).
C. Slip X-300 compound available from the American Colloid Co. of Skokie, Illinois, or Winter Grade No. 7438-PC.

2.03 SPLICES
A. Manufacturer: Hubbel Power Systems, 3M, Elastimold, or Raychem.
B. The materials shall be compatible with the conductors, insulations and protective jackets on the cables and wires and as recommended by cable manufacturer. Submit vendor data of splicing material and obtain approval before proceeding with splicing operations.
C. The splices shall insulate and protect the conductors not less than the insulation and protective jackets on the cables and wires which protect the conductors. In locations where moisture might be present, the splices shall be watertight. In manholes, the splices shall be submersible.
D. Splicing and Terminating Fittings:
   1. Shall be heavy duty, pressure type fittings which will assure satisfactory performance of the connections under conditions of temperature cycling and magnetic forces from available short circuit currents.
   2. The fittings shall be suitably designed and the proper size for the cables and wires being spliced and terminated.
   3. Where the Engineer determines that unsatisfactory fittings have been installed, remove the unsatisfactory installations and install approved fittings at no additional cost to the Owner.

2.04 TERMINATIONS
A. Manufacturer: Hubbel Power Systems, 3M, Elastimold, or approved equal.
B. Type: Class 1 terminations in accordance with IEEE Standard 48.
C. Ratings:
   1. Maximum Voltage: 15kV
   2. Continuous Current: 200A LoadBreak and 600A Non-LoadBreak
   3. BIL Rating: 95kV BIL
   4. AC Withstand Voltage: 34kV
   5. DC Withstand Voltage: 53 kV
D. Terminations:
   1. 2 Hole NEMA Pad Type Termination: Typical for Switchgear, Cold or Heat Shrink
E. Terminating Kits
   1. General:
      a. Shall be assembled by the manufacturer or supplier of the materials and shall be packaged for individual terminations.
      b. Shall consist of materials designed for the cables being terminated and shall be suitable for the prevailing environmental conditions.
c. Shall include detail drawings and printed instructions for each type of termination being installed, as prepared by the manufacturers.
d. Detail drawings and printed instructions shall indicate the cable type, voltage rating, manufacturer’s name and catalog numbers for the materials indicated.
e. Cold Shrink Terminations shall be used from dry indoor type of terminations. Heat Shrink Terminations shall be used for damped, outdoor type of terminations.

2. Taped Terminations:
a. Insulating and semi-conducting rubber tapes shall withstand 200 percent elongation without cracking, rupturing or reducing their electrical and self-bonding characteristics by more than 5 percent.

3. Stress Cone: Stress cones shall be either of wrapped tape construction or preformed rubber cone with the semiconducting inlay for shield termination and shall be Class 1 terminations in accordance with IEEE Standard 48. Materials, procedures, and dimensions shall only be as supplied by 3M, Elastimold, or equal, for specific cable and size and type used. Finished termination shall be rated 95kV BIL minimum. Stress cones shall be provided with #8 AWG minimum, stranded copper, 24 inch length grounding lead clamped to cable shield with strap type clamp at base of stress cone. The entire outer surface of each stress cone projecting cable insulation and base of cable lug shall be taped and sealed to prevent intrusion of moisture into cable laminations.

4. Live End Seals: Heat shrink live end seals, for use with 5kV VCL cable and 15kV EPR cable, Raychem HVEC, Scotch 3M or equal.

F. Premolded Rubber Terminations
1. Shall be used to sectionalize cables or as feedthru’s for making lateral taps. Each tap/junction works independently of the others contained on the same unit. Number of junctions as specified in the drawings.

2. Material: All Copper designed
3. Mounting: Corrosion-resistant stainless steel mounting bracket. Provide for backplate mounting angles of 30, 45, or 60 degrees, and adjustable for horizontal mounting to a flat surface.

4. Terminations shall be in accordance with IEEE 48, 386, 404, and 592.

5. Premolded rubber devices shall have a minimum of 0.125 inch semi-conductive shield material covering the entire housing. Test each rubber part prior to shipment from the factory.

6. Grounding of metallic shields shall be accomplished by a solderless connector enclosed in a watertight rubber housing covering the entire assembly. The grounding device and splice or terminator shall be of same manufacturer to insure electrical integrity of the shielded parts.

7. The premolded parts shall be suitable for indoor, outdoor or submersible applications.

G. Elbow Connectors
1. Elbow Type: 600A Non-Load Break, as noted in plans.

2. Material: All Copper designed
3. Molded external shield-conductive, abrasion resistant 1/8- inch thick shield of peroxide cured EPDM

4. Cable entrance - has conductive rubber stress relief area which contacts extruded cable. Compression Connector - Sized for the specific conductor size. Crimped with standard tools and dies.

5. Test Point - Designed to allow voltage indication when readout is made with suitable high impedance measuring devices.

6. Grounding Tab - Designed to accept a single #14 awg copper wire that can be inserted into the eye. Provides a static ground to ensure personnel safety.

7. Elastimold 160 series equipment with stick operable connectors, or RTE, no substitutions. All equipment numbers are Elastimold:
a. Elbow connectors with voltage test point, 200A: #166LR.
b. Grounding devices: 20MA.
c. Load break operating kit:
1) Carry Case #1BG-1.
2) Test rod #370TR.
3) Grounding Elbow #160GLR (3).
4) Insulated Cap with Ground #160DRG (6).
5) Feed Thru #163FT (3).
6) Lubricant #SG-5.
7) Stand off Plug #600SOP (3).
8. System shall be rated: 15kV, BIL-95kV impulse voltage, 1.2 x 50 microsecond wave; AC withstand 34kV, 60Hz, 1 minute, DC withstand 53kV, 15 minutes: Corona extinction voltage 11kV; 900 amp continuous; 25,000 amp rms sym .17 sec.; reduction test Corona extinction voltage: 19Kv minimum, (test at 3 pc. sensitivity), and either impulse or AC withstand to meet ratings above.

2.05 FIREPROOFING TAPE
A. Manufacturers Scotch 3M, Permacel or equal.
B. The tape shall consist of a flexible, conformable fabric coated on one side with flame-retardant flexible, polymeric coating and/or a chlorinated elastomer not less than 0.050 inch thick and shall weigh not less than 2.5 pounds per square yard.
C. The tape shall be noncorrosive to cable sheath, shall be self-extinguishing and shall not support combustion. It shall be arcproof and fireproof.
D. The tape shall not deteriorate when subjected to water, oil, gasses, salt water, sewage, or fungus. It shall be resistant to sunlight and ultraviolet light.
E. The finished application shall withstand a 200 ampere arc for not less than 30 seconds.
F. Securing tape: Shall be glass cloth electrical tape not less than 7 mils thick, and 3/4 inch wide.

2.06 ACCESSORIES
A. Wire Tags: Identify cables by engraved or embossed tags. Tags shall be minimum 3/4 inch wide, length as required by inscription. Manufacturer: Tech Products Inc. or Seton Nameplate Corp.
B. Markers: Pre-marked Self-Adhesive Tags. Thomas and Betts, W.H. Brady, or E-Z Code.
C. Cable Racks and Supports: Cable racks, supports, and fittings for use in corrosive underground location and shall be provided with a factory applied PVC coating of at least 20 mils thick. All racks, supports and fittings shall be UL listed heavy duty, non-metallic, and UL listed.
D. Fireproofing Tape:
   1. Product: The tape shall consist of a flexible, conformable fabric coated on one side with flame retardant flexible, polymeric coating and/or chlorinated elastomer not less than 0.050 inch thick and shall weight not less 2.5 pounds per square yard.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that conduit, duct, trench, or manholes are ready to receive cable.
B. Verify that field measurements are as indicated.
C. Verify routing and termination locations of cable bank prior to rough-in.
D. Observe all National Electric Code rules regarding installation. Check the conduit and wire sizes and actual overall diameters to be sure the approved conduit fill will not be exceeded.
E. Cable routing is shown in approximate locations unless dimensioned. Route as required to complete wiring system.
3.02 PREPARATION
A. Pull a short mandrel or plug closely approximating the diameter of the conduit through to loosen any burns, and check obstructions. Follow it up with a swab to clean out any remaining dirt or foreign matter.
B. Do not pull cable into duct or conduit until factory test reports of cable have been approved.
C. Use swab to clean conduits and ducts before pulling cables.
D. Verify and match existing system phase and rotation at each interface with existing cables or equipment. Provide the appropriate equipment to properly install cables.

3.03 INSTALLATION
A. Cable Installation
1. Use suitable lubricating compounds on the cables and wires to prevent damage to them during pulling-in. Provide compounds that are not injurious to the cable and wire jackets and do not harden or become adhesive.
2. Avoid abrasion and other damage to cables during installation. Pull in cable from the end having the sharpest bend; i.e. bend shall be closest to reel. Keep pulling tension to minimum by liberal use of lubricant, hand turning reel, and slack feeding of cable into duct entrance. Employ not less than one man at reel and one in pullhole during this operation.
3. Do not exceed manufacturer’s recommendations for maximum allowable pulling tension, side wall pressure, and minimum allowable bending radius. In all cases, pulling tension applied to the conductors shall be limited to 0.008 lbs. per circular mil of conductor cross-section area.
4. Pulling shall be stopped immediately with any indication of binding or obstruction and shall not be resumed until such difficulty is corrected. Sufficient slack shall be provided for free movement of cable due to expansion or contraction.
5. Sustain cable pulling tensions and bending radii below recommended limits. Do not exceed manufacturer’s recommendations for maximum allowable pulling tension, side wall pressure, and minimum allowable bending radius. In all cases, pulling tension applied to the conductors shall be limited to 0.008 lbs. per circular mil of conductor cross-section area.
6. Ground cable shield at each termination and splice.
7. Install cables in manholes along wall providing longest route, with a minimum of one full loop around the perimeter of the manhole.
8. For training of cables, minimum bend radius to inner surface of cable shall be 12 times cable outside diameter. Where cable is pulled under tension over sheaves, conduit bends, or other curved surfaces, make minimum bend radius 50% greater than specified above for training.
9. Arrange cable in manholes to avoid interference with duct entrances.
10. Cables cut in the field shall have the cut ends immediately sealed to prevent entrance of moisture with heat-shrinkable molded cable end caps.
11. Cable splices made up in manholes shall be firmly supported on cable racks as indicated. No cable splices shall be pulled in ducts. Cable ends shall overlap at the ends of a section to provide sufficient undamaged cable for splicing. Cables to be spliced in manholes shall overlap the centerline of the proposed joint by not less than 2 feet.
12. In manholes, underground raceways and other outdoor locations:
   a. Seal the cable ends prior to pulling them in to prevent the entry of moisture.
   b. For ethylene propylene rubber cables, use cabs of epoxy resin which are not less than 1/4 inch larger in diameter than the overall diameter of the cable. Clean each end of each cable before installing the epoxy resin over it.
13. Where cable exits ducts in manholes, add cable restraints to keep cables from creeping. Secure restraints to concrete wall with drilled inserts and turnbuckle.
14. Ground cable metallic shield to grounding system.
B. Fireproofing Tape Installation
1. Strips of fireproofing tape approximately 1/16 inch thick by 3 inches wide shall be wrapped tightly around each cable spirally in half-lapped wrapping, or in two butt-joined wrappings with the second wrapping covering the joints in the first. The tape shall be applied with the coated side toward the cable and shall extend one inch into the ducts. To prevent unraveling, the fireproofing tape shall be random wrapped the entire length of the fireproofing with pressure sensitive glass cloth tape.

2. All medium voltage cables in manholes and inside electric rooms shall be taped as specified above.

C. Splices and Terminations
1. Splices shall be not be made unless specified or approved by the electrical engineer. Splices shall be made in manholes except where cable terminations are specifically indicated. Splicing and terminating of cables shall be expedited to minimize exposure and cable deterioration.

2. Install the materials as recommended by their manufacturer, including special precautions pertaining to air temperature during installation.

3. All termination and splices shall be supported in such manner so as to minimize physical stress on the splice connections. Each cable end termination shall be supported using a pair of saddle type supports under the cable end termination and/or cable with a minimum 12 inches and a maximum 30 inches separation between the supports. Cable end termination and cable shall be secured to the supports in such a manner as to prevent movement of termination or cable at the support. Saddle type supports shall be installed on galvanized steel framing channel anchored to the wall or securely fastened to the cable tray or installed by other approved methods.

4. Ethylene Propylene Rubber and Polyethylene Insulated Cables:
   a. Cables rated more than 8000 volts: Install terminations of premolded rubber splices and terminations.

D. Connector Installation
1. Use tools which are designed for the connectors being installed.

2. Round and smooth the installed connectors to minimize localized voltage stressing of the insulating materials.

3. Remove contaminants from all surfaces within the splices and terminations before installing the insulating materials.

4. Use mirrors to observe the installation of materials on the back sides of the splices and terminations.

5. Eliminate air voids throughout the splices and terminations.

3.04 FEEDER IDENTIFICATION
A. In each manhole, pullhole, pullbox, cable tray, switchgear, and switch, install permanent tags on each circuit’s cables and wires to clearly designate their circuit identification, voltage and phase. The tags shall be the embossed type and shall also show the cable type, size, and voltage rating.

B. Position the tags so they will be easy to read, attach with #14 TW wire, tie snug, do not crimp or dent conductor insulation. See drawings for description and coding.

3.05 GROUNDING
A. Ground all non-current carrying hardwares and metals. Include racks, supports, mounting hardwares, cable metallic shield, ladder, and metallic conduits. Bond to grounding electrode.

3.06 FIELD TESTS
A. General:
   1. Test all cable per ICEA Standards for high-voltage DC test. Notify Owner of proposed date of test sufficiently in advance so that arrangements can be made to witness test.
   2. For all new cable installation, perform test after all splices, terminations and connections are complete, except at point where cable under this Subcontract is to be connected to existing system. Disconnect all equipment from cable system during test.
3. Test voltage for 15kV cable shall be 80% of original factory test voltage, sustained for 15 minutes.
4. Test cable jackets from shield to ground in manholes at 7 kVDC for 1 minute after pulling. The electrical resistance factor or constant shall be higher than 30 mego-ohms per 1000 linear feet. Submit results for approval.
5. Submit copies of tests, properly labeled, to the Engineer for review. Include all necessary test information such as ambient temperature, weather conditions, current, voltage, cable length, size, etc.

B. High Potential Test:
1. Prior to high potential test, test the cable and shields for continuity, shorts, and grounds.
2. High potential test shall measure the leakage current from each conductor to the insulation shield. Use corona shields, guard rings, taping, mason jars, or plastic bags to prevent corona current from influencing the readings. Unprepared cable shield ends shall be trimmed back one inch or more for each 10kv of test voltage.
3. Use DC tester specifically designed for the purpose, with overload or current-limiting devices to limit short circuit current. Raise voltage gradually in 10 percent steps to 80 percent of final voltage, then in 5 percent steps to final test voltage, which shall be left on for 5 minutes. Take current readings at each step after current has been established. Plot readings on graph paper. If breakdown is indicated during test by sudden increase in current, discontinue test, locate and remedy trouble, and repeat test. If breakdown is indicated, replace cable. Current reading shall be declining after 15 minute test and insulation factor shall exceed 20,000 mego-ohms per 1000 feet.

C. Safety Precautions:
1. Exercise suitable and adequate safety measures prior to, during, and after the high potential tests, including placing warning signs and preventing people and equipment from being exposed to the test voltages.
2. Provide surge protection at end of cable at 10% above DC test voltage to prevent cable damage due to surge voltages.

D. Test Voltages:
1. New shielded EPR cable D.C. voltages shall be 65KV insulation level, 15KV rated cable; do not exceed manufacturer's rated voltages for cable with connectors.

E. High Potential Test Method:
1. Apply voltage in approximately 8 to 10 equal steps.
2. Raise the voltage slowly between steps.
3. At the end of each step, allow the charging currents to decay, and time the interval of decay.
4. Read the leakage current and plot a curve of leakage current versus test voltage on graph paper as the test progresses. Read the leakage current at the same time interval for each voltage step.
5. Stop the test if leakage currents increase excessively or a “knee” appears in the curve before maximum test voltage is reached.
   a. For new cable, repair or replace the cable and repeat the test.
   b. For existing cable interconnected to new cable, notify the Engineer for further instructions.
6. Upon reaching maximum test voltage, hold the voltage for five minutes. Read the leakage current at 30 second intervals and plot a curve of leakage current versus time on the same graph paper as the step voltage curve.
   a. Stop the test if leakage current starts to rise, or decreases and again starts to rise. Leakage current should decrease and stabilize for good cable.

7. Terminate test and allow sufficient discharge time before testing the next conductor.

3.07 FIELD QUALITY CONTROL

A. Inspect exposed cable sections for physical damage.
B. Inspect cable for proper connections as indicated.
C. Inspect shield grounding, cable supports, and terminations for proper installation.
D. Inspect and test in accordance with NETA STD ATS, except Section 4.
E. Perform inspections and tests listed in NETA STD ATS, Section 7.3.3.

3.08 PROTECTION
A. Protect installed cables from entrance of moisture.

END OF SECTION
SECTION 26 05 26  
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS  

PART 1 GENERAL  

1.01 SECTION INCLUDES  

A. Grounding and bonding requirements.  
B. Conductors for grounding and bonding.  
C. Connectors for grounding and bonding.  
D. Grounding and bonding components for 600V and below include:  
   1. Grounding and bonding components includes grounding electrodes and conductors,  
      equipment grounding conductors, and bonding.  
E. Provide all components necessary to complete the grounding system(s) consisting of:  
   1. Existing metal underground water pipe.  
   2. Metal underground water pipe.  
   3. Metal frame of the building.  
   4. Rod electrodes.  
   5. Grounding Electrode Conductors  
   6. Equipment grounding conductors  
   7. Bonding Conductors  
   8. Concrete-encased electrode.  
   9. Rod electrodes.  
F. Grounding and bonding components for 1kV systems and above include:  
   1. Metal frame of the building.  
   2. Rod electrodes.  
   3. Grounding Electrode Conductors  
   4. Grounding Well  
   5. Chain link fence  

1.02 REFERENCE STANDARDS  

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical  
   Contractors Association; 2010.  
B. NETA STD ATS - Acceptance Testing Specifications for Electrical Power Distribution  
   Equipment and Systems; International Electrical Testing Association; 2009.  
C. NETA STD ATS - Acceptance Testing Specifications for Electrical Power Distribution  
D. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition  
   Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and  
   Supplements.  
E. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.  

1.03 PERFORMANCE REQUIREMENTS  

A. Grounding System Resistance: 25 ohms.  
B. Grounding System Resistance: 5 ohms. Switching and Susbtations for 600V and below.  

1.04 SUBMITTALS  

A. Division 1 - Admisitrative Requirements for submittals procedures.  
B. Product Data: Provide for grounding electrodes and connections.  
C. Test Reports: Provide typed complete report indicating overall resistance to ground and  
   resistance of each electrode.  
D. Project Record Documents: Record actual locations of components and grounding electrodes.
1.05 QUALITY ASSURANCE
   A. Conform to requirements of NFPA 70.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS
   A. Do not use products for applications other than as permitted by NFPA 70 and product listing.
   B. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
   C. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.02 GROUNDING AND BONDING COMPONENTS
   A. General Requirements:
      1. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated.
      2. Provide products listed and labeled as complying with UL 467 where applicable.
   B. Conductors for Grounding and Bonding, in addition to requirements of Section 26 05 19:
      1. Use insulated copper conductors unless otherwise indicated.
      a. Exceptions:
         1) Use bare copper conductors where installed underground in direct contact with earth.
         2) Use bare copper conductors where directly encased in concrete (not in raceway).
   C. Connectors for Grounding and Bonding:
      1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
      2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
      3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.

2.03 ELECTRODES
   A. Manufacturers: Cooper Power Systems, CadWeld, Erico, or approved equal for rod electrode.
      1. Rod Electrode: Cooper Power Systems, CadWeld, Erico, or approval equal.
      2. Active Electrode: Lyncole Grounding System or approved equal.
   B. Rod Electrodes: Copper-clad steel.
      2. Length: 10 feet.
      3. Installed where indicated on drawings.
      4. Shape: Straight.
      5. Length: 10 feet.
      6. Installed where indicated on drawings.
   C. Foundation Electrodes: 2/0 AWG.

2.04 CONNECTORS AND ACCESSORIES
   A. Mechanical Connectors: Bronze.
   B. Exothermic Connections:
   C. All electrical connections should be welded with the CADWELD copper-based exothermic welding process.
   D. Exothermic Connections: (ERICO Cadweld)
1. Cable to Ground Rod: Type NC
2. Cable to Cable: Type XA, TA, PT
3. Cable to Building Steel: Type DF (Column Bonding Bar), VV
4. Cable to Rebar: Type RD, RC
5. Cable to Equipment: Type LA, NEMA Lugs Connections
6. Cable to Steel Pipes: Type HA
7. Cable to Metallic Conduit: Pipe Clamp with Flexible Grounding Braids and Lug Connection

E. Wire: Bare, stranded copper.
F. Grounding Electrode Conductor: Bare, stranded copper. Size as per drawings. Minimum size to meet NFPA 70 requirements.
G. Grounding Well:
   1. Well Box: Christy G5 Traffic Valve Box with hold down bolts
   2. Well Cover: Cast iron ring with legend "GROUND" embossed on cover.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that work likely to damage grounding and bonding system components has been completed.
B. Verify that field measurements are as shown on the drawings.
C. Verify that conditions are satisfactory for installation prior to starting work.
D. Verify existing conditions and resistivity prior to beginning work.
E. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.02 INSTALLATION
A. Install products in accordance with manufacturer's instructions.
B. Install grounding and bonding system components in a neat and workmanlike manner in accordance with NECA 1.
C. Make grounding and bonding connections using specified connectors.
   1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
   2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
   3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
   4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
   5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
D. Identify grounding and bonding system components in accordance with Section 26 05 53.
E. Install ground electrodes at locations indicated. Install additional rod electrodes as required to achieve specified resistance to ground.
F. Provide grounding well at power transformer, main switchboard, and at rod locations where indicated. Install well pipe top flush with finished grade.
G. Install 2/0 AWG bare copper wire in foundation footing.
H. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing where indicated. Bond steel together.
I. For distribution transformers located away from main service entrance, provide and connect to grounding electrode conductor to a ground rod and building steel.
J. Provide bonding to meet requirements described in Quality Assurance.
K. Bond together metal siding not attached to grounded structure; bond to ground.
L. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
M. Ground all non-current carrying hardwares and metals. Include racks, supports, mounting hardwares, cable metallic shield, ladder, underfloor raceways, metal siding, metallic conduits, etc. Bond to grounding electrode.
N. Provide ground connection at all signal and data enclosures, lines, and data/telcom room.

3.03 FIELD QUALITY CONTROL
A. Campus will provide field inspection in accordance with Division 1
B. Provide field inspection, testing, and adjusting in accordance with Division 1
C. Inspect and test in accordance with NETA STD ATS except Section 4.
D. Perform inspections and tests listed in NETA STD ATS.
O. Perform ground electrode resistance tests under normally dry conditions. Precipitation within the previous 48 hours does not constitute normally dry conditions.
P. Investigate and correct deficiencies where measured ground resistances do not comply with specified requirements.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES

A. Short circuit study.
B. Protective device coordination study and analysis.
C. Arc flash hazard study.

1.02 SCOPE OF STUDIES

A. Short Circuit Study: The study shall begin at the utility service and shall include all new electrical distribution equipment shown on the single line drawings. Refer to project single line diagram for exact equipment to be included in the study. This includes switchgear, switchboards, panelboards, ATS’s, transformer primary and secondary terminals, and other significant overcurrent protective device locations throughout the system.
B. Protective Device Coordination Study: The study shall include all new protective relays and circuit breakers associated with the distribution system in this project and as shown on the contract single line diagram. The study shall allow for optimum selective coordination of proper breakers, fuses, and current transformers and shall begin with the utility company’s feeder protective device and include all of the electrical protective devices down to and include the largest protective device of the new equipment. If a standby source is available, the study shall include both the normal and standby sources.
C. Arc Flash Study: The study shall include all new electrical distribution equipment shown on the single line diagram. This includes all switchgear, switchboards, panelboards, motor control centers, ATS’s, and transformers. The ARC Flash Hazard Analysis shall be as per NFPA 70E.

1.03 DATA COLLECTION FOR THE STUDY

A. The contractor shall provide the required data for the preparation of the studies, including equipment, wire sizes, insulation types, conduit types, and actual circuit lengths. The engineer performing the system studies shall furnish the contractor with a listing of the required data immediately after award of the contract.
B. The Contractor shall expedite collection of the data to assure completion of the studies as required for final approval of the distribution equipment shop drawings and/or prior to release of the equipment for manufacturing.

1.04 REFERENCE STANDARDS

E. IEEE 1015 - IEEE Recommended Practice for Applying Low-Voltage Circuit Breaker used in Industrial and Commercial Power Systems
F. IEEE 1584 - IEEE Guide for Performing Arc-Flash Hazard Calculations
G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.05 SUBMITTALS

A. See Division 1 - Administrative Requirements, for submittal procedures.
B. Study Preparer’s Qualifications.
C. Study Report:
   1. Submit protective device studies as specified, prior to submission of product data
      submittals or ordering or fabrication of protective devices.
   2. The result of the power system study shall be summarized in a final report. Three (3)
      bound copies and one electronic copy, CD with system model/data base files from the
      software used in the study.
   3. Evaluation of product data submittals by Engineer will not commence until acceptable
      studies have been submitted.
   4. Submit arc flash hazard study and with a list of arc flash warning labels at least 30 days
      prior to energizing the electrical equipment.
   5. Include stamp or seal and signature of preparing registered professional electrical
      engineer.

D. Product Data: In addition to submittals specified elsewhere, submit manufacturer's time-current
   curves for all protective devices.

E. Field Inspection Report: Show final adjusted settings of protective devices.

F. Certificates: Prior to final inspection, certify that field adjustable protective devices have been
   set in accordance with requirements of protective device analysis.

G. Project Record Documents: Revise protective device study as required to show as-built
   conditions.
   1. Submit not less than 60 days prior to final inspection of electrical system.
   2. Include hard copies in operation and maintenance data submittals.
   3. Include all files prepared using software packages, on CD-ROM, with file name
      cross-references to specific pieces of equipment and systems.

1.06 SHORT CIRCUIT STUDY

A. Use actual conductor impedances if known. If unknown, use typical conductor impedances
   based on NFPA or IEEE Standards.

B. Analyze the specific electrical and utilization equipment (according to NEC definition), the actual
   protective devices to be used, and the actual feeder lengths to be installed.
   1. Study Methodology: Comply with requirements and recommendations of NFPA 70, IEEE
      399, and IEEE 242.
   2. Report: State the methodology and rationale employed in making each type of calculation;
      identify computer software package(s) used.

C. One-Line Diagrams: Prepare schematic drawing of electrical distribution system, with all
   electrical equipment and wiring to be protected by the protective devices; identify nodes on the
   diagrams for reference on report that includes:
   1. Calculated fault impedance, X/R ratios, utility contribution, and short circuit values
      (asymmetric and symmetric) at the main switchboard bus and all downstream devices
      containing protective devices.
   2. Breaker and fuse ratings.
   3. Transformer kVA and voltage ratings, percent impedance, X/R ratios, and wiring
      connections.
   4. Identification of each bus, with voltage.
   5. Conduit materials, feeder sizes, actual lengths, and X/R ratios.

D. Calculate the fault impedance to determine available 3-phase short circuit and ground fault
   currents at each bus and piece of equipment during normal conditions, alternate operations,
   emergency power conditions, and other operations that could result in maximum fault
   conditions.
   1. Show fault currents available at key points in the system down to a fault current of 7,000 A
      at 480 V and 208 V.
   2. Include motor contributions in determining the momentary and interrupting ratings of the
      protective devices.
   3. Primary Fault Level Assumptions: Obtain data from utility company.
4. Report: Include all pertinent data used in calculations and for each device include:
   a. Device identification.
   b. Operating voltage.
   c. Protective device.
   d. Device rating.
   e. Calculated short circuit current, asymmetrical and symmetrical, and ground fault current.

1.07 PROTECTION DEVICE COORDINATION STUDY

A. Perform an organized time-current analysis of each protective device in series from the individual device back to the primary source, under normal conditions, alternate operations, and emergency power conditions.
   1. Graphically illustrate that adequate time separation exists between series devices, including upstream primary device.
   2. Plot the specific time-current characteristics of each protective device on log-log paper.
   3. Organize plots so that all upstream devices are clearly depicted on one sheet.
   4. Also show the following on curve plot sheets:
      a. Device identification.
      b. Voltage and current transformer ratios for curves.
      c. 3-phase and 1-phase ANSI damage curves for each transformer.
      d. No-damage, melting, and clearing curves for fuses.
      e. Cable damage curves.
      f. Transformer inrush points.
      g. Maximum short circuit cutoff point.
      h. Simple one-line diagram for the portion of the system that each curve plot illustrates.
      i. Software report for each curve plot, labeled for identification.
   5. Analysis: Determine ratings and settings of protective devices to minimize damage caused by a fault and so that the protective device closest to the fault will open first.
      a. Required Ratings and Settings: Derive required ratings and settings of protective devices in consideration of upstream protective device settings and optimize system to ensure selective coordination.
      b. Identify any equipment that is underrated as specified.
      c. Identify existing protective devices that will not achieve required coordination and cannot be field adjusted to do so.
      d. Identify specified protective devices that will not achieve required protection or coordination but with minor changes can be made to do so; provide such modified devices at no additional cost to Campus and identify them on submittals as "revised in accordance with Protective Device Coordination Study"; minor changes include different trip sizes in the same frame, time curve characteristics of induction relays, CT ranges, etc.
      e. Identify specified protective devices that will not achieve required protection or coordination and cannot be field adjusted to do so, and for which adequate devices would involve a change to the contract sum.
      f. In all cases where adequate protection or coordination cannot be achieved at no extra cost to Campus, provide a discussion of alternatives and logical compromises for best achievable coordination.
      g. Do not order, furnish, or install protective devices that do not meet performance requirements unless specifically approved by Engineer.
   6. Protective Device Rating and Setting Chart: Summarize in tabular format the required characteristics for each protective device based on the analysis; include:
      a. Device identification.
      b. Relay CT ratios, tap, time dial, and instantaneous pickup.
      c. Circuit breaker sensor rating, long-time, short-time, and instantaneous settings, and time bands.
      d. Fuse rating and type.
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1.08  ARC FLASH STUDY

A. Provide an Arc Flash Hazard Study for all new electrical distribution system shown on the single line drawings. The intent of the Arc Flash Hazard Study is to determine hazards that exist at each major piece of electrical equipment shown on the single line drawing. This includes switchgear, switchboards, panelboards, motor control centers, PDUs, UPS, ATS’s, and transformers. The study shall include creation of Arc Flash Hazard Warning Labels.

B. The arc flash hazard study shall include the electrical distribution system equipment shown on the single line drawing. Use the data from the Fault/Coordination Study to perform the Arc Flash Study. The arc flash hazard study shall consider operation during normal conditions, alternate operations, emergency power conditions, and other operations that could result in maximum arc flash hazard.

C. Arc flash hazard study shall be performed in accordance with NFPA - 70E, NEC 110.16, and IEEE 1584. Study shall include the following:
   1. Indicate arc flash boundaries.
   2. Incident energies.
   3. PPE (Personal Protective Equipment) requirements.
   4. Shock hazard voltage level.
   5. Approach distances; limited, restricted, and prohibited.

D. Produce an Arc Flash Warning label stating "DANGER, ARC FLASH HAZARD" and shall list the above items. Also include the bus name and voltage. Labels shall be printed in color on 3 inch x 5 inch, self adhesive backed Avery or DuraLabel labels. Electrical contractor shall furnish install the labels based on the study.

E. Produce an Arc Flash Evaluation Summary Sheet listing the following additional items:
   1. Bus name.
   2. Upstream Protective Device Name, Type, and Settings.
   5. Protective Device Bolted Fault Current.
   9. Equipment Type.
   11. Arc Flash Boundary.
   12. Working Distance.
   13. Incident Energy.
   14. Required Protective Fire Rated Clothing Type and Class.

1.09  QUALITY ASSURANCE

A. Study Preparer Qualifications: Registered professional electrical engineer licensed in the State in which the Project is located and not a full time employed of the equipment manufacturer.
   1. A minimum of (5) years experience in preparation of studies of similar type and magnitude.
   2. Familiar with the software analysis products specified.

B. Computer Software for Study Preparation: Use the latest edition of commercially available software utilizing specified methodologies.
   1. Acceptable Software Products:
PART 2 PRODUCTS

2.01 PROTECTIVE DEVICES

A. Provide protective devices of ratings and settings as required so that the protective device closest to the fault will open first.
B. Replace existing protective devices to achieve specified performance.
C. The specified equipment has been designed and selected to achieve the specified performance; ensure that equipment actually installed provides that performance.
D. In addition to requirements specified elsewhere, provide overcurrent protective devices having ratings and settings in accordance with results of this analysis.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Provide the services of a qualified field engineer and necessary tools and equipment to test, calibrate, and adjust the installed protective devices to conform to requirements determined by the coordination analysis.
B. Adjust installed protective devices having adjustable settings to conform to requirements determined by the coordination analysis.
C. Submit report showing final adjusted settings of all protective devices.

3.02 ARC FLASH TRAINING

A. The testing agency shall train personnel of potential arc flash hazards associated with working on energized equipment (minimum 4 hours). Maintenance procedures in accordance with the requirements on NFPA 70E, Standard for Electrical Safety Requirements for Employee Workplaces, shall be provided by the testing company.

END OF SECTION
SECTION 26 08 00
COMMISSIONING OF ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 SUMMARY
A. Section Includes:
   1. System specific commissioning for all electrical equipment.

1.02 DESCRIPTION OF WORK
A. The electrical equipment and conductors to be tested are specified herein and shown on the electrical drawings of the Contract Documents. Refer to Division 1.
B. The Contractor shall retain an independent InterNational Electrical Testing Association (NETA) member Engineering and Testing Firm (Testing Firm) for specified on-site acceptance testing of the project electrical power distribution system and utilization equipment covered by this contract.
C. The Testing Firm shall verify the protective device settings are implemented in accordance with approved protective device coordination study as specified in Section 26 05 73.
D. Tests performed by the Testing Firm shall be witnessed by the Contractor’s Commissioning Coordinator. Provide Commissioning Authority (CxA) 30-day advanced notice for Testing Firm tests. Insulation tests by the Contractor typically will not be witnessed. Critical equipment witness testing may be requested by the Contractor’s Commissioning Coordinator.
E. The manufacturer of the electrical equipment supplied for the project shall complete their on-site factory inspection, testing, and setup prior to the Testing Firm’s Acceptance Testing and subsequent Protective Device setting verification work. The power monitors shall be set up by the factory representatives and power monitor readings and settings verified by the Testing Firm. Manufacturer work is specified in the respective equipment sections.
F. The Installation Contractor shall test motors, conductors, and equipment as specified and shown. Contractor shall provide the labor, tools, material, including quality power sources required by the Testing Firm equipment, and other services necessary to provide specified tests and retesting.
G. Submit proposed electrical test procedures for tests to be performed by the Installing Contractor, other than insulation resistance testing, and proposed test procedures for tests to be performed by the Testing Firm.

1.03 REFERENCES
A. This section contains references to the latest published version of the InterNational Electrical Testing Association’s (NETA) Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (ATS).
B. The NETA acceptance testing specification (NETA ATS) including procedures and test forms is part of this section as specified and modified for this project. In case of conflict between the requirements of this section and NETA ATS document, the requirements of this section shall prevail. Request clarification from the Engineer for document conflict resolution of the testing requirements.

1.04 TESTING APPLICATION
A. Calibrated test equipment with calibration stickers are required for electrical acceptance tests. The required tests, including correction of defects where found, and subsequent retesting, shall be completed prior to energizing electrical distribution system, utilization systems, and conductors and completed prior to functional testing. The installation of the protective device, breaker, and relay settings shall be completed and verified.

1.05 TESTING FIRM QUALIFICATIONS
A. The Testing Firm and their proposed project team shall possess the following minimum qualifications:
1. Testing Firm shall be an independent testing organization providing unbiased testing authority, professionally independent of the manufacturer, suppliers, and installers of equipment or systems to be evaluated by the Testing Firm.

2. Testing Firm shall be regularly engaged in the testing of electrical equipment, devices, installations, and systems.

3. Testing Firm shall be a member company of the InterNational Electrical Testing Association (NETA) providing testing in accordance with NETA ATS published specifications or the pre-approve firms that use the NETA methods and published testing specifications.

4. If Firm's own published testing specifications are proposed, then submit a copy to the Engineer for acceptance and submit the qualifications of the testing staff.

5. Testing Firm's lead technical person shall be currently certified by NETA or the National Institute for Certification in Engineering Technologies (NICET) in electrical power distribution systems testing. Submit proof of technical training and certification for performing testing work.

6. Testing Firm's technicians shall be regularly employed, qualified testing staff.

1.06 SUBMITTALS

A. For any Testing Firm not pre-qualified, the Contractor shall receive CxA approval of the proposed Testing Firm, their proposed project team, and their test procedures prior to the Pre-Test Submittals.

1. Project Team: Identify lead technical person and testing staff and provide documentation of training and experience demonstrating compliance with the qualifications specified.

2. Testing Firm: Provide reference names and current phone numbers of the Owner, Contractor, Engineer, or CxA that has knowledge of the Firm's work with references for five recent projects that were completed within the last four years. Provide a description of the scope of the referenced project.

3. Provide documentation demonstrating compliance with the qualification specified.

B. For Testing Firm's experience to be judged acceptable, the Contractor shall demonstrate that the proposed Testing Firm's reference projects are of similar scope and size to this project, and in performing these projects the following has been achieved:

1. Testing Firm's work did not delay the projects or adversely impact the progress of the Contractor's work or the Owner's project.

2. Specified requirements were achieved.

3. Work was performed in accordance with NETA ATS, MTS, or other Engineer accepted testing criteria.

4. Submittals approved with two or fewer re-submittals after the initial submittal.

5. No warranty claims related to the Testing Firm's work.

6. Provide documentation demonstrating compliance with the qualification specified.

C. Pre-Test Submittals:

1. Description or samples of specified test procedures.

2. Sample test report forms for the specified tests.

3. Preliminary Test Schedule.

4. Notification form for the work scheduled.

5. Pre-Functional test procedures and testing schedule.

6. Functional test procedures and testing schedule.

D. Post-Test Submittals:

1. Completed type written test reports to be accepted by CxA (hand written test reports shall be rejected).

2. Test reports specified in Part 3 of this section.

E. Refer to section 26 08 02 for additional submittals required by engineer.
PART 2 – PRODUCTS

2.01 TESTING EQUIPMENT AND INSTRUMENTS
   A. The test equipment, instruments and devices used for testing shall be calibrated to test
      equipment standards with references traceable to the National Institute of Standards and
      Technology.
   B. The test equipment, instruments and devices shall have current calibration stickers indicating
      date of calibration, deviation from standard, name of calibration laboratory and technician, and
      date of next recalibration.

PART 3 – EXECUTION

3.01 GENERAL
   A. The Contractor shall submit a schedule for the Testing Firm work and notify the CxA 30 days
      prior to commencement of any witnessed testing.

3.02 INSTALLATION CONTRACTOR TESTING
   A. Testing as required by Section 26 08 02

3.03 TESTING FIRM ACCEPTANCE TESTING REQUIREMENTS
   A. ACCEPTANCE TEST REPORTS:
      1. The Contractor shall maintain a written record of all inspection and test results and, upon
         completion of the project, shall assemble and certify a final test report
      2. A copy of the preliminary test results shall be provided to the CxA at the end of each day of
         testing.
      3. Final test report shall be type written.
      4. Furnish two copies of the complete acceptance testing final report to the CxA at
         Substantial Completion of the project.
   B. ACCEPTANCE TEST DOCUMENTATION
      1. The Contractor shall submit test documentation forms and a detailed description of the
         proposed inspection and test procedures to be performed by the Testing Firm. Testing
         shall not commence until the CxA has approved the proposed forms and procedures.
      2. The description shall identify the test equipment required for each specified test to be
         performed. Test report forms shall include the following information:
         a. Electrical equipment description.
         b. Electrical equipment identification number.
         c. Electrical equipment nameplate data.
         d. Electrical equipment settings.
         e. Time and date of test.
         f. Ambient conditions at time of test.
         g. Inspection checklist and results.
         h. Test results.
         i. Test equipment used with manufacture, model number, and calibration date.
         j. Remarks about test procedures, results, and suggestions.
         k. Name and signature of testing personnel.
         l. Name and signature of test witness.
   C. ACCEPTANCE TESTING FIRM TESTS:
      1. Acceptance testing procedures and test results shall be as specified in Section 26 08 02.
         The following types of equipment and systems shall be inspected and tested by the
         Testing Firm. Acceptance testing work shall not be limited to equipment shown on the
         drawings. Refer to Division 26 specification for the electrical equipment specified.
      2. Refer to the electrical drawings for location and identification of the electrical distribution
         system equipment, utilization equipment, and electrical conductors, included but not limited
         to:
         a. Switchgear and Switchboard Assemblies.
         b. Transformers Liquid Filled.
c. Cables Low-Voltage 600 Volt Maximum.
d. Cables Medium-Voltage.
e. Circuit Breakers Low-Voltage, 100A frame and larger.
f. Circuit Breakers Medium-Voltage.
g. Protective Relays.
h. Instrument Transformers.
i. Metering, include non-utility power metering equipment.
j. Grounding Systems include installed grounding systems and existing grounding systems that are being utilized.
k. Ground Fault Protection Systems.

3.04 ACCEPTANCE TEST VALUES

A. Minimum acceptable test values shall be as specified in Section 26 08 02.
B. Where acceptance test values are not specified, the equipment manufacturer’s recommended test values shall be used.
C. Where acceptance test values are not specified and the equipment manufacturers recommended test values are not available, request acceptance test values from the Contractor’s Commissioning Coordinator.
D. Refer to Section 26 08 02 for additional requirements.

3.05 ACCEPTANCE TEST FINAL REPORT

A. Test report shall be assembled as described in NETA ATS. Test results shall be organized by electrical distribution system equipment, project utilization equipment, and electrical conductors with individual tab dividers with labels to identify each group of items and cross-referenced to the Contract Documents. The equipment description, equipment number, and equipment tag number shall be used as shown on the drawings or listed in specifications.
B. Final Test Reports that are illogically assembled, labeled, and organized shall be returned for rework at no cost to the Owner and resubmitted in an acceptable format.
C. Deficiencies and non-compliant test results found during acceptance testing shall be identified in the test report and cover letter. The Testing Firm shall certify in the final test report that all deficiencies and non-compliant test results listed have been “corrected” and shall include a description of the resolution for each problem listed. All reports shall be in type-written format.

3.06 PROTECTIVE DEVICE FIELD SETTINGS

A. The Testing Firm shall verify, and certify in the acceptance test final report, that the protective device coordination study settings for new and existing equipment based on the Short Circuit and Protective Device Coordination Report specified in Section 26 05 73 have been implemented and recorded on the Testing Firm’s Data Sheets.

3.07 ARC FLASH STUDY RESULTS

A. The Testing Firm shall verify and certify in the acceptance test final report, that the Arc Flash labeling identifying electrical equipment for personnel protective clothing requirements meet the final Arc Flash Study Report as specified in Section 26 05 73.

END OF SECTION
SECTION 26 08 02
ELECTRICAL ACCEPTANCE TESTING

PART 1 - GENERAL

1.01 OVERVIEW

A. The purpose of these specifications is to assure that all tested electrical equipment and systems are operational and within applicable standards and manufacturer’s tolerances and that the equipment and systems are installed in accordance with design specifications.

B. The work specified in these specifications may involve hazardous voltages, materials, operations, and equipment. These specifications do not purport to address all of the safety problems associated with their use. It is the responsibility of the independent testing agency to review all applicable regulatory limitations prior to the use of these specifications.

C. Perform the visual inspections, manual operations and tests on systems and equipment as described in Part 3, "Execution".

D. Tests shall be performed and documented by an independent testing agency.

E. Perform these tests in addition to other electrical tests delineated in other Sections.

1.02 REFERENCES

A. All inspections and field tests shall be in accordance with the latest edition of the following codes, standards, and specifications except as provided otherwise herein.

1. American National Standards Institute - ANSI
3. Institute of Electrical and Electronic Engineers - IEEE
4. Insulated Cable Engineers Association - ICEA
5. InterNational Electrical Testing Association - NETA
6. National Electrical Manufacturer’s Association - NEMA
7. National Fire Protection Association - NFPA
8. Occupational Safety and Health Administration - OSHA
9. State and local codes and ordinances
10. Underwriters Laboratories, Inc. - UL

1.03 SUBMITTAL

A. The testing organization shall submit appropriate documentation to demonstrate that it satisfactorily complies with the following. An organization having a “Full Membership” classification issued by the InterNational Electrical Testing Association meets this criteria.

1. The testing organization shall be an independent, third party, testing organization which can function as an unbiased testing authority, professionally independent of the manufacturers, suppliers, and installers of equipment or systems evaluated by the testing organization.

2. The testing organization shall be regularly engaged in the testing of electrical equipment devices, installations, and systems.

B. The testing organization shall utilize technicians who are regularly employed for testing services.

C. Each on-site crew leader shall hold a current registered certification in electrical testing applicable to each type of apparatus to be inspected or tested. The certification in electrical testing shall be issued by an independent, nationally-recognized, technician certification agency. The following entities shall qualify as independent, nationally-recognized, technician certification agencies:

1. InterNational Electrical Testing Association (NETA)
2. Accepted certifications:
3. Certified Technician/Level III
4. Certified Senior Technician/Level IV
1.04 TEST REPORTS
   A. Provide written test reports, signed and dated, for all tests prior to acceptance of the tested equipment by the Owner. Test reports on megger, dielectric absorption and high potential tests shall include the ambient temperature and relative humidity existing at the time of the tests. All tests including those listed in other sections shall be submitted in a single bound report. Report shall also demonstrate compliance with Specification, NETA ATS, and industry standards.

PART 2 - PART 2 -PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 VISUAL INSPECTIONS
   A. Prior to any testing, perform visual inspections to verify the following:
      1. The equipment is completely and properly installed
      2. The equipment is free from damage and defects
      3. Shipping blocks and restraints have been removed
      4. Electrical terminations have been properly tightened
      5. The equipment has been properly aligned
      6. The equipment has been properly lubricated
      7. The ventilation louvers are open and unobstructed
      8. The equipment is ready to be tested

3.02 MANUAL OPERATION
   A. Prior to any testing, mechanical devices shall be exercised or rotated manually to verify that they operate properly and freely.

3.03 PRIMARY CABLE TESTS
   A. New Primary Cable provided under this contact shall be tested as indicated in Section 26-05-13 after installation and before splicing.
   B. When New Primary Cable (15kV) is provided under this contract and spliced to existing Primary Cable on this project, the complete New Primary Cable and existing Primary Cable shall be given a complete Partial Discharge Test after all splices are completed and tested as indicated below.
   C. After splices are complete they shall be given a DC Hi Pot test before the Partial Discharge Test.
   D. Hi Pot test shall be a 37 kV test in 1kV increments holding for two minutes up to the 37 kV max. At the 37 kV the cable shall be soaked for 10 minutes with no appreciable loss of leakage current. Test results shall be approved by the Engineer in charge before proceeding with the Partial Discharge Testing.
   E. Perform a continuity test, 2,500-volt DC megger test, AC high potential test, and a second 2,500-volt DC megger test on primary cables. The high potential test shall be performed at 45kV for new cable installations, and at 30kV when new cable has been spliced to existing cable.

3.04 POWER CABLE TESTS
   A. Perform a continuity check and a 1,000 volt DC megger test on 600 volt power cables No. 4 AWG and larger.
      1. The megger test shall be performed between each pair of conductors and from each conductor to ground.
      2. The megger test shall be performed for 15 seconds or until the insulation resistance value stabilizes.
      3. The insulation resistance between conductors and from each conductor to ground shall be 100 megohms minimum in one minute or less. In addition, the lowest insulation resistance value shall not differ from the highest value by more than 20 percent.

3.05 CONTROL CABLE TESTS
   A. Perform a continuity check on control and instrumentation wiring.
3.06 SECONDARY SWITCHGEAR AND SWITCHBOARD TESTS
   A. Perform a continuity check and 1,000 volt DC megger test on buses, and on main and feeder breakers.
   B. Perform a primary current injection test and a 'Ducter' (contact resistance) test on main breakers.
   C. Perform a 1,000-volt DC megger test and a turns-ratio test on CT's and PT's.
   D. Calibrate the metering.

3.07 SERVICE, DISTRIBUTION AND MOTOR CONTROL EQUIPMENT TESTS
   A. Perform a 1,000-volt megger test on buses, motor starters and disconnect switches. This test may be combined with the feeder cable megger test by testing the devices and terminated cables together.
   B. Perform a continuity check on motor control circuits and control panel internal wiring.
   C. Perform an operational test on the controls.
   D. Perform a continuity check and a 1,000-volt DC megger test on 3 phase distribution and isolation transformers.

3.08 GROUNDING TESTS
   A. Measure the resistance to ground of each ground rod before connection to the other ground rods. The resistance shall not exceed 10 ohms.
   B. Measure the resistance to ground of the total ground system with all connections completed. The resistance shall not exceed 2 ohms for primary services or 5 ohms for secondary services.
   C. Tests of the resistance to ground shall be made using either the three point method or the fall-of-potential method.
   D. Perform a continuity check from equipment ground bus bars and ground lugs to the ground system.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES

A. Unit substation.

1.02 REFERENCE STANDARDS

D. IEEE C37.20.2 - IEEE Standard for Metal-Clad and Station-Type Cubicle Switchgear; Institute of Electrical and Electronic Engineers; 1999 (R 2005).
E. IEEE C37.20.3 - IEEE Standard for Metal-Enclosed Interrupter Switchgear; Institute of Electrical and Electronic Engineers; 2001.
I. IEEE C57.94 - IEEE Recommended Practice for Installation, Application, Operation, and Maintenance of Dry-Type General Purpose Distribution and Power Transformers; Institute of Electrical and Electronic Engineers; 1982 (R2006).
K. IEEE 48 - IEEE Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV; Institute of Electrical and Electronic Engineers; 1996 (R2009).
L. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum); National Electrical Manufacturers Association; 2001 (R2006).
M. NEMA PB 2 - Deadfront Distribution Switchboards; National Electrical Manufacturers Association; 2006.
P. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
Q. UL Standard 891
R. This unit substation shall be listed by Underwriter's Laboratories. Transformer shall be listed by Factory Mutual.

1.03 SUBMITTALS

A. See Division 1 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Indicate electrical characteristics and connection requirements, outline dimensions, connection and support points, weight, specified ratings and materials. Include nameplate data, schematic diagrams, and bill of materials.
C. **Product Data:** Provide electrical characteristics and connection requirements, circuit breaker data, fuse data, standard model design tests, and options that are included.

D. **Test Reports:** Indicate procedures and results for specified factory and field testing and inspection.

E. **Manufacturer's Installation Instructions.**

F. **Manufacturer's Certificate:** Certify that products meet or exceed specified requirements.

G. **Manufacturer's Field Reports:** Indicate activities on site, final adjustments and overcurrent protective device coordination curves, adverse findings, and recommendations.

H. **Project Record Documents:** Include copy of manufacturer's certified drawings.

I. **Operation Data:** Include operating instructions for manually and electrically opening and closing circuit breakers.

J. **Maintenance Data:** Include maintenance instructions for cleaning methods; cleaning materials recommended; instructions for circuit breaker removal, replacement, testing and adjustment, and lubrication; procedures for sampling and maintaining fluid.

K. **Maintenance Materials:** Furnish the following for Owner's use in maintenance of project.
   1. **Extra Fuses:** Two of each type and size.
   2. **Tools:** Two each of every special tool required to operate and maintain unit substation.

L. Equipment operation and maintenance instructions shall be provided with each assembly shipped and shall include instruction leaflets, instruction bulletins and renewal parts lists where applicable, for the complete assembly and each major component.

1.04 **QUALITY ASSURANCE**

A. Conform to requirements of NFPA 70.

B. **Manufacturer Qualifications:** Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.

C. **Testing Agency:** Company member of International Electrical Testing Association and specializing in testing products specified in this section with minimum three years documented experience.

1.05 **DELIVERY, STORAGE, AND HANDLING**

A. Protect products from weather and moisture by covering with heavy plastic or canvas and by maintaining heating within enclosure in accordance with manufacturer's instructions.

PART 2  PRODUCTS

2.01 **MANUFACTURERS**

A. Eaton Corporation; www.eaton.com or approved equal.

2.02 **UNIT SUBSTATIONS**

A. **Description:** Secondary unit substation shall consist of primary equipment, transformer and secondary equipment as specified. The manufacturer of the unit substation shall furnish and coordinate all major components of the substations, including incoming primary equipment section, transformer and low-voltage section, as well as circuit breakers, fusible switches, and metering components. Provide a single warranty covering all substation assemblies, transformers and components.

B. Connections between the primary device and transformer shall be copper bussing, and between the transformer and secondary shall be copper bussing.

C. Outdoor primary and secondary equipment where specified shall be of weatherproof construction, rodent proof and shall contain 277-volt space heaters.

2.03 **PRIMARY LOAD INTERRUPTER SWITCH**

A. Refer to Section 261321, *AIR INTERRUPTER SWITCHES* for requirements.
2.04 LIQUID FILLED SUBSTATION TRANSFORMER

A. RATINGS
1. Capacity: as per contract plan drawings.
2. Primary Voltage: 12 kV delta connected.
3. Primary Taps: 2-2 1/2% above and below nominal.
5. Impedance: 5.75 percent.
6. Primary Basic Impulse Level: 95 kV
7. Secondary Basic Impulse Level: 30 kV.
8. Frequency: 60 Hertz.

B. CONSTRUCTION
1. Liquid-Filled Transformers: IEEE C57.12.00, three phase, pad mounted, self-cooled transformer unit, FM Rated.
2. Cooling and Temperature Rise: IEEE C57.12.00; Class OA. 55 degrees C, self-cooled.
3. Insulating Liquid: Less Flammable, biodegradable electrical insulating fluid from high fire point oleic vegetable oil sources and shall be in accordance with the latest edition of NEC. High fire point fluid shall be Factory Mutual and UL listed.
4. Primary Overcurrent Protection: Fuse. Size as per plans.
5. High Voltage and Low Voltage Coils: Wound copper.
6. Monitoring Devices:
   a. Temperature Indicator, Dial Type Thermometer
   b. Liquid Level Gauge.
   c. Pressure Vacuum Gauge
   d. Cover mounted pressure relief device (Self Sealing with indicator)
7. Transformer Tank: Designed to withstand pressures 25% or greater than the required operating design value without permanent deformation. Construction shall consist of carbon steel plate reinforced with external sidewall braces. All seams and joints shall be continuously welded.
8. Each radiator assembly shall be individually welded and receive a quality control pressurized check for leaks. The entire tank assembly shall receive a similar leak test before core and coil are tanked. A final six-hour leak test shall be performed after the transformer is tanked, welded and completed to ensure that there are no leaks before shipment.

C. ACCESSORIES
1. Tap Changer with externally operated, Kirk Keyed handle.
2. Combination drain and filter valve and sampling device.
3. Ground Pad - Copper.
4. Stainless Steel Nameplate.
5. Filling plug and filter press connection in cover.

2.05 OUTGOING DISTRIBUTION SWITCHBOARD

A. Ratings
1. Amperage Size: As per contract plan drawings.
2. Voltage: 480/277 volts, 3 Phase, 4 Wire.
3. Amps Interrupting Capacity: As per contract plan drawings.
4. Switchboard shall be fully rated.

B. Construction
1. Description: Switchboard manufactured to NEMA PB 2.
2. Line and Load Terminations: Accessible from the front only, suitable for the conductor materials used.
3. Switchboard shall consist of the required number of vertical sections bolted together to form a rigid assembly. The sides and rear shall be covered with removable bolt-on covers.
All edges of front connected covers or hinged front panels shall be formed. Provide adequate ventilation within the enclosure.

4. All sections shall be front and rear aligned with depth as shown on drawings. All protective devices shall be group mounted. Devices shall be front removable and load connections front and rear accessible. Rear access shall be provided.

5. Fully equip spaces for future devices with bussing and bus connections suitable insulated and braced for short circuit currents. Provide continuous current rating as indicated.

C. Bussing
   2. Current Density Rating: 1000 amps per square inch.
   4. Insulated Ground Bus: Copper ground bus extending the length of switchboard. Minimum 1/4 inch thick by 2" height.

D. Wiring and Terminations
   1. Furnish necessary wiring, fuse blocks, and terminal blocks for control components. Control components mounted within the assembly, such as fuse blocks, relays, pushbuttons, switches, etc., shall be suitably marked with appropriate designations that correspond to manufacturer's wiring diagrams.
   2. Provide mechanical type terminals for line and load terminations suitable for copper rated for 75 degrees C. Coordinate sizes with conductors.
   3. Provide 2-hole long barrel lugs for incoming line section for connection to the main grounding conductors.

E. Insulated Case Circuit breakers:
   1. All breakers shall be fixed low-voltage air-circuit breakers, Eaton type Magnum DS or approved equal.
   2. Size as indicated on contract plan drawings.
   3. Breakers without an instantaneous trip element adjustment shall be equipped with a fixed internal instantaneous override set at the that level.
   4. Provide breaker with a Digitrip 520 RMS-advanced protection trip unit. Trip unit must be provided with adjustable long-time pickup and delay, adjustable short-time pickup and delay, and adjustable instantaneous settings. Provide adjustable ground fault pickup and delay settings where indicated on drawings.
   5. A position indicator shall be located on the faceplate of the breaker. This indicator shall provide color indication of the breaker position in the cell. These positions shall be 'Connect' (red) and 'Disconnect' (green).
   6. Provide auxiliary contacts, (4) normally open, (4) normally closed.

F. Accessories:
   1. Provide a weatherproof light (fluorescent) and switch and weatherproof GFCI receptacle in each structure. Include all necessary power transformers, wiring and connections.

2.06 PROTECTIVE RELAYS AND INSTRUMENTS
   A. Current Transformers: IEEE C57.13, 5 ampere secondary, wound type, with single secondary winding and secondary shorting device, primary/secondary ratio as required, burden consistent with connected metering and relay devices, 60 Hertz.
   B. Potential Transformers: IEEE C57.13, 120 volt single secondary, disconnecting type with integral fuse mountings, primary/secondary ratio as required, burden and accuracy consistent with connected metering and relay devices, 60 Hertz.
   C. Customer Power Meter: Eaton Power XPERT as specified on single line diagram.

2.07 ACCESSORIES
   A. Incoming Cable Terminations: Clamp-type.
   B. Accessories: IEEE C57.12.00 standard accessories.
C. Tap Changer: Externally-operated type.
D. Space Heaters: Provide a control power transformer for space heater in low voltage and medium voltage sections. Power transformer and heater shall be sized by Substation manufacturer.
E. Safety Nameplate: NEMA 260.

2.08 FACTORY FINISHES
A. Clean surfaces before applying paint.
B. Apply corrosion-resisting primer to all surfaces.
C. Apply finish coat of baked enamel paint to 4 mils thick.
D. Finish Color: Manufacturer's standard gray finish.

2.09 SOURCE QUALITY CONTROL
A. Provide factory tests to IEEE C57.12.90 and IEEE C57.12.00. Include the routine tests as defined in the standards and the following other tests:
   1. Impedance voltage and load loss.
   2. Dielectric tests.
   3. Audible sound level.
   4. Short circuit capability.
   5. Telephone influence factor (TIF).
   7. Temperature rise.
B. Test insulating liquid samples in accordance with IEEE C57.111.
C. Allow witnessing of factory inspections and tests at manufacturer's test facility. Notify Owner at least 7 days before inspections and tests are scheduled.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that field measurements are as indicated on shop drawings.

3.02 INSTALLATION
A. Install in accordance with IEEE C57.94 and manufacturers instructions.
B. Install substation plumb and level and with each section aligned properly. Include all necessary shim and grout.
C. Make electrical connections between equipment sections using connectors furnished by manufacturer.

3.03 FIELD QUALITY CONTROL
A. Inspect and test in accordance with NETA STD ATS, except Section 4.
B. Primary Switch: Perform inspections and tests listed in NETA STD ATS, Section 7.5
C. Transformer: Perform inspections and tests listed in NEMA ATS, Section 7.2. Include the following optional tests:
   1. Verify that control and alarm settings on temperature indicators are as specified.
   2. Power factor or dissipation-factor tests in accordance with manufacturer's instructions.
   3. Winding-resistance tests for each winding at nominal tap setting.
   4. Perform an applied voltage test on all high- and low-voltage windings-to-ground.
   5. Individual excitation current tests on each phase.
   6. If ground strap is accessible, remove and measure core insulation resistance at 500 volts dc.
   7. Insulating liquid specific gravity.
   8. Operational test and adjustments on fan and pump controls and alarm functions.
D. Secondary Equipment: Perform inspections and tests listed in NETA STD ATS, Section 7.1.

3.04 STARTUP TRAINING
A. Provide startup and training. Startup shall consist of programming of the customer meter. Training shall be for up to five (5) owner's representative. Startup and training can be conducted on the same day. Include one (1) normal workday at the job site location determined by the owner.

3.05 ADJUSTING
A. Adjust protective relays in accordance with recommendations in the final Power System Study Report.

END OF SECTION
SECTION 26 13 21
AIR INTERRUPTER SWITCHES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Medium-voltage air interrupter switches.
B. Medium-voltage fuses.

1.02 REFERENCE STANDARDS
A. IEEE C37.20.3 - IEEE Standard for Metal-Enclosed Interrupter Switchgear; Institute of Electrical and Electronic Engineers; 2001.
B. IEEE 48 - IEEE Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV; Institute of Electrical and Electronic Engineers; 1996 (R2009).
E. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.03 SUBMITTALS
A. Shop Drawings: Indicate outline dimensions, enclosure construction, shipping splits, lifting and supporting points, electrical single line diagram, bill of materials, and equipment electrical ratings.
B. Product Data: Provide data for components and accessories including fuse product data.
C. Seismic certification.
D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
E. Test Reports: Indicate findings of field quality control procedures.
F. Submit manufacturer's installation instructions.
G. Maintenance Data: Fuse replacement, adjustment and lubrication instructions.

1.04 QUALITY ASSURANCE
A. Conform to requirements of NFPA 70.
B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.
C. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.05 DELIVERY, STORAGE, AND HANDLING
A. Protect interrupter switches from weather and moisture by covering with heavy plastic or canvas and by maintaining heating within enclosure in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Eaton Corporation; www.eaton.com or approved equal.

2.02 AIR INTERRUPTER SWITCHES
A. Description: IEEE C37.20.3, switchgear assembly of individual air interrupter switches in free-standing cubicles, securely bolted together to form an integrated structure, suitable for installation where accessible by general public.
B. Ratings:
1. System Voltage: 12 kV, three phase, three wire, 60 Hz.
2. Maximum Design Voltage: 15 kV.
3. System Grounding: Solid
4. Basic Impulse Level: 95 kV.
5. Main Bus Ampacity: 600 amperes, continuous.
6. Main Cross Bus Momentary Current: 61kA RMS Asymmetrical (10 cycle)
7. 2-Second Current: 38 kA RMS Symmetrical
8. Fused Switched Rating: 15kV Fuse Ampere. Sized as per contract plan documents.
9. Fuse Type: CLE
10. Fuse Interrupting Rating: 63 kA Sym RMS
11. Fused Switch Fault Close Rating: 101kA Asym RMS.

C. Construction
1. Enclosure: Weatherproof, metal-enclosed interrupter switchgear shall consist of deadfront, completely metal-enclosed vertical sections containing load interrupter switches and fuses (where shown) of the number, rating and type noted on the drawings or specified herein.
2. Vertical section construction shall be of universal frame type using die-formed and bolted parts. All enclosing covers and doors shall be fabricated from steel with thinkness greater than that specified in ANSI/IEEE C37.20.3.
3. Every vertical section shall contain:
   a. A three-pole, two-position, open-closed switch.
   b. A minimum 8-inch x 16-inch high-impact viewing window that permits full view of the position of the three switch blades through the closed door. The window shall not be more that 58" above the switch pad level.
   c. Hinged Inspection Metal Barrier: A hinged grounded metal barrier that is bolted closed in front of switch to prevent inadvertent contact with any live part, yet allows for a full-view inspection on the switch blade position.
   d. Operating Handle: Permanently mounted, padlockable in both positions. and interlocked:
      1) To prevent opening fuse compartment door with switch in CLOSED position.
      2) So that door must be in the CLOSED position before the switch can be closed.
   e. Hinged Cover for Operating Handle: Hinged cover with rustproof quarter turn nylon latches over the switch operation mechanism to discourage casual tampering.
   f. Green OPEN, Red CLOSED switch position indicators with the works 'Open' and 'Closed'.
4. Provide sloped drip-proof roof and door in door construction.
5. Include continuous ground bus through switchgear assembly, securely connected to frame of each cubicle.

D. Bussing:
1. Phase bus conductors shall be silver plated Copper.
2. Ground Bus shall be silver-plated copper and be directly fastened to a galvanized metal surface of each vertical section. Sized sufficiently to carry the rated (2-second) current of the switchgear assembly.
   a. Provide lugs for incoming feeder in ______ cubicle.
      1) Finish: Manufacturer's standard baked enamel paint 4 mils thick.
      2) Clean surfaces before applying paint.
      3) Apply corrosion-resisting primer to all surfaces.
      4) Finish Color: Manufacturer's standard gray finish.

2.03 ACCESSORIES
A. Incoming Cable Terminations: Clamp-type.
B. Space Heaters: Provide space heaters. Include all necessary power transformer and wiring. Heater and power transformers shall be sized by switchgear manufacturer.
2.04 SOURCE QUALITY CONTROL
   A. Provide factory inspection and testing in accordance with IEEE C37.20.3.
   B. Make completed switch assemblies available for inspection at manufacturer's factory prior to
      packaging for shipment. Notify Owner at least 7 days before inspection is allowed.

PART 3 EXECUTION

3.01 INSTALLATION
   A. Install in accordance with manufacturer's instructions.
   B. Install on concrete pad as indicated on Drawings.

3.02 TRAINING
   A. Provide a training session for up to (5) owner's representatives for one (1) normal workday at
      the job site location at a time determined by the owner.
   B. Training session shall be conducted by a manufacturer's qualified representative and consist of
      instruction on the assembly, switches and major components.

3.03 FIELD QUALITY CONTROL
   A. Inspect and test in accordance with NETA STD ATS, except Section 4.
   B. Perform inspections and tests listed in NETA STD ATS, Sections 7.5.1.1., 7.5.1.2., and 7.5.1.3.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Building demolition excluding removal of hazardous materials and toxic substances.
   B. Selective demolition of built site elements.
   C. Clearing and protection of vegetation.
   D. Removal of existing debris.
   E. Abandonment and removal of existing utilities and utility structures.

1.02 REFERENCES

1.03 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Site Plan: Showing:
      1. Vegetation removal limits.
      2. Areas for temporary construction and field offices.
      3. Areas for temporary and permanent placement of removed materials.
   C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
      1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and
         construction of barricades and fences.
      2. Identify demolition firm and submit qualifications.
      3. Include a summary of safety procedures.
   D. Project Record Documents: Accurately record actual locations of capped and active utilities
      and subsurface construction.

1.04 PROJECT CONDITIONS
   A. Minimize production of dust due to demolition operations; do not use water if that will result in
      ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
   B. Comply with other requirements specified in Section 01 70 00.

PART 3 EXECUTION

2.01 EXISTING UTILITIES
   A. Coordinate work with utility companies; notify before starting work and comply with their
      requirements; obtain required permits.
   B. Protect existing utilities to remain from damage.
   C. Do not disrupt public utilities without permit from authority having jurisdiction.
   D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7
      days prior written notification to Owner.
   E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at
      least 3 days prior written notification to Owner.
   F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of
      utility type; protect from damage due to subsequent construction, using substantial barricades if
      necessary.
   G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected
      and abandoned utilities.
   H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition
      zone; identify and mark utilities to be subsequently reconnected, in same manner as other
      utilities to remain.
2.02 VEGETATION

A. Scope: Remove trees, shrubs, brush, and stumps in areas to be covered by building structure, paving, playing fields, lawns, and planting beds.
B. Do not begin clearing until vegetation to be relocated has been removed.
C. Do not remove or damage vegetation beyond the following limits:
   1. 40 feet outside the building perimeter.
   2. 5 feet each side of roadway curbs, walkways, and main utility trenches.
   3. 25 feet outside perimeter of pervious paving areas that must not be compacted by construction traffic.
D. Install substantial, highly visible fences at least 3 feet high to prevent inadvertent damage to vegetation to remain:
   1. At vegetation removal limits.
   2. Around trees to remain within vegetation removal limits; locate no closer to tree than at the drip line.
   3. Around other vegetation to remain within vegetation removal limits.
E. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.
F. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
   1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
   2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
   3. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.
G. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

2.03 EXISTING BUILT ELEMENTS

A. Scope:
   1. Remove paving and curbs as required to accomplish new work.
   2. Remove concrete slabs on grade within site boundaries.
   3. Remove other items indicated, for salvage, relocation, and recycling.
   4. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as required so that required rough grade elevations do not subside within one year after completion.
B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Use of explosives is not permitted.
   3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   4. Provide, erect, and maintain temporary barriers and security devices.
   5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   7. Do not close or obstruct roadways or sidewalks without permit.
   8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until vegetation to be relocated has been removed and specified measures have been taken to protect vegetation to remain.

E. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

F. If hazardous materials are discovered during removal operations, stop work and notify Engineer and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

G. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Dismantle existing construction and separate materials.
   2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

2.04 DEBRIS
   A. Remove debris, junk, and trash from site.

2.05 WASTE REMOVAL
   A. Remove from site all materials not to be reused on site; do not burn or bury.
   B. Leave site in clean condition, ready for subsequent work.
   C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION
10200.1 - Merritt College - Electrical to Building L

SECTION 31 23 16.13
TRENCHING

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Backfilling and compacting for utilities outside the building.

1.02 DEFINITIONS
A. Finish Grade Elevations: Indicated on drawings.
B. Subgrade Elevations: 6 inches below finish grade elevations indicated on drawings, unless otherwise indicated.

1.03 REFERENCES
A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010
B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2007.
D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2009.
F. ASTM D 2922 - Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth); 2005
G. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.

1.04 SUBMITTALS
A. See Section Division 1 for submittal procedures.
B. Materials Sources: Submit name of imported materials source.
C. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
D. Compaction Density Test Reports.

1.05 DELIVERY, STORAGE, AND HANDLING
A. When necessary, store materials on site in advance of need.
B. When fill materials need to be stored on site, locate stockpiles where designated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.
   4. Protect stockpiles from excessive moisture that would negatively impact compaction requirements.

PART 2 PRODUCTS

2.01 FILL MATERIALS
A. General Fill: Subsoil excavated on-site.
   1. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
B. Concrete for Fill: Lean concrete.
C. Sand: Natural river or bank sand; free of silt, clay, loam, friable or soluble materials, and organic matter. Quarry fines also acceptable in lieu of sand.
D. Topsoil: Topsoil excavated on-site.
   1. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.

2.02 SOURCE QUALITY CONTROL
   A. See Section 014500 - Quality Control, for general requirements for testing and analysis of soil material.
   B. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that survey bench marks and intended elevations for the work are as indicated.

3.02 PREPARATION
   A. Identify required lines, levels, contours, and datum locations.
   B. Locate, identify, and protect utilities that remain and protect from damage.
   C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
   D. Protect plants, lawns, rock outcroppings, and other features to remain.

3.03 TRENCHING
   A. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
   B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
   C. Do not interfere with 45 degree bearing splay of foundations.
   D. Cut trenches wide enough to allow inspection of installed utilities.
   E. Hand trim excavations. Remove loose matter.
   F. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
   G. Remove excavated material that is unsuitable for re-use from site.
   H. Stockpile excavated material to be re-used in area designated on site.
   I. Remove excess excavated material from site.

3.04 REMOVAL OF SPOILS
   A. Contractor shall be responsible for proper disposal of all excess spoils not required for backfilling operations.
   B. Contractor shall be responsible to provide any testing required on spoils prior to delivery to disposal site. Remediation, if any shall be performed by the Campus.

3.05 PREPARATION FOR UTILITY PLACEMENT
   A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
   B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
   C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

3.06 BACKFILLING
   A. Backfill to contours and elevations indicated using unfrozen materials.
   B. Fill up to subgrade elevations unless otherwise indicated.
   C. Employ a placement method that does not disturb or damage other work.
   D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
   E. Maintain optimum moisture content of fill materials to attain required compaction density.
F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

G. Soil Fill: Place and compact material in equal continuous layers not exceeding 6 inches compacted depth.

H. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

I. Correct areas that are over-excavated.
   1. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.

J. Compaction Density Unless Otherwise Specified or Indicated:
   1. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
   2. At landscaping: 90 percent of maximum dry density.

K. Reshape and re-compact fills subjected to vehicular traffic.

3.07 BEDDING AND FILL AT SPECIFIC LOCATIONS

A. Utility Piping, Conduits, and Duct Bank:
   2. Cover with sand.
   3. Backfill with general fill.
   4. Compact in maximum 6 inch lifts to 95 percent of maximum dry density under paving, roads and sidewalks, 6 inch lifts to 90 percent of maximum dry density under landscaping.

3.08 TOLERANCES

A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.09 FIELD QUALITY CONTROL

A. See Section 014500 - Quality Requirements, for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D3017, or ASTM D2922.

C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor"), ASTM D 1557 ("modified Proctor"), or AASHTO T 180.

D. If tests indicate work does not meet specified requirements, remove work, replace and retest.

E. Frequency of Tests: one test for every 100 feet of trench.

3.10 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION
SECTION 31 23 16.26
ROCK REMOVAL

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Removal of identified rock during excavation.

1.02 PRICE AND PAYMENT PROCEDURES
A. See Section 01 22 00 - Unit Prices, for additional unit price requirements.
B. Trench Rock Removal: By the cubic yard measured before disintegration. Includes preparation of rock for removal, mechanical disintegration of rock, removal from position, loading and removing from site. For over excavation, payment will not be made for over excavated work nor for replacement materials. Rock Removal pricing also includes all necessary backfill and compaction where rock has been removed to provide a solid trench bottom and bearing surface for subsequent utility placement.

1.03 DEFINITIONS
A. Trench Rock: Solid mineral material with a volume in excess of 1/6 cubic yard or solid material that cannot be removed with a 1/3 cubic yard capacity power shovel without drilling.
B. Rock: Solid mineral material of a size that cannot be removed with a 1/2 cubic yard capacity power shovel.

1.04 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Submit proposed method of rock removal and any products proposed for use.

PART 2 PRODUCTS

2.01 MATERIALS
A. Mechanical Disintegration Compound: Grout mix of non-toxic materials that expand on curing. Bustar Expansive Grout by Demolition Technologies Inc., or equal.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify site conditions and note subsurface irregularities affecting work of this section.

3.02 PREPARATION
A. Identify required lines, levels, contours, and datum.

3.03 ROCK REMOVAL
A. Excavate and remove rock by mechanical methods only; use of explosives is prohibited.
B. Mechanical Methods: Drill holes and utilize expansive tools, wedges, or mechanical disintegration compound to fracture rock.
C. Form level bearing at bottom of excavations. Provide additional backfill as required to bring bottom up to required elevation.
D. Remove shaled layers to provide sound and unshattered base for footings.
E. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.
F. Remove excavated materials from site.
G. Correct unauthorized rock removal to directions of Engineer.
3.04 FIELD QUALITY CONTROL
   A. Provide for visual inspection of foundation bearing surfaces and cavities formed by removed rock.

END OF SECTION
SECTION 32 12 16
ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Aggregate base course.
B. Single course bituminous concrete paving.
C. Double course bituminous concrete paving.
D. Surface sealer.

1.02 REFERENCE STANDARDS
A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types; The Asphalt Institute; 1994.

1.03 QUALITY ASSURANCE
A. Perform Work in accordance with State of California Highways standard.
B. Mixing Plant: Conform to State of California Highways standard.
C. Obtain materials from same source throughout.

1.04 REGULATORY REQUIREMENTS
A. Conform to applicable code for paving work on public property.

1.05 FIELD CONDITIONS
A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.
B. Place bitumen mixture when temperature is not more than 15 F degrees below bitumen supplier's bill of lading and not more than maximum specified temperature.

PART 2 PRODUCTS

2.01 MATERIALS
A. Asphalt Cement: ASTM D 946.
B. Aggregate for Base Course: In accordance with State of California Highways standards.
C. Aggregate for Binder Course: In accordance with State of California Highways standards.
D. Aggregate for Wearing Course: In accordance with State of California Highways standards.
E. Fine Aggregate: In accordance with State of California Highways standards.
F. Primer: In accordance with State of California Highways standards.
G. Tack Coat: Homogeneous, medium curing, liquid asphalt.

2.02 ASPHALT PAVING MIXES AND MIX DESIGN
A. Base Course: 3.0 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.
B. Binder Course: 4.5 to 6 percent of asphalt cement by weight in mixture in accordance with AI ______.
C. Wearing Course: 5 to 7 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

2.03 SOURCE QUALITY CONTROL
A. Test mix design and samples in accordance with AI MS-2.
PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
   B. Verify gradients and elevations of base are correct.

3.02 BASE COURSE
   A. Place and compact base course.

3.03 PREPARATION - PRIMER
   A. Apply primer in accordance with manufacturer's instructions.
   B. Apply primer on aggregate base or subbase at uniform rate of 1/3 gal/sq yd.
   C. Use clean sand to blot excess primer.

3.04 PREPARATION - TACK COAT
   A. Apply tack coat in accordance with manufacturer's instructions.
   B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 1/3 gal/sq yd.

3.05 PLACING ASPHALT PAVEMENT - SINGLE COURSE
   A. Install Work in accordance with State of California Highways standards.
   B. Place asphalt within 24 hours of applying primer or tack coat.
   C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
   D. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.06 PLACING ASPHALT PAVEMENT - DOUBLE COURSE
   A. Place asphalt binder course within 24 hours of applying primer or tack coat.
   B. Place wearing course within two hours of placing and compacting binder course.
   C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
   D. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.07 SEAL COAT
   A. Apply seal coat to surface course and asphalt curbs in accordance with AI MS-19.

3.08 TOLERANCES
   A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
   B. Variation from True Elevation: Within 1/2 inch.

3.09 FIELD QUALITY CONTROL
   A. See Section 01 40 00 - Quality Requirements, for general requirements for quality control.
   B. Provide field inspection and testing. Take samples and perform tests in accordance with AI MS-2.

3.10 PROTECTION
   A. Immediately after placement, protect pavement from mechanical injury for 4 days or until surface temperature is less than 140 degrees F.

END OF SECTION
PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Concrete sidewalks, stair steps, integral curbs, gutters, median barriers, parking areas, roads, and inclined ramps.

1.02 REFERENCE STANDARDS
   A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
   B. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2010.
   C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
   D. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.
   E. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 2010.
   F. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2009b.

1.03 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data on joint filler, admixtures, and curing compound.
   C. Design Data: Indicate pavement thickness, designed concrete strength, reinforcement, and typical details.

PART 2 PRODUCTS
2.01 PAVING ASSEMBLIES
   A. Comply with applicable requirements of ACI 301.
   B. Design paving for parking and residential streets.
   C. Concrete Sidewalks and Median Barrier: 3,000 psi 28 day concrete, 4 inches thick, buff color Portland cement, exposed aggregate finish.
   D. Parking Area Pavement: 4,000 psi 28 day concrete, 5 inches thick, 6/6 - 6 x 6 inch mesh reinforcement, wood float finish.

2.02 FORM MATERIALS
   A. Form Materials: Conform to ACI 301.
   B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D 1751) or sponge rubber or cork (ASTM D 1752).
2.03 REINFORCEMENT
   A. Reinforcing Steel: ASTM A615/A615M Grade 40 (280); deformed billet steel bars; unfinished finish.
   B. Dowels: ASTM A615/A615M Grade 40 (280); deformed billet steel bars; unfinished finish.

2.04 CONCRETE MATERIALS
   A. Obtain cementitious materials from same source throughout.
   B. Concrete Materials: Provide in accordance with State of California Highways standards.

2.05 CONCRETE MIX DESIGN
   A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
   B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
      1. For trial mixtures method, employ independent testing agency acceptable to Engineer for preparing and reporting proposed mix designs.

2.06 MIXING
   A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
   B. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
   B. Verify gradients and elevations of base are correct.

3.02 SUBBASE
   A. Prepare subbase in accordance with State of California Highways standards.

3.03 PREPARATION
   A. Moisten base to minimize absorption of water from fresh concrete.

3.04 FORMING
   A. Place and secure forms to correct location, dimension, profile, and gradient.
   B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
   C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.05 REINFORCEMENT
   A. Place reinforcement as indicated.
   B. Place dowels to achieve pavement and curb alignment as detailed.

3.06 COLD AND HOT WEATHER CONCRETING
   A. Follow recommendations of ACI 305R when concreting during hot weather.
   B. Follow recommendations of ACI 306R when concreting during cold weather.
   C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

3.07 PLACING CONCRETE
   A. Place concrete in accordance with ACI 304R.
   B. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.
   C. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
3.08 JOINTS
   A. Align curb, gutter, and sidewalk joints.
   B. Place 3/8 inch wide expansion joints at 20 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.
      1. Form joints with joint filler extending from bottom of pavement to within 1/2 inch of finished surface.
      2. Secure to resist movement by wet concrete.

3.09 FINISHING
   A. Area Paving: Light broom, texture perpendicular to pavement direction.
   B. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.
   C. Curbs and Gutters: Light broom, texture parallel to pavement direction.
   D. Inclined Vehicular Ramps: Broomed perpendicular to slope.

3.10 TOLERANCES
   A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.

3.11 FIELD QUALITY CONTROL
   A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
      1. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.12 PROTECTION
   A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

END OF SECTION
SECTION 32 31 13
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Fence framework, fabric, and accessories.
B. Excavation for post bases; concrete foundation for posts.
C. Manual gates and related hardware.

1.02 REFERENCE STANDARDS
B. CLFMI CLF 2445 - Product Manual; Chain Link Fence Manufacturers Institute; 1997.

1.03 SUBMITTALS
A. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.
B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.

PART 2 PRODUCTS

2.01 MATERIALS AND COMPONENTS
A. Materials and Components: Conform to CLFMI Product Manual Unless otherwise noted.
B. Fabric Size: CLFMI Heavy Industrial service PVC coated over Zinc coated wire.
C. Intermediate Posts: Type I round. PVC coated over Zinc coated post.
D. Terminal, Corner, Rail, Brace, and Gate Posts: Type I round PVC coated or Zinc coated post and rails
E. Gates: to match Fence, unless noted otherwise.

2.02 ACCESSORIES
A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.
B. Hardware for Single Swinging Gates: 180 degree hinges, 2 for gates up to 60 inches high, 3 for taller gates; fork latch with gravity drop and padlock hasp; keeper to hold gate in fully open position.
C. Hardware for Double Swinging Gates: 180 degree hinges, 2 for gates up to 60 inches high, 3 for taller gates; drop bolt on inactive leaf engaging socket stop set in concrete, active leaf latched to inactive leaf preventing raising of drop bolt, padlock hasp; keepers to hold gate in fully open position.

2.03 FINISHES
A. Components and Fabric: Vinyl coated over coating of 1.8 oz/sq ft galvanizing.
B. Accessories: Same finish as framing.
C. Color: Black.

PART 3 EXECUTION

3.01 INSTALLATION
A. Install framework, fabric, accessories and gates in accordance with ASTM F 567 unless noted otherwise.
B. Place fabric on outside of posts and rails.
C. Set all posts posts plumb, in concrete footings with top of footing 6 inches below finish grade. Slope top of concrete for water runoff.
D. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.
E. Provide top rail through line post tops and splice with 6 inch long rail sleeves.
F. Install center brace rail on corner gate leaves.
G. Do not stretch fabric until concrete foundation has cured 28 days.
H. Position bottom of fabric 2 inches above finished grade.
I. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.
J. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
K. Install bottom tension wire stretched taut between terminal posts, unless noted otherwise.
L. Do not attach the hinged side of gate to building wall; provide gate posts.
M. Install gate with fabric to match fence. Install hardware.
N. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.
O. Ground fence in accordance with electrical drawings.

3.02 TOLERANCES
A. Maximum Variation From Plumb: 1/4 inch.
B. Maximum Offset From True Position: 1 inch.

END OF SECTION
SECTION 33 05 13
MANHOLES AND STRUCTURES

PART 1  GENERAL
1.01  SECTION INCLUDES
   A. Modular precast concrete manhole sections with tongue-and-groove joints with masonry transition to lid frame, covers, anchorage, and accessories.

1.02  SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Shop Drawings: Indicate manhole locations, elevations, piping sizes and elevations of penetrations.
   C. Product Data: Provide manhole covers, component construction, features, configuration, and dimensions.

1.03  QUALITY ASSURANCE
   A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

PART 2  PRODUCTS
2.01  MATERIALS

2.02  PRECAST CONCRETE MANHOLES
   A. Manufacturer:
      1. [Utility Vault, a division of Oldcastle Precast] ; Product [Rectangular Precast Sectional Vault]. Vault shall have flat sides, Sidewall flanges not acceptable.
   B. Substitutions: See Section 01600 - Product Requirements.
   C. Description: Precast manhole designed in accordance with ASTM C 858, comprising modular, interlocking sections complete with accessories.
   D. Loading: ASTM C 857, Class [H-20].
   E. Shape: As indicated.
   F. Nominal Inside Dimensions: [6'-0"] feet x [8'-0"] feet.
   G. Inside Depth: [6'-6"] feet.
   H. Wall Thickness: [6"] inches.
   I. Outside Wall: Provide waterproofing.
   J. Riser Casting: 6 inch, with manhole step cast into frame.
   K. Frames and Covers: ASTM A 48; Class 30B gray cast iron, 27 inch size, machine finished with flat bearing surfaces. Provide cover marked [according to service "CHW" or HHW"] to indicate utility.
   L. Entry Provisions: [as indicated on the drawings].
   M. Lid:
      1. Size: 36" Diamters
      2. Lid shall be water tight
      3. Provide welded ID#. See drawings for exact ID number.
   N. Manhole Steps: Polypropylene plastic manhole step with 1/2-inch steel reinforcement.
   O. Ladder: OSHA approved, aluminum, full length, with top hook to engage manhole step in riser casting. Provide one ladder for each manhole.
   P. Pipe Entry: Provide openings as indicated. All openings shall be field coordinated.
Q. Sump Covers: ASTM A 48; Class 30B gray cast iron.
R. Source Quality Control: Inspect manholes in accordance with ASTM C 1037.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify items provided by other sections of Work are properly sized and located.
B. Verify that built-in items are in proper location, and ready for roughing into Work.
C. Verify excavation for manholes is correct.

3.02 MANHOLES

A. Place concrete base pad, minimum 6" Class II aggregate.
B. Place manhole sections plumb and level, trim to correct elevations, anchor to base pad.
C. Cut and fit for pipe.
D. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour as required.
E. Set cover frames and covers level without tipping, to correct elevations.
F. Coordinate with other sections of work to provide correct size, shape, and location.

END OF SECTION
SECTION 33 71 19
UNDERGROUND ELECTRICAL STRUCTURES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. PVC Non-metallic Conduit and Ducts
B. Underground pull boxes
C. Underground vaults
D. Manholes.
E. Accessories

1.02 REFERENCES
A. ASTM C 858 - Underground Precast Concrete Utility Structures.
D. NEMA TC 6 - PVC and ABS Plastic Utilities Duct for Underground Installation.
E. NEMA TC 9 - Fittings for ABS and PVC Plastic Utilities Duct for Underground Installation.
G. NEMA TC 14 - Filament-Wound Reinforced Thermosetting Resin Conduit and Fittings.
H. UL 651A - Type EB and A PVC Conduit and HDPE Conduit.

1.03 SUBMITTALS
A. See Division 1 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide for nonmetallic conduit and manhole accessories.
C. Shop Drawings: Indicate dimensions, reinforcement, size and locations of openings, and accessory locations for precast manholes, vaults, and pullboxes. Shop drawings shall include reinforcements for conduit openings and stamped by a registered structural engineer.
D. Field Samples: Provide sample of actual plastic duct delivered to site, two each 2 feet long.
E. Project Record Documents: Record actual routing and elevations of underground conduit and duct, and locations and sizes of manholes.
F. Shop drawings of manhole, vault, and pullbox covers complete with nameplate schedule.

1.04 QUALITY ASSURANCE
A. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 CONDUIT AND DUCT
A. Plastic Utilities Duct: NEMA TC 2; Polyvinyl Chloride (PVC) Schedule 40.
   1. Duct Fittings: NEMA TC 3.
   2. Product: Carlon or approved equal.
   3. Plug fittings with pull tab.
   4. Nominal size: As shown in drawings.
B. Reinforced Resin Conduit and Fittings: NEMA TC 14, Type SW.
C. Concrete - Concrete for conduit encasement shall be Class C with 3/8" maximum aggregate and shall be red concrete (iron oxide) with 28-days compressive strength of 2,500 psi.
D. Concrete - Concrete for buried ducts shall be Class C with 1" maximum aggregate and shall be red concrete "slurry fill"
2.02 UNDERGROUND PULLBOXES
   A. Manufacturers: Jensen Pre-cast, Christy Concrete Products, BES Concrete Products
   B. Sizes: See Schedule on drawings.
   C. Pullboxes shall be precast concrete as indicated on plans.
      1. Traffic Box - High density reinforced concrete box with non-setting shoulders positioned to
         maintain grade and facilitate back filling. Utility boxes shall be used where shown on the
         drawings. Use steel checker plate, H/20 loading, bolt down. Provide 12" extension pieces.
      2. General Utility Box - High density reinforced concrete box with non-setting shoulders
         positioned to maintain grade and facilitate back filling. Utility boxes shall be used where
         shown on the drawings. Use reinforced concrete lids on unfinished grades (i.e. grass, dirt,
         etc.), and steel checker plate lids on finished grades (i.e. concrete, asphalt, etc.) Provide
         12" extension pieces.

2.03 UNDERGROUND VAULTS
   A. Manufacturers: Utility Vault, or approved equal.
   B. Sizes: 17" (width) x 30" (length) and 3' (width) x 5' (length), 2'-0" up to 4'-6" (Depth), (Maximum
      Dimensions)
   C. Vaults shall be precast concrete as indicated on plans. Electrical vaults shall be without base.
      Telecommunication vaults shall be with base.
   D. Telecommunication Vaults - High density reinforced concrete with 7/8" dia. pull irons, 12" dia. x
      2" sump, 1/2" dia. plastic inserts. Utility Vault Company, Inc., Model #PTS-3660, or approved
      equal.
      1. Cover: Traffic rated (H/20 minimum) with guard bars, height adjustment brackets and
         torsion assisted opening.
      2. Ducts: 4" dia. "term-a-ducts" for minimum number of conduits, as shown on drawings.
      3. Racks: package per most current Pac Bell specifications
      4. Accessories: provide grade rings as appropriate to maintain grade and facilitate back
         filling.
   E. Electrical Vaults - High density reinforced concrete with 7/8" diamater lifting inserts or pulling
      irons.
      1. Covers
         a. Traffic - full traffic rated, with H/20 loading.
         b. Pedestrian - pedestrian, slip resistant
      2. Types
         a. Nominal 17" x 30" Vaults - without base, minimum depth 24", mastic sealant for joints,
            and a term-a-duct per PG&E specifications. Utility Vault Model #04-3513
         b. Nominal 3' x 5' Vaults - with base, 14" diameter x 4" sump (2 each), 1" diameter
            ground rod knock-outs (2 each), term-a-ducts and knock-outs per conduit sizes in site
            plans, and per PG&E specifications. Utility Vault Model #04-3588.
         c. Cover - full traffic covers with H/20 loading
            1) Splice Vaults Utility Vault Model #04-1616
            2) Transformer Vaults - Utility Vault Model #04-1614

2.04 PRECAST CONCRETE MANHOLES
   A. Manufacturers: Forni Corporation, Utility Vault, Associated Concrete Products.
   B. Description: Precast manhole designed in accordance with ASTM C 858, comprising modular,
      interlocking sections complete with accessories.
   C. Size and Shape: As indicated on plans. At least seven (7) feet high interior clearance.
   D. Frames and Covers: ASTM A 48; Class B30 gray cast iron, 36 inch size, machine finished with
      flat bearing surfaces. Provide cover marked as scheduled to indicate utility. Cover and frame
      shall have provisions for bolting cover to manhole.
E. Duct Entry Provisions: Reinforced opening/windows with plastic duct terminators and diaphragms as indicated on plans.
F. Duct Entry Locations: As indicated.
G. Duct Entry Size: 4 inch for telecommunication manholes; 5 inch for electrical manholes.
H. Cable Pulling Irons: Use galvanized rod and hardware. Locate opposite each duct entry. Provide watertight seal.
I. Cable Rack Inserts: Fiberglass. Minimum load rating of 800 pounds (365 kg). Locate at 3 feet on center.
J. Cable Rack Mounting Channel: 1-1/2 x 3/4 inch steel channel, 48 inch length. Provide cable rack arm mounting slots on 1-1/2 inch centers.
K. Cable Supports: Porcelain clamps and saddles.
M. Sump Covers: ASTM A 48; Class 30B gray cast iron.
N. Source Quality Control: Inspect manholes in accordance with ASTM C 1037.

2.05 ACCESSORIES
A. Underground Warning Tape: 4 inch wide plastic tape, detectable type colored red with suitable warning legend describing buried electrical lines. Orange colored tape with suitable warning legend will describe buried telecommunications lines.
B. Duct spacers shall be Wunpeece, Carlon Snap-Loc or equal. Spacers shall be provided with rebar holder.
C. Ground Rod - 3/4" x 10' minimum, copper clad. Blackburn, Erico, or equal.
D. Grounding Electrode Conductor - 4/0 bare copper conductor
E. Pullrope - 3/16" dia. min., 150 lbs test, yellow nylon
F. Detectable muletape - All telecommunications conduits shall be equipped with 5/8" dia. min., 1800 lbs strength, flat woven polyester detectable muletape. Muletape shall be printed with sequential footage or meter markings and contain an corrosion-resistant 22awg conductor compatible with any standard transmitting/receiving equipment.
G. Duct Plugs - removable, reusable, plastic plugs. Watertight, airtight, and gastight with provisions for pullrope attachments.

PART 3 EXECUTION
3.01 EXAMINATION
A. Duct bank routing is shown in approximate locations unless dimensions are indicated. Route as required to complete duct system. Verify routing and termination locations of duct bank prior to excavation for rough-in.
B. Pullboxes, Vaults and Manhole locations are shown in approximate locations unless dimensions are indicated. Locate as required to complete ductbank system. Verify locations of pullboxes, vaults and manholes prior to excavating for installation.
C. Contractor shall locate pullboxes, vaults, and manholes away from drainage path.

3.02 DUCT BANK INSTALLATION
A. Underground conduits shall be as specified PVC for electrical and telecommunications. PVC Coated rigid steel conduit shall be used in areas crossing steam piping, minimum 10 feet length on either side of steam piping. Do not run new conduits parallel to steam piping. Maintain a minimum of 5 feet clearance between steam or hot water piping and electrical conduits.
B. Layout
1. Duct bank routing shown in the drawings is approximate. Exact duct banks routing shall be
determined with close coordination with Project Manager. Account for existing field
conditions, and new field conditions in coordinating the final routing of duct banks.
2. Conduct exploratory excavation sufficiently ahead so that any obstacles can be determined
pre-hand, and mediated sooner to make necessary offsets and bends around existing
obstacles.

C. Depth and Clearances
1. Install power and communications duct to locate top of ductbank minimum 30 inches
below finished grade.
2. Install duct with minimum slope of 4 inches per 100 feet (0.33 percent). Slope duct away
from building entrances and to manholes where possible.
3. Underground conduits shall be as specified PVC for electrical and telecommunications.
PVC Coated rigid steel conduit shall be used in areas crossing steam piping, minimum 3
feet length on either side of steam piping. Maintain a minimum of 3 feet clearance between
steam or hot water piping and electrical conduits.
4. Maintain the following clearances (minimum) between High Voltage (over 600 Volts) and
   a. Power Conduit - two (2) inches
   b. Gas Pipe - twelve (12) inches
   c. Telephone, Cable Conduit - twelve (12) inches
   d. Wet Utilities - 3' minimum from concrete encased High Voltage Lines

D. All underground conduits not indicated otherwise on the drawings shall be concrete encased.

E. Installation
1. Install conduits as recommended by manufacturer using approved couplings, fittings, and
cement.
2. Cut duct square using saw or pipe cutter; de-burr cut ends.
3. Insert duct to shoulder of fittings; fasten securely.
4. Join nonmetallic duct using adhesive as recommended by manufacturer.
5. Wipe nonmetallic duct dry and clean before joining. Apply full even coat of adhesive to
   entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.
6. Install no more than equivalent of four 90-degree bends between pull points for power.
7. Install no more than equivalent of two 90-degree bends between pull points for tel/com.
8. Provide suitable fittings to accommodate expansion and deflection where required.
9. Terminate duct at manhole entries using end bell.
10. Stagger duct joints vertically in concrete encasement 6 inches minimum.
11. Use suitable separators and chairs installed not greater than 4 feet on centers.
13. Securely anchor duct to prevent movement during concrete placement.
14. Provide minimum 4 inch concrete cover at bottom, top, and sides of ductbank.
15. Connect to existing concrete encasement using dowels.
16. Connect to manhole wall using dowels.
17. Provide suitable pull string in each empty duct except sleeves and nipples.
18. Provide detectable muletape in all empty telecommunications conduits.
19. Immediate after backfilling and compaction swab ducts. Draw a testing mandrel not less
   than 12 inches long with a diameter 1/4" less than the interior diameter of the conduit
   through each conduit. Then draw a stiff wire bristle brush and size to match conduit
diameter until conduit is clear of all particles of earth, sand, and gravel. Use suitable duct
   plugs to protect installed duct against entrance of dirt and moisture.
20. Interface installation of underground warning tape with backfilling. Install tape 12 inches
    above concrete envelope.

3.03 PRE-CAST MANHOLE, VAULTS, AND UNDERGROUND PULLBOX INSTALLATION
   A. Install and seal precast sections in accordance with ASTM C 891.
   B. Install manholes plumb.
C. Use precast neck and shaft sections to bring manhole cover to finished elevation. Refer to grading plans for finished elevations.
D. Attach cable racks to inserts after manhole installation is complete.
E. Provide crushed rocks min 6" in bottom of manholes for proper drainage or install drains and connect to closest site drainage system.
F. Install two ground rods, one on each opposite corners. Ground rods shall project 6" above manhole floor.
G. Knock-out a 2" diameter hole in sump area of manhole.
H. Clean manhole of any debri prior to substantial completion. Drain manhole of water.

END OF SECTION
SECTION 33 79 00
SITE GROUNDING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Electrodes, connectors, and conductors.
   B. Grounding wells.
   C. Treatment wells.

1.02 REFERENCE STANDARDS
   D. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.03 SYSTEM DESCRIPTION
   A. Multiple vertical electrodes buried in straight line pattern.
   B. Multiple horizontal electrodes buried in straight line pattern.
   C. Conform to IEEE 142.
   D. Provide grounding systems that provide overall resistance to ground of 5 ohms.

1.04 SUBMITTALS
   A. See Section 013300 - Submittal Procedures.
   B. Shop Drawings: Indicate layout of grounding system and installation details.
   C. Product Data: Provide for grounding electrodes and connectors.
   D. Test Reports: Indicate overall resistance to ground at each system.
   E. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation and installation of exothermic connectors.
   F. Project Record Documents: Accurately record actual locations of electrodes and connections.

1.05 QUALITY ASSURANCE
   A. Conform to requirements of NFPA 70.
   B. Manufacturer Qualifications: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
   C. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and shown.

PART 2 PRODUCTS

2.01 MANUFACTURERS
   A. Cadweld or approved equal.
   B. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 MATERIALS
   A. Rod Electrodes: Copper.
      2. Length: 10 feet.
      3. Product: Cooper Power Systems, CadWeld, Erico, or approved equal.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Active Electrodes: Metallic salt-filled copper tube electrode.
   1. Shape: Straight.
   2. Length: 10 feet.
   4. Product: Lycole Grounding System or approved equal.
   5. Substitutions: See Section 01 60 00 - Product Requirements.

C. Exothermic Connections: All connections should be welded with CADWELD copper-based exothermic welding process.

D. Wire: Stranded copper, bare copper.
   1. For Horizontal Electrodes: 4/0 AWG, minimum size.
   2. For Connections to Electrodes: 3/0 AWG, minimum size.
   3. For Bonding Other Objects: 3/0 AWG, minimum size.

E. Grounding Boxes: Bronze.
   1. Product: Christy G3 Traffice Valve Box with hold down bolts.

F. Grounding Well Pipe: 8 inch diameter by 24 inch long clay tile pipe with belled end.

G. Grounding Well Cover: Cast iron with legend "GROUND" embossed on cover.

H. Treatment Well Liner: 8 inch diameter clay tile perforated pipe.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify completion of filling and backfilling before beginning grounding work.
   B. Verify that trenching is completed before installing horizontal electrodes.

3.02 INSTALLATION
   A. Install products in accordance with manufacturer's instructions.
   B. Install interconnecting wire 2 feet below finished grade level.
   C. Provide grounding wells and grounding boxes as indicated.
   D. Provide cast-in-place concrete grounding well under provisions of Section 03 30 00. Construct as indicated.

3.03 CHEMICAL TREATMENT
   A. Provide chemical treatment where indicated.
   B. Use suitable ion-producing treating chemicals that are non-corrosive and non-toxic.
   C. Dig circular trench centered on electrode. Make trench 12 inches deep with 18 inch inside diameter. Uniformly distribute 50 lb of treatment material in bottom of trench and cover with topsoil.
   D. Direct Treatment at Grounding Well: Fill 12 inches of treatment material in bottom of 24 inch deep well.
   E. Treatment Wells:
      1. Location: Provide four uniformly spaced wells along 48 inch radius from vertical electrode.
      2. Lining: Provide to depth of 60 inches.
      3. Well Pipe and Cover: Provide flush with finished grade.
      4. Treatment: Fill each well to 12 inches below grade with treatment material.
   F. Saturate treatment chemicals with water following application.
   G. Interface with grounding and bonding provided under Section 26 05 26.
   H. Interface with chain link fencing specified in Section 32 31 13.
3.04 FIELD QUALITY CONTROL
   A. Perform field inspection and testing in accordance with Section 014500.
   B. Make final grounding system measurements three or four days after chemical treatment.
   C. Test Procedures: IEEE 142, fall of potential method.

3.05 CLOSEOUT ACTIVITIES
   A. Demonstrate to facility operation and maintenance personnel the location of each accessible
      grounding connection and each chemical treatment well.

END OF SECTION