ADDENDUM No. 1 DATED June 14, 2011
TO THE PROJECT MANUAL and PLANS
(Bid No. 10-11/34) Laney Tower Modernization

This addendum supersedes items of the original contract documents wherein it is inconsistent with it. All other conditions remain unchanged. The following changes, modifications, corrections, additions or clarifications shall apply to the contract documents and shall be made a part of and subject to all of the requirements thereof as if originally specified or shown. It is the responsibility of the bidder to review the list of attachments to ensure that the addendum is full and complete. This Addendum modifies the original Bid Documents for the above Bid.

Failure to do so may subject Bidder to disqualification.

List of attachments:

<table>
<thead>
<tr>
<th>Description</th>
<th>1 page</th>
</tr>
</thead>
</table>

Item 1: Updated specifications from YHLA.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATION TOWER

OAKLAND, CALIFORNIA

SPECIFICATIONS

July 1, 2010

June 2011 for Bid

YHLA ARCHITECTS
1617 Clay Street
Oakland, CA 94612
Phone: (510) 836-6688
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PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

00 01 10

TABLE OF CONTENTS

Section 00 01 01  Project Title Page
Section 00 01 10  Table of Contents

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

Document 00700  General Conditions

DIVISION 01 - GENERAL REQUIREMENTS

By Laney College

DIVISION 02 - EXISTING CONDITIONS

Section 02 41 19  Selective Structure Demolition

DIVISION 03 - CONCRETE

Not Used

DIVISION 04 - MASONRY

Section 04 01 32  Masonry Floor Cleaning and Refinishing

DIVISION 05 - METALS

Section 05 12 00  Structural Steel
Section 05 40 00  Cold-Formed Metal Framing
Section 05 45 00  Metal Support Assemblies
Section 05 50 00  Metal Fabrications
Section 05 70 00  Decorative Metal

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

Section 06 20 00  Finish Carpentry
Section 06 41 10  Custom Casework
Section 06 61 16  Solid Surfacing Fabrications

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

Section 07 21 01  Building Insulation
Section 07 84 00  Firestopping
Section 07 92 00  Joint Sealants
DIVISION 08 - OPENINGS

Section 08 11 15 Steel Doors and Frames
Section 08 14 16 Flush Wood Doors
Section 08 31 13 Access Doors and Frames
Section 08 43 13 Aluminum-Framed Storefronts
Section 08 51 13 Aluminum Windows
Section 08 71 00 Door Hardware
Section 08 71 13 Automatic Door Operators
Section 08 80 00 Glazing

DIVISION 09 - FINISHES

Section 09 23 00 Gypsum Plastering
Section 09 29 00 Gypsum Board
Section 09 30 00 Tiling
Section 09 65 00 Resilient Flooring
Section 09 68 13 Tile Carpeting
Section 09 80 00 Acoustic Treatment
Section 09 90 00 Painting and Coating
Section 09 97 25 Vapor Emission Treatment Systems

DIVISION 10 - SPECIALTIES

Section 10 11 00 Visual Display Surfaces
Section 10 13 00 Directories
Section 10 14 00 Signage
Section 10 28 13 Toilet Accessories
Section 10 44 00 Fire Protection Specialties
Section 10 83 16 Banners

DIVISION 11 - EQUIPMENT

Section 11 30 00 Residential Equipment

DIVISION 12 - FURNISHINGS

Section 12 24 00 Window Shades

DIVISION 13 - SPECIAL CONSTRUCTION

Not Used

DIVISION 14 - CONVEYING SYSTEM

Not Used
DIVISION 15 - MECHANICAL

Section 15400  Plumbing
Section 15800  Heating and Ventilating and Air Conditioning

DIVISIONS 16 THROUGH 20 - Not Assigned

DIVISION 21 - FIRE SUPPRESSION

Not Used

DIVISION 22 - PLUMBING

Not Used

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

Not Used

DIVISION 24 - Not Assigned

DIVISION 25 - INTEGRATED AUTOMATION

Not Used

DIVISION 26 - ELECTRICAL

Section 26 00 50  General Electrical
Section 26 05 00  Common Materials & Methods
Section 26 27 00  Low Voltage Distribution Equipment
Section 26 50 00  Lighting Fixtures

DIVISION 27 - COMMUNICATIONS

Not Used

DIVISIONS 28 - ELECTRONIC SAFETY AND SECURITY

Section 28 31 00  Fire Alarm System

DIVISIONS 29 THROUGH 30 - Not Assigned

DIVISIONS 31 THROUGH 35

Not Used

DIVISIONS 36 THROUGH 39 - Not Assigned
DIVISIONS 40 THROUGH 48

Not Used

DIVISION 49 - Not Assigned

END OF TABLE OF CONTENTS
ARTICLE 1 - GENERAL PROVISIONS

1.01 THE CONTRACT DOCUMENTS
1.02 THE CONTRACT
1.03 BASIC DEFINITIONS OF TERMS USED IN THE CONTRACT DOCUMENTS
1.04 EXECUTION, CORRELATION AND INTENT
1.05 CONDITIONS AS TO SPECIFICATIONS AND DRAWINGS
1.06 AMENDING CONTRACT DOCUMENTS
1.07 PRECEDENCE OF DOCUMENTS
1.09 CONFERENCES AND MEETINGS

ARTICLE 2 - DISTRICT’S RESPONSIBILITIES

2.01 INFORMATION AND SERVICES REQUIRED OF THE DISTRICT
2.02 DISTRICT’S RIGHT TO STOP THE WORK
2.03 DISTRICT’S RIGHT TO CARRY OUT THE WORK
2.04 NO WAIVER OF RIGHT
2.05 DISTRICT’S ADMINISTRATION OF THE CONTRACT
2.06 CLARIFICATION AND REQUEST FOR CHANGE (RFC) NOTIFICATION
2.07 RESOLUTION OF RFCs & CLAIMS

ARTICLE 3 - CONTRACTOR’S RESPONSIBILITIES

3.01 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS
3.02 SUPERVISION AND CONSTRUCTION PROCEDURES
3.03 LABOR AND MATERIALS
3.04 WARRANTY
3.05 TAXES
3.06 PERMITS, FEES AND NOTICES
3.07 SUPERINTENDENTS
3.08 CONSTRUCTION AND SUBMITTAL SCHEDULES
3.09 DOCUMENTS AND SAMPLES AT THE SITE
3.10 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, OPTIONS, AND SUBSTITUTIONS
3.11 USE OF SITE
3.12 CUTTING AND PATCHING
3.13 CLEANING UP
3.14 ACCESS TO WORK
3.15 ROYALTIES AND PATENTS
3.16 INDEMNIFICATION
3.17 COMPUTERIZED JOB COST REPORTING SYSTEM

ARTICLE 4 - (NOT USED.)

ARTICLE 5 - SUBCONTRACTORS

5.01 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK
5.02 SUBCONTRACTOR RELATIONS
5.03 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

ARTICLE 6 - CONSTRUCTION BY DISTRICT OR BY SEPARATE CONTRACTORS

6.01 DISTRICT’S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.09</td>
<td>TEMPORARY FACILITIES</td>
<td>72</td>
</tr>
<tr>
<td>13.10</td>
<td>CONFLICT OF INTEREST</td>
<td>73</td>
</tr>
<tr>
<td>13.11</td>
<td>SUPERVISION BY THE DIVISION OF THE STATE ARCHITECT</td>
<td>74</td>
</tr>
<tr>
<td>13.12</td>
<td>INSTRUCTIONS AND MANUALS</td>
<td>74</td>
</tr>
<tr>
<td>13.13</td>
<td>AS-BUILT DRAWINGS</td>
<td>74</td>
</tr>
<tr>
<td>13.14</td>
<td>PREVAILING WAGES</td>
<td>74</td>
</tr>
<tr>
<td>13.15</td>
<td>ASBESTOS MATERIALS</td>
<td>75</td>
</tr>
<tr>
<td>13.16</td>
<td>ASBESTOS ABATEMENT</td>
<td>75</td>
</tr>
<tr>
<td>13.17</td>
<td>SCHOOL FACILITIES UNDER CONSTRUCTION OR RENOVATION; USE OF LEAD PAINT, PLUMBING, ETC. PROHIBITED</td>
<td>75</td>
</tr>
<tr>
<td>13.18</td>
<td>RECYCLING PROGRAM</td>
<td>75</td>
</tr>
</tbody>
</table>

**ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT** 75

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.01</td>
<td>TERMINATION BY THE DISTRICT FOR CAUSE</td>
<td>75</td>
</tr>
<tr>
<td>14.02</td>
<td>SUSPENSION BY THE DISTRICT FOR CONVENIENCE</td>
<td>76</td>
</tr>
<tr>
<td>14.03</td>
<td>TERMINATION BY THE DISTRICT FOR CONVENIENCE</td>
<td>76</td>
</tr>
</tbody>
</table>
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.

14. **Contract Modification:** Same as Modification.

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 route 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, RFIs, 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 inSpecifications 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 Subconsultants’ 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 summarizes 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 directs 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 decease 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 foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion. The issuance of a Payment Authorization 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 indemnitees 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 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 ration 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 ration 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
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Demolition and removal of selected portions of the existing building including removal of the existing steel and aluminum storefront and maintenance of the IT Rooms during demolition.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. EPA - Environmental Protection Agency

1.03 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the District’s property.

B. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.

C. Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to the District ready for reuse. Include fasteners or brackets needed for reattachment elsewhere.

D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.04 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, reinstalled, claimed by the District or otherwise indicated to remain the District’s property, demolished materials shall become the Contractor’s property and shall be removed from the site with further disposition at the Contractor’s option.

1.05 SUBMITTALS

A. Submit proposed dust-control measures.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

B. Schedule of selective demolition activities indicating the following:
   1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
   2. Interruption of utility services.

C. Contract Closeout Submittal: Identify and accurately locate capped utilities and other subsurface structural, electrical or mechanical conditions for inclusion in Project Record Documents.

1.06 QUALITY ASSURANCE

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

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

1.07 PROJECT CONDITIONS

A. The District assumes no responsibility for actual condition of building to be selectively demolished.
   1. Conditions existing at time of inspection for bidding purpose will be maintained by the District as far as practical.

B. Asbestos: It is not expected that asbestos will be encountered in the Work. If any materials suspected of containing asbestos are encountered, do not disturb the materials. Immediately notify the District’s Representative and the Architect.

C. Storage or sale of removed items or materials on-site will not be permitted.

1.08 SEQUENCING AND SCHEDULING

A. Arrange selective demolition schedule so as not to interfere with the District’s on-site operations.

PART 2 - PRODUCTS  Not Used

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled.
D. When unanticipated mechanical, electrical or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.

E. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.

F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.02 UTILITY SERVICES

A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by the District and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to the District and to governing authorities.
      a. Provide not less than 72 hours’ notice to the District if shutdown of service is required during changeover.

B. Utility Requirements: Locate, identify, disconnect and seal or cap off indicated utility services serving building to be selectively demolished.

3.03 PREPARATION

A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with selective demolition operations.

B. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the District and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective demolition area.
   1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
   2. Protect existing site improvements, appurtenances, and landscaping to remain.

D. Provide and maintain exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse.
   1. Strengthen or add new supports when required during progress of selective demolition.
3.04 POLLUTION CONTROLS

A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
   1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as flooding and pollution.

B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level.

D. Clean adjacent areas and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

3.05 MAINTENANCE OF IT ROOMS

A. Maintain the operations of the existing IT Rooms on Floors 2, 5, 8, and 9 that are indicated to remain in service.
   1. Do not interrupt the operations of the IT Rooms except when authorized in writing by the District and authorities having jurisdiction. Provide temporary services during interruptions to IT operations as acceptable to the District and to governing authorities.

B. Protect the IT Rooms against soiling and damage during selective demolition operations.

C. Seal and protect the interior of the IT Rooms from dust during renovation. Provide temporary partitions as required to protect the interiors of the units from dust.

3.06 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:
   1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition work above each floor or tier before disturbing supporting members on lower levels.
   2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
   3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Locate selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials promptly.
9. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

B. Demolish concrete in small sections. Cut concrete at junctures with construction to remain, using power-driven masonry saw or hand tools; do not use power-driven impact tools.

3.07 PATCHING AND REPAIRS

A. General
1. Employ skilled workmen to perform cutting and patching.
2. Proceed with cutting and patching at the earliest feasible time and complete without delay.
3. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
4. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.
5. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
6. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction.
1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
3. Cut through concrete and masonry using a cutting machine, such as a carborundum saw or a diamond-core drill.
4. Comply with requirements of applicable Sections where cutting and patching requires excavating and backfilling.
5. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or
C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
   1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
   2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
      a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
   4. Patch and repair existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.08 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off the District’s property and legally dispose of them.

3.09 CLEANING

A. Sweep the affected areas broom clean on completion of selective demolition operation.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

SECTION 04 01 32

MASONRY FLOOR CLEANING AND REFINISHING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Cleaning and refinishing of masonry floors, including brickwork and concrete.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

B. EPA - Environmental Protection Agency

C. NCMA - National Concrete Masonry Association

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for products used in this Section.

1.04 QUALITY ASSURANCE

A. Masonry Cleaning and Refinishing Firm Qualifications: Engage an experienced masonry cleaning and refinishing firm that has specialized in the types of work required for this Project.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

A. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.

B. Brushes: Fiber bristle only.

C. Job-Mixed Detergent Solution: Solution prepared by mixing 3 oz. of trisodium phosphate (TSP), 1 oz. of laundry detergent (Tide, All, etc.), 1 quart of 5 percent sodium hypochlorite (bleach), and 3 quarts of warm water for each gallon (liter) of solution required.
D. Cleaner: Non-acidic gel containing detergents and chelating agents and specifically formulated for cleaning masonry surfaces. Cleaner shall have a pH between 6 and 9 and shall not be considered a hazardous waste according to EPA.
   1. Product: Subject to compliance with requirements, provide ProSoCo, Inc., “Sure Klean 942 Masonry Cleaner”, or equal.

E. Floor Wax: Formulated for use over sealer indicated, acceptable to sealer manufacturer, and specifically recommended by floor-wax manufacturer for use intended.
   1. Slip Resistance: Provide floor wax with static coefficient of friction of at least 0.5 when tested according to ASTM D2047.

F. Sealer: Acrylic-based, slip-resistant, water-emulsion floor finish complying with ASTM D4078 and specifically recommended by sealer manufacturer for use intended.

PART 3 - EXECUTION

3.01 PREPARATION

A. Protect adjacent equipment and surfaces by covering them with heavy polyethylene film and waterproof masking tape. Use a liquid strippable masking agent when acid etching. If practical, remove items, store, and reinstall after potentially damaging operations are complete.

3.02 CLEANING MASONRY, GENERAL

A. Clean brickwork and concrete, as indicated on the Drawings, by detergent scrubbing as necessary to remove dirt, oils, films, and other materials detrimental to finish application.
   1. Use a detergent solution as specified in Part 2.
   2. Apply the solution with a sponge mop, using pressure for heavily soiled areas and rinse with cool, clear water.

B. Remove wax buildup by applying a wax-stripping product with a scrub brush or floor-scrubbing machine that has a brush attachment. Rinse the floor thoroughly after applying the stripper.

C. Using metal scrapers or brushes is not permitted.

D. Using acid or alkali cleaning agents is not permitted.

E. For oil stains, grease, graffiti, or efflorescence removal, refer to NCMA Tek Notes 8.1, 8.2, 8.3, and 8.4.

3.03 FINISH

A. Sealing and Waxing: After floor has been cleaned and is thoroughly dry, seal and wax traffic surface of flooring in a manner that results in a clear, uniform appearance. Apply sealer and wax in the number of coats and by application methods that comply with written directions of manufacturer of each product. Do not apply wax until sealer has dried.
B. Protect finish as required until Substantial Completion of the Work.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
1. Suspended framing system for interior suspended ceilings.
2. Backing for interior items to be attached to gypsum board and metal studs.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
1. Section 07 92 00 - Joint Sealants: Provision of sealants and caulks.
2. Section 09 29 00 - Gypsum Board: Provision of gypsum board.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials
2. A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
3. C645 - Standard Specification for Non-Load (Axial) Bearing Steel Studs, Runners (Track), and Rigid Furring Channels for Screw Application of Gypsum Board.


C. GA - Gypsum Association
1. 203 - Installation of Screw-Type Steel Framing Members to Receive Gypsum Board.

1.03 SYSTEM DESCRIPTION

A. Design Requirements
1. Metal stud framing system for interior ceilings, with gypsum board specified in Section 09 29 00.
2. Plumb, true, straight and rigid framing for support of attached materials.
3. Design system to accommodate construction tolerances, deflection of building structural members L/240, support of attached materials and clearances of intended openings in accordance with CBC.
4. Gypsum board ceilings shall not support materials or building components other than grilles, light fixtures, small electrical conduits and small ducts. Such components shall be supported by supplemental framing which is supported by main runners. No vertical loads other than gypsum board dead load shall be applied to cross-furring.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

1.04 SUBMITTALS

A. Shop Drawings: Submit shop drawings indicating component details, framed openings, anchorage to structure and accessories or items required of other related work. Include shop drawings for backing plates for cabinets, grab bars, and other wall mounted items.

1.05 QUALITY ASSURANCE


1.06 DELIVERY, STORAGE AND HANDLING

A. Storage and Protection
   1. Deliver materials to job site and store in ventilated dry locations. If materials are stored outdoors, stack materials off the ground, supported on a level platform, and fully protected from the weather.
   2. Handle materials carefully to prevent damage. Remove damaged items and provide new items.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Acceptable Manufacturers: Chicago Metallic Corp.; USG Interiors, Inc.; National Rolling Mills Co., or equal.

2.02 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS

A. General: Provide components of sizes indicated but not less than that required to comply with CBC and ASTM C754 for conditions indicated.

B. Wire for Hangers and Ties: Vertical, ASTM A641, Class 1 zinc coating, soft temper.
   1. Accessible Ceiling: No. 8 gauge and galvanized.
   2. Non-Accessible Ceiling: No. 12 gauge wire and galvanized.

C. Angle-Type Hangers: Angles with legs not less than 7/8-inch wide, formed from 0.0635-inch thick galvanized steel sheet complying with ASTM A653, G40 Coating Designation, with bolted connections and 5/16-inch diameter bolts.

D. Channels: Cold-rolled steel, 0.0598-inch minimum thickness of base (uncoated) metal and 7/16-inch wide flanges, and as follows:
   1. Carrying Channels: 1-1/2 inches deep, 1.12 pound/foot minimum, hot rolled.
   2. Furring Channels: 7/8-inch deep, 26 gauge, galvanized hat sections at 24 inches maximum center to center.
E. Steel Studs for Furring Channels: ASTM C645, with flange edges bent back 90 degrees and doubled over to form 3/16-inch minimum lip (return), minimum thickness of base (uncoated) metal and minimum depth as follows:
1. Thickness: 0.0179 inch, unless otherwise indicated.
2. Depth: 1-5/8 inch, unless otherwise indicated.

2.03 MISCELLANEOUS MATERIALS

A. Acoustical Sealant: As specified in Section 07 92 00.
B. Galvanized Finish Touch-Up Coating: Liquid zinc compound that bonds electrochemically to iron, steel and aluminum, as manufactured by ZRC Chemical Products, “ZRC Cold Galvanizing Compound”, or equal.

2.04 FINISHES

A. Galvanized Surfaces: Where galvanizing is removed by welding or other assembly procedures, clean area of any foreign matter by wire brushing and metal conditioner recommended by galvanized finish touch-up manufacturer. Apply galvanized touch-up coating by brush or spray with minimum coverage of 1.4 mils, dry film.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas to receive metal support framing systems and verify the following:
   1. Installation of building components located in walls is complete.
   2. Backing plates are properly located for support of wall hung items.

B. Beginning of installation means installer accepts existing conditions.

3.02 PREPARATION

A. Ceiling Anchorages: Coordinate installation of ceiling suspension systems with installation of overhead structural assemblies to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers that will develop their full strength and at spacing required to support ceilings.
   1. Furnish concrete inserts and other devices indicated to other trades for installation well in advance of time needed for coordination with other construction.

3.03 INSTALLING STEEL FRAMING FOR SUSPENDED AND FURRED CEILINGS

A. Suspend ceiling hangers from building structural members and as follows:
   1. Hangers shall be saddle-tied around main runners to develop full strength of hangers.
   2. Cross-furring shall be saddle-tied to main runners with 1 strand of No. 16 or 2 strands of No. 18 gauge tie wire.
3. Main runners shall be spliced by lapping and interlocking flanges 12 inches minimum and tying near each end with double loops of No. 16 gauge wire.
4. Cross-furring shall be spliced by lapping and interlocking the pieces 8 inches minimum and tying near each end with double loops of No. 16 gauge wire.
5. Fasten hanger wires with not less than 3 tight turns. Fasten bracing wires with 4 tight turns. Make all tight turns within a distance of 1-1/2 inches. Hanger or bracing wire anchors to the structure shall be installed in such a manner that the direction of the wire aligns as closely as possible with direction of the forces acting on the wire.
   a. Wire turns made by machine where both strands have been deformed or bent in wrapping can waive the 1-1/2 inch requirement, but the number of turns shall be maintained, and be as tight as possible.
6. Separate all ceiling hanging and bracing wires at least 6 inches from all unbraced ducts, pipes, and conduit. It is acceptable to attach lightweight items, such as single electrical conduit not exceeding 3/4-inch nominal diameter to hanger wires using connectors acceptable to authorities of jurisdiction.
7. When drilled-in concrete anchors are used in reinforced concrete for hanger wires, 1 out of 10 shall be field tested for 200 pounds of tension. When drilled-in concrete anchors are used for bracing wires, 1 out of 2 shall be field tested for 440 pounds in tension. Shot-in anchors in concrete are not permitted.
8. Provide trapeze or other supplementary support members at obstructions to main hanger spacing.
9. Provide additional hangers, struts or braces as required at all ceiling breaks, soffits or discontinuous areas.
10. Hanger wires that are more than 1 in 6 out of plumb shall have counter-sloping wires.
11. Resilient Ceilings
   a. Select resilient hangers for proper loading, as required to achieve a minimum 0.20-inch static deflection.
   b. Incorporate cables with resilient hangers at diagonal bracing where cable is in tension.
   c. Ceiling hanger wires, support rods and framing shall not contact ducts, pipes, equipment or supports.
   d. Isolation hardware shall not be concealed until approval is obtained from the Architect.

B. Light Fixture Support
1. Recessed or drop-in light fixtures shall be supported directly by main runners or by supplemental framing which is supported by main runners.
2. Surface mounted fixtures shall be attached to main runner by positive clamping device made of material with a minimum of 14 gauge. Rotational spring catches do not comply.
3. Light fixtures, HVAC diffusers, speakers, etc., shall have minimum 2 wires at opposite ends for support if ceiling should fail during seismic fault.

C. Installation Tolerances: Install steel framing components for suspended ceilings so that cross-furring members or grid suspension members are level to within 1/8-inch in 12 feet as measured both lengthwise on each member and transversely between parallel members.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Railings at drinking fountain.
   2. Aluminum-framed glass wall partition.
   3. Aluminum paper bins.
   4. Aluminum channels, surface-applied, for interior use.
   5. Metal mesh rolling gate.
   6. Steel door and gate at basement.
   7. Steel blades for signage.
   8. Miscellaneous channels, angles, and other shapes as required.
   9. Rough hardware.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 12 00 - Structural Steel: Provision of structural steel.
   2. Section 05 40 00 - Cold-Formed Metal Framing: Provision of cold-formed metal framing.
   3. Section 05 70 00 - Decorative Metal: Provision of decorative metalwork.
   4. Section 06 41 10 - Custom Casework: Provision of custom cabinetry and countertops.
   5. Section 06 61 16 - Solid Surfacing Fabrications: Provision of solid surfacing countertops.
   9. Section 08 80 00 - Glazing: Provision of glass and glazing.
  10. Section 09 90 00 - Painting and Coating: For finish painting of items not specified to have factory finish.
  11. Section 10 14 00 - Signage: Provision of signage.

1.02 REFERENCES

A. AA - Aluminum Association

B. AAMA - American Architectural Manufacturers Association
   1. 611 - Voluntary Standards for Anodized Architectural Aluminum.

C. AISC - American Institute of Steel Construction
D. ANSI - American National Standards Institute
   1. B18.6.3 - Machine Screws and Machine Screw Nuts (M4)
   2. B18.21.1 - Lock Washers (Inch Series)

E. ASTM - American Society for Testing and Materials
  10. A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

F. AWS - American Welding Society
   1. D1.1 - Structural Welding Code - Steel.
   2. D1.2 - Structural Welding Code - Aluminum.


H. FS - Federal Specification
   1. FF-B-588 - Bolt, Toggle and Expansion Sleeve, Screw.

I. MIL - Military Standardization Documents
   1. 889 - Dissimilar Metals.
1.02 SYSTEM DESCRIPTION

A. Design Requirements
   1. General
      a. Design work to support normally imposed loads and in conformity with AISC requirements.
      b. Provide for expansion and contraction.
      c. Built-up parts shall exhibit no warp.
      d. Design exterior items to exclude water.
      e. Wind Load Requirements for Exterior Items: Design and size members to withstand dead and live loads caused by pressure and suction of wind in accordance with CBC.
   2. Structural Performance of Handrails and Railing Systems: Engineer, fabricate and install handrails and railing systems to withstand structural loads without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each of the respective components of each metal fabrication in accordance with CBC.
   3. Shop drawings and calculations for metal fabrications engineered under work of this Section shall be prepared under direct supervision of State of California licensed Structural Engineer and shall be so stamped prior to submittal by the Contractor for review.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for paint products and grout.

B. Shop Drawings: Submit shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other Sections.

C. Samples: Submit samples representative of materials and finished products as may be requested by the Architect.

D. Quality Control Submittals: Welder certificates signed by Contractor certifying that welders comply with requirements specified under the “Quality Assurance” Article.
1.05 QUALITY ASSURANCE

A. Welding Standards: Comply with applicable provisions of AWS D1.1 and D1.2.
   1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.

1.06 PROJECT CONDITIONS

A. Field Measurements
   1. Check actual locations of walls and other construction to which metal fabrications must fit by accurate field measurements before fabrication. Show recorded measurements on final shop drawings.
   2. Coordinate fabrication with construction progress to avoid delaying the Work.
      a. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating products without field measurements. Coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions. Allow for trimming and fitting.

1.07 COORDINATION

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

PART 2 - PRODUCTS

2.01 MATERIALS

A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names or roughness.

B. Steel and Iron
   1. Steel Plates, Shapes and Bars: ASTM A36.
   3. Cold-Formed Steel Tubing: ASTM A500.
      a. For exterior installations and where indicated, provide tubing with hot-dip galvanized coating per ASTM A53.
   5. Steel Pipe: ASTM A53, Type S, Grade B, Schedule 40, unless otherwise indicated, or another weight required by structural loads.
      a. Black finish, unless otherwise indicated.
      b. Galvanized finish for exterior installations and where indicated.
   6. Concrete Inserts: Anchors of type indicated below, fabricated from corrosion resistant materials capable of sustaining, without failure, the load imposed within a safety factor of 4, as determined by testing per ASTM E488, conducted by a qualified independent testing agency.

7.1.10 05 50 00 - 4 Metal Fabrications
a. Threaded or wedge type; galvanized ferrous castings, either ASTM A47 malleable iron or ASTM A27 cast steel. Provide bolts, washers, and shims as required, hot-dip galvanized in accordance with ASTM A153.

8. Malleable-Iron Castings: ASTM A47, grade as recommended by fabricator for type of use indicated.
9. Mesh at Rolling Gate: 1-1/2 inch, #13F flattened expanded metal with U-shaped edging, as manufactured by McNichols, or equal.

C. Aluminum

D. Fasteners: Provide plated fasteners complying with ASTM B633, Class Fe/Zn 25 for electrodeposited zinc coating, for exterior use or where built into exterior walls. Select fasteners for the type, grade, and class required.
1. Bolts and Nuts: Regular hexagon-head bolts, ASTM A307, Grade A, with hex nuts, ASTM A563, and, where indicated, flat washers.
5. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E488 conducted by a qualified independent testing agency.
   b. Material: Group 1 alloy 304 or 316 stainless steel bolts and nuts complying with ASTM F593 and ASTM F594.
6. Toggle Bolts: FS FF-B-588, tumble-wing type, class and style as required.
7. Provide stainless-steel fasteners for fastening aluminum.

E. Welding Materials: AWS D1.1 and D1.2, type required for materials being welded.

F. Concrete Materials and Properties for Concrete Filled Metal Bollards: Comply with requirements on the Structural Drawings for normal-weight, air-entrained, ready-mix concrete with a minimum 28-day compressive strength of 3,000 psi, unless otherwise indicated.

G. Coatings
1. Coatings for Protection of Dissimilar Materials
   b. Aluminum in Contact with Concrete, Metal, Wood or other Absorptive Material.
2. Shop Primer for Ferrous Metal: VOC compliant, fast-curing, lead and chromate free, universal modified alkyd primer with good resistance to corrosion, compatible with finish paint systems.

H. Nonshrink, Nonmetallic Grout
   1. Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

I. Handrail Brackets: As indicated on the Drawings.

J. Track Wheels at Rolling Gate: As indicated on the Drawings and as manufactured by Richards-Wilcox Hardware, or equal.

2.02 FABRICATION, GENERAL

A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.

B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

C. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
   1. Temperature Change (Range): 100 degrees Fahrenheit.

D. Shear and punch metals cleanly and accurately. Remove burrs.

E. Ease exposed edges to a radius of approximately 1/32-inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work. Remove sharp or rough areas on exposed traffic surfaces.

F. Weld corners and seams continuously to comply with the following:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

H. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

I. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

J. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

K. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

L. Aluminum-Framed Glass Wall Partition: As indicated on the Drawings.
   1. Glazing: As specified in Section 05 50 00.

M. Aluminum Paper Bins: As indicated on the Drawings.

N. Metal Mesh Rolling Gate: As indicated on the Drawings.

O. Steel Door and Gate at Basement: As indicated on the Drawings.

2.03 GUARDRAILS, HANDRAILS, AND RAILINGS

A. General: Fabricate guardrails, handrails and railing systems to comply with requirements indicated for design, dimensions, details, finish and member sizes, including thickness of handrails and posts, post spacings, and anchorage, but not less than that required to support loads.

B. Interconnect railing and handrail members by butt-welding or welding with internal connectors, at fabricator's option, unless otherwise indicated.

C. Form changes in direction of handrails and rails as detailed.

D. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated.
E. Brackets, Flanges, Fittings and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors for interconnections of metal work and attachment of handrails and railing systems to other work. Furnish inserts and other anchorage devices for connecting handrails and railing systems to concrete or masonry work.

F. Fillers: Provide steel or aluminum sheet or plate fillers of thickness and size indicated or required to support structural loads of handrails where needed to transfer wall bracket loads through wall finishes to structural supports. Size fillers to suit wall finish thicknesses. Size fillers to produce adequate bearing to prevent bracket rotation and overstressing of substrate.

G. For galvanized handrails and railing systems, provide galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

H. For non-galvanized steel handrails and railing systems, provide non-galvanized ferrous metal fittings, brackets, fasteners, and sleeves, except galvanize anchors embedded in exterior masonry and concrete construction.

2.04 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports for applications indicated that are not a part of structural steel framework as required to complete the Work.

B. Fabricate units to sizes, shapes, and profiles indicated and required to receive other adjacent construction retained by framing and supports. Fabricate from structural steel shapes, plates, and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.

1. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.
   a. Except as otherwise indicated, space anchors 24 inches on center and provide minimum anchor units in the form of steel straps 1-1/4 inches wide by 1/4-inch thick by 8 inches long.

C. Galvanize miscellaneous interior framing and supports.

2.05 FINISHES, GENERAL

A. Comply with NAAMM MFM for recommendations relative to applying and designing finishes. Finish metal fabrications after assembly.

B. Aluminum: As selected by the Architect.

2.06 STEEL AND IRON FINISHES

A. Galvanizing: For those items indicated for galvanizing, apply zinc coating by the hot-dip process complying with the following requirements:
   1. ASTM A153 for galvanizing iron and steel hardware.
   2. ASTM A123 for galvanizing both fabricated and unfabricated iron and steel products made of uncoated rolled, pressed, and forged shapes, plates, bars, and strip 0.0299-inch thick or thicker.
B. Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:
   1. Typical: SSPC SP-2, SSPC SP-3, as required.

C. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes or to be embedded in concrete, or masonry, unless otherwise indicated. Comply with requirements of SSPC PA-1 for shop painting. Primer shall be compatible with finish paint.

D. Finish Painting: As specified in Section 09 90 00.

2.07 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. As-Fabricated Finish: AA-M10 (Mechanical Finish: as fabricated, unspecified).

C. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

D. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
   1. Color: Dark bronze.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.

B. Cutting, Fitting and Placement: Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment and elevation; with edges and surfaces level, plumb, true and free of rack; and measured from established lines and levels.

C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.
D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

E. Field Welding
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap.
   2. Remove welding flux immediately.
   3. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.

G. Aluminum-Framed Glass Wall Partition: As indicated on the Drawings.


I. Metal Mesh Rolling Gate: As indicated on the Drawings.

J. Steel Door and Gate at Basement: As indicated on the Drawings.

3.02 INSTALLING GUARDRAILS, RAILINGS AND HANDRAILS

A. Adjust guardrails, handrails and railing systems prior to anchoring to ensure matching alignment at abutting joints. Space posts at spacing indicated or, if not indicated, as required by design loadings. Plumb posts in each direction. Secure posts and railing ends to building construction as follows:
   1. Anchor posts to steel by welding directly to steel supporting members.
   2. Anchor handrail ends into concrete and masonry with steel round flanges welded to rail ends and anchored into wall construction with drilled-in expansion anchors.

B. Secure handrails to wall with wall brackets and end fittings of the same material and finish. Provide bracket with 1-1/2 inch clearance from inside face of handrail and finished wall surface of the same material and finish, unless otherwise noted. Locate brackets at spacing required to support structural loads. Secure wall brackets and wall return fittings to building construction as follows:
   1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.
   2. For hollow masonry anchorage, use toggle bolts having square heads.
   3. For steel framed gypsum board assemblies, fasten brackets directly to steel framing or concealed anchors using self-tapping screws of size and type required to support structural loads.
3.03  ADJUSTING AND CLEANING

A.  Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC PA-1 requirements for touching up shop-painted surfaces. Apply by brush or spray to provide a 2.0-mil minimum dry film thickness.

B.  For galvanized surfaces, clean welds, bolted connections and abraded areas, and apply galvanizing repair paint to comply with ASTM A780.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Decorative metals as indicated.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Section
   1. Section 05 50 00 - Metal Fabrications: For protection of dissimilar materials.

1.02 REFERENCES

A. AISC - American Institute of Steel Construction Inc.

B. ASTM - American Society for Testing and Materials
   3. A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

C. AWS - American Welding Society

D. NAAMM - National Association of Architectural Metal Manufacturers
   1. MFM - Metal Finishes Manual for Architectural and Metal Products.

1.03 SYSTEM DESCRIPTION

A. Design Requirements
   1. Design work to support normally imposed loads and in conformity with AISC requirements.
   2. Provide for expansion and contraction.
   3. Built-up parts shall not exhibit warp.
   4. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
1.04 SUBMITTALS

A. Product Data: Submit product data for each product used in ornamental metalwork, including finishing materials and methods.

B. Shop Drawings: Submit shop drawings showing fabrication and installation of ornamental metalwork including plans, elevations, details of components and attachments to other units of Work. Indicate materials and profiles of each ornamental metalwork member, fitting, joinery, finishes, fasteners, anchorages and accessory items.
   1. Include setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed as unit of Work of other Sections.

C. Samples: For verification of each profile and pattern of fabricated metal and each type of metal finish required, prepared on metal of same thickness and alloy indicated for final unit of Work. Where finishes involve normal color and texture variations, include sample sets composed of two or more units showing the full range of variations expected.

1.05 QUALITY ASSURANCE

A. Qualifications
   1. Installer: Arrange for installation of ornamental metalwork specified in this Section by the same firm that fabricated it.
   2. Welders: Qualified in accordance with AWS D1.1.
      a. Requalify welders who have not performed welding for period of 3 or more months.
      b. Requalify welders whose work fails to pass inspection before performing further welding.

B. Welding Standards: Comply with applicable provisions of AWS D1.1.

1.06 DELIVERY, STORAGE AND HANDLING

A. Storage and Protection: Store ornamental metalwork inside a well ventilated area, away from uncured concrete and masonry, and protected from weather, moisture, soiling, abrasion, extreme temperatures and humidity.

1.07 PROJECT CONDITIONS

A. Field Measurements: Where ornamental metalwork is indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
   1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating ornamental metalwork without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.
PART 2 - PRODUCTS

2.01 METALS

A. General: Provide metals free from surface blemishes where exposed to view in finished unit. Exposed-to-view surfaces exhibiting pitting, seam marks, roller marks, stains, discolorations, or other imperfections on finished units are not acceptable.

2.02 ALUMINUM

A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with strength and durability properties for each aluminum form required not less than that of alloy and temper designated below.

B. Extruded Bars and Shapes: ASTM B221, Alloy 6063-T5/T52.

C. Plate and Sheet: ASTM B209, Alloy 5005-H32.

D. Aluminum Grille: As manufactured by Reggio, “600 Series”, or equal.

2.03 STAINLESS STEEL

A. Tubing: ASTM A554, Grade MT 316.

B. Sheet, Strip, Plate, and Flat Bar: ASTM A666, Type 316.

C. Bars and Shapes: ASTM A276, Type 316.

2.04 MISCELLANEOUS MATERIALS

A. Welding Electrodes and Filler Metal: Type and alloy of filler metal and electrodes as recommended by producer of metal to be welded, complying with applicable AWS specifications, and as required for color match, strength, and compatibility in the fabricated items.

B. Fasteners: Use fasteners of same basic metal as the fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
   1. Provide concealed fasteners for interconnection of ornamental metalwork components and for their attachment to other work except where exposed fasteners are unavoidable or are the standard fastening method.
   2. Provide button head “Torx” machine screws for exposed fasteners, unless otherwise indicated.

C. Cast-in-Place and Post Installed Anchors: Anchors of type indicated below, fabricated from corrosion resistant materials with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E488 conducted by a qualified independent testing agency.
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REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

2. Chemical anchors.
3. Expansion anchors.

D. Coatings for Protection of Dissimilar Materials: As specified in Section 05 50 00.

2.05 FABRICATION, GENERAL

A. Form ornamental metalwork to required shapes and sizes, with true curves, lines, and angles. Provide components in sizes and profiles indicated, but not less than required to comply with requirements indicated for structural performance.

B. Provide necessary rebates, lugs and brackets to assemble units and to attach to other work. Drill and tap for required fasteners, unless otherwise indicated. Use concealed fasteners wherever possible.

C. Comply with AWS for recommended practices in shop welding and brazing. Provide welds and brazes behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded and brazed joints of all flux, and dress all exposed and contact surfaces.

D. Mill joints to a tight, hairline fit. Cope or miter corner joints. Form joints exposed to weather to exclude water penetration.

E. Finish exposed surfaces to smooth, sharp, well-defined lines and arrises.

F. Assemble items in the shop to the greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

2.06 FINISHES, GENERAL

A. Comply with NAAMM MFM for recommendations relative to applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable temporary protective covering prior to shipment.

PART 3 - EXECUTION

3.01 PREPARATION

A. Coordinate and furnish anchorages and setting drawings, diagrams, templates, instructions, and directions for installing items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to the Project site.
3.02 INSTALLATION, GENERAL

A. Provide anchorage devices and fasteners where necessary for securing ornamental metal items to in-place construction.

B. Perform cutting, drilling, and fitting required to install ornamental metalwork. Set products accurately in location, alignment, and elevation, plumb, level, and true, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

C. Fit exposed connections accurately together to form tight, hairline joints or, where indicated, with uniform reveals and spaces for sealants and joint fillers. Where cutting, welding, and grinding are required for proper shop fitting and jointing of ornamental metal items, restore finishes to eliminate any evidence of such corrective work.

D. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing, or provide new units as required.

E. Restore protective coverings that have been damaged during shipment or installation. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at the same location.
   1. Retain protective coverings intact and remove simultaneously from similarly finished items to preclude nonuniform oxidation and discoloration.

F. Field Welding: Comply with the applicable AWS specification for procedures of manual shielded metal-arc welding, for appearance and quality of welds made, and for methods used in correcting welding work. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Grind exposed welded joints smooth and restore finish to match finish of adjacent surfaces.

3.03 PROTECTION

A. Protect finishes of ornamental metalwork from damage during construction period with temporary protective coverings approved by ornamental metalwork fabricator. Remove protective covering at the time of Substantial Completion.

B. Restore finishes damaged during installation and construction so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit; or provide new units as required.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Interior wood paneling.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Section
   1. Section 09 90 00 - Painting and Coating: For finish painting.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

1.03 SUBMITTALS

A. Product Data: Submit product data for each type of factory-fabricated product and process specified, including details of construction relative to materials, dimensions of individual components, profiles, textures, and colors.

B. Samples: Submit lumber products with factory applied finish, 50 sq. in., for each finish system and color.

1.04 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install interior finish carpentry until building is weatherproof, wet-work in space is completed and nominally dry, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels through the remainder of construction period. If conditions are not advisable, the District and Contractor will determine course of action or environment of wood.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Lumber shall bear the grade and trademark of the association under whose rules it is produced, and a mark of mill identification. Lumber shall be of sound stock, thoroughly seasoned, kiln-dried to a moisture content not exceeding 19 percent, and surfaced 4 sides, except as specifically designated for items hereinafter.
B. Interior Lumber for Paneling
   1. Species: Oak, rift cut, horizontal grain.
   2. Finish: Intended for transparent finish.

C. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
   1. Provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A153.
   2. Use finish nails where exposed.

D. Glue: Aliphatic or phenolic-resin wood glue recommended by manufacturer for general carpentry use.

E. Backprimer: As specified in Section 09 90 00.

2.02 FABRICATION

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

B. Fabricate finish carpentry to dimensions, profiles, and details indicated.

C. Finish: As specified in Section 09 90 00.

PART 3 - EXECUTION

3.01 PREPARATION

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

B. Condition finish carpentry to average prevailing humidity conditions in installation areas before installation, for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

C. Backprime concealed sides of interior lumber.

3.02 INSTALLATION, GENERAL

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

B. Install finish carpentry plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
   1. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
   2. Countersink nails, fill surface flush, and sand where face nailing is unavoidable.
3. Install to tolerance of 1/8-inch in 96 inches for plumb and level. Install adjoining finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
4. Coordinate finish carpentry with materials and systems in or adjacent to standing and running trim and rails. Provide cutouts for mechanical and electrical items that penetrate exposed surfaces of trim and rails.
5. Align new materials with existing adjacent.

3.03 PANELING INSTALLATION

A. Flush Paneling
2. Provide panelwork of the thickness indicated or, if not indicated, 3/4-inch minimum thickness.
3. Assemble by gluing and concealed fasteners (no exposed nailing or other fasteners, except finish nailing permitted for quirk corners of applied moldings, if any).
6. Panel Matching Method: Pre-manufactured sets to match existing.

B. Finish Painting: As specified in Section 09 90 00.

3.04 ADJUSTING

A. Repair damaged or defective finish carpentry where possible to eliminate functional or visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Wood casework.
   2. Wood mailboxes.
   3. Wood mobile display with light and casters.
   5. Plastic laminate covered countertops and backsplashes.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

B. Related Sections
   1. Section 05 50 00 - Metal Fabrications: Provision of supports for countertops.
   2. Section 06 61 16 - Solid Surfacing Fabrications: Provision of solid surfacing countertops.
   3. Section 09 90 00 - Painting and Coating: For finish painting.

1.02 REFERENCES

A. ALA - American Laminators Association

B. ANSI - American National Standards Institute
   1. A135.4 - Basic Hardboard.
   3. A208.2 - Medium Density Fiberboard for Interior Use.

C. EPA - Environmental Protection Agency

D. NEMA - National Electrical Manufacturers Association
   1. LD 3 - High Pressure Decorative Laminates.

E. WI - Woodwork Institute

1.03 DEFINITIONS

A. Exposed Portions - All Grades: Surfaces visible when doors and drawers are closed; underside of bottoms of cabinets over 4 feet above finished floor; cabinet tops under 6 feet above finished floor or if over 6 feet and visible from upper building level or floor; visible front edges of web frames, ends, divisions, tops, shelves, and hanging stiles; visible sloping tops of cabinets; visible portions of bottoms, tops, and ends in front of sliding doors.
1. Additional Exposed Portions - Premium Grade Only
   a. Visible surfaces in open cabinets or behind glass.
   b. Interior faces of hinged doors.

B. Semi-Exposed Portions: Shelves; divisions; interior face of ends, backs, and bottoms; drawer sides, subfronts, backs, and bottoms; underside of bottoms of cabinets between 2-1/2 and 4 feet above finished floor; interior faces of hinged doors, except Premium Grade; visible surfaces in open cabinets or behind glass for Custom Grade and all rooms designated as storage, janitor, closet, or utility.

C. Concealed Portions: Toe space; sleepers, web frames, stretchers, and solid sub-tops; security panels; underside of bottoms of cabinets less than 2-1/2 feet above finished floor; flat tops of cabinets 6 feet or more above finished floor except if visible from upper building level; 3 non-visible edges of adjustable shelves; underside of countertops, knee spaces, and drawer aprons; faces of cabinet ends of adjoining units that butt together.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each type of product and process specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.

B. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, seismic anchorage and other components.
   1. Show details full size.
   2. Show locations and sizes of furring and blocking, including concealed backing and reinforcing specified in other Sections.
   3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in casework.

C. Samples
   1. Plastic laminate for color selection.
   2. Full size cabinet door, drawer, and shelf, as required.
   3. Provide 1 sample of each type of hardware specified.

C. Quality Control Submittals: Submit product certificates signed by woodwork fabricator certifying that products comply with specified requirements.

1.05 QUALITY ASSURANCE

A. Quality Standard
   1. Except as otherwise indicated, comply with “Manual of Millwork” of WI for grades of interior architectural woodwork, construction, finishes and other requirements.
   2. Provide WI Certification Labels or Certificates of Compliance indicating that woodwork meets requirements of grades specified.
1.06 DELIVERY, STORAGE, AND HANDLING

A. Acceptance at Site: Do not deliver casework until painting and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas.

1.07 PROJECT CONDITIONS

A. Environmental Requirements: Do not deliver or install casework until building is enclosed, wet-work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Field Measurements: Where casework is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
   1. Verify locations of concealed framing, backing, reinforcements, and furring that support casework by accurate field measurements before being enclosed. Record measurements on final shop drawings.
   2. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating casework without field measurements. Provide allowance for trimming at site and coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General
   1. Material Grade: WI Premium grade unless otherwise noted.
   2. Lumber and Plywood: Kiln-dry to equilibrium moisture content suitable for fabrication in shop and use intended.

B. Plywood Substrate at Countertops with Sinks: Marine plywood.

C. Medium Density Fiberboard
   1. Made without formaldehyde and complying with ANSI A208.2.
   2. Manufacturer: Medite Corp., Medite II, or equal.

D. Particleboard: ANSI A208.1, Table 1, Grade 1-M-3, made with phenol-formaldehyde resins, EPA compliant.

E. Hardboard
   1. ANSI A135.4, tempered, smooth surface both faces.
F. Plastic Laminate
   1. Typical: High pressure general purpose grade, solid colors with textured surfaces.
      a. Plastic Thickness and Grade: Meet requirements of NEMA LD 3.
      b. Adhesive: As recommended by plastic laminate manufacturer.
   2. Colors and Finishes: As selected by the Architect.
   3. Manufacturers: Formica Corp.; Nevamar; Micarta; Wilsonart, or equal.

G. Thermoset Decorative Overlay: Decorative surface of thermally fused melamine impregnated web, bonded to specified substrate and complying with ALA.
   1. Substrate: Medium density fiberboard.

H. Hardware
   1. Furnish necessary screws, staples, bolts or other fastenings of proper size and type to secure items in position and, where exposed, to match finish of hardware item fastened.
   3. Keying: Key groups of locks the same in accordance with the District’s directions.
   4. Typical hardware as follows, except where specifically noted otherwise:
      a. Pulls at Drawers: 1 per drawer unless otherwise shown; solid stainless steel wire pull, 3 inches center-to-center.
         1) Manufacturer: Builders Brass Works, “#9054”; Colonial, “751”; or equal.
      b. Pulls at Doors: Same as at drawers.
      c. Hinges at 3/4-Inch Thick Doors: Stainless steel, 1 pair typically; 1-1/2 pair where more than 3 feet high, 120 degree swing, self-closing.
         1) Manufacturer: Blum, “90 Series” with minimum 120 degree opening, or equal.
      d. Drawer Slides: Full extension, 100 pounds load capacity, stainless steel finish.
         1) Manufacturer: Accuride, model “3832”, or equal.
      e. Locks at Pull Doors and Drawers: Mortise latchbolt.
         1) Manufacturer: Best, model “5L Series Dead Bolt”.
      f. Shelf Hardware
      g. Door and Drawer Silencers: Gray rubber.
         1) Manufacturer: Builders Brass Works, Model “W06”, or equal.
      h. Wire Management Grommets: Plastic, matte black, 1-7/8 inches outside diameter.
         1) Manufacturer: Doug Mockett & Company, model “MG Series”, or equal.

2.02 FABRICATION

A. General
   1. Fabricate woodwork to dimensions, profiles, and details indicated.
   2. Complete fabrication, including assembly, finishing, and hardware application, before shipment to Project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
a. Trial fit assemblies at the fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on reviewed shop drawings before disassembling for shipment.

3. Shop-cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges of cutouts and, where located in countertops and similar exposures, seal edges with a water-resistant coating.

B. Wood Cabinets: Fabricate in accordance with WI requirements for wood cabinets intended for transparent finish.
   2. Grade: Premium.
   3. WI Construction Style: Style A, Frameless.
   4. WI Construction Type: Type I, multiple self-supporting units rigidly joined together.
   5. WI Door and Drawer Front Style: Flush overlay.
      a. Grain Matching: Run and match grain vertically for drawer fronts, doors, and fixed panels.
      d. Veneer Matching within Panel Face: Running match.
      e. Veneer Matching within Room: Provide cabinet veneers in each room or other space from a single flitch with doors, drawer fronts, and other surfaces matched in a sequenced set with continuous match where veneers are interrupted perpendicular to the grain.
   7. Semi-Exposed Surfaces
      a. Surfaces Other Than Drawer Bodies: Match species indicated for exposed surfaces.
      b. Drawer Sides and Backs: Thermoset decorative overlay.
      c. Drawer Bottoms: Thermoset decorative overlay.

C. Wood Mailboxes: As indicated on the Drawings.
   1. Species: Oak.
   2. Finish: Transparent, as specified in Section 09 90 00.

D. Wood Mobile Display with Light and Casters: As indicated on the Drawings.

E. Plastic Covered Casework
   1. Quality Standard: Comply with WI Section 15, “Plastic-Covered Casework”.
      a. Grade: Premium.
   2. WI Construction Style: Style A Frameless.
   3. WI Construction Type: Type I multiple self-supporting units rigidly joined together.
   4. WI Door and Drawer Front Style: Flush overlay.
   5. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:
      a. Horizontal Surfaces Other than Tops: GP-50, 0.050-inch nominal thickness.
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REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

b. Postformed Surfaces: PF-42, 0.042-inch nominal thickness.
c. Vertical Surfaces: GP-50, 0.050-inch nominal thickness.
d. Edges: GP-50, 0.050-inch nominal thickness.

6. Materials for Semi-Exposed Surfaces
   a. Surfaces Other than Drawer Bodies: High-pressure decorative laminate, Grade GP-28.
   b. Drawer Sides and Backs: Thermoset decorative overlay.
   c. Drawer Bottoms: Thermoset decorative overlay.

7. Colors, Patterns, and Finishes: As selected by the Architect from laminate manufacturer’s full range of solid colors and textured finishes.

F. Laminated Plastic Countertops
   2. Type of Top: High pressure decorative laminate complying with the following:
      a. Grade: PF-42, 0.042-inch nominal thickness.
      b. Colors, Patterns and Finishes: As indicated.
      c. Edge Treatment: Same as laminate cladding on horizontal surfaces.
      d. Core Material: Exterior grade plywood.

G. Backprimer: As specified in 09 90 00.

2.03 FINISHING

A. Backprime surfaces to be set against concrete or plaster.

PART 3 - EXECUTION

3.01 PREPARATION

A. Condition casework to average prevailing humidity conditions in installation areas before installing.

B. Before installing architectural casework, examine shop-fabricated work for completion and complete work as required, including back priming and removal of packing.

3.02 INSTALLATION

A. Quality Standard: Install woodwork to comply with WI Section 26 for the same grade specified in Part 2 of this Section for type of casework involved.

B. Install casework plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/8-inch in 96 inches for plumb and level (including tops).

C. Scribe and cut casework to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
D. Anchor casework to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork and matching final finish where transparent finish is indicated.

E. Cabinets: Install without distortion so that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.
   1. Install cabinets with no more than 1/8-inch in 96 inch sag, bow, or other variation from a straight line.
   2. Maintain veneer sequence matching of cabinets with transparent finish.

F. Tops: Anchor securely to base units and other support systems as indicated. At bathrooms, caulk space between backsplash and wall with specified sealant.
   1. Install countertops with no more than 1/8-inch in 96 inch sag, bow, or other variation from a straight line.
   2. Secure backsplashes to tops with concealed metal brackets at 16 inches on center.

G. Wood Mailboxes: As indicated on the Drawings.

H. Wood Mobile Display with Light and Casters: As indicated on the Drawings.

I. Complete the finishing work specified in this Section to the extent not completed at shop or before installation of casework.

3.03 ADJUSTING AND CLEANING

A. Repair damaged and defective woodwork where possible to eliminate functional and visual defects; where not possible to repair, replace casework. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

C. Clean casework on exposed and semi-exposed surfaces.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Solid surfacing countertops, with and without integral bowls, and backsplashes where indicated.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 50 00 - Metal Fabrications: Provision of supports for countertops.
   2. Section 06 41 10 - Custom Casework: Provision of custom cabinetry.
   3. Section 07 92 00 - Joint Sealants: Provision of sealants.
   4. Division 22 - Plumbing: Provision of rough-in and connection to water supply and drainage.

1.02 REFERENCES

A. ANSI - American National Standards Institute
   1. Z124.3 - Plastic Lavatories.

B. WI - Woodwork Institute

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product literature.

B. Shop Drawings: Show all items at large scale including methods of fabrication and construction.

C. Samples: Submit 3 solid surfacing materials, 6 inches square.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: DuPont Polymers, “Corian”, or equal.

2.02 MATERIALS

A. Solid Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with the material and performance requirements of ANSI Z124.3, Type 5 or Type 6, without a precoated finish.
   1. Size and Shape: As indicated.
2. Color: As selected by the Architect.

B. Sealant: As specified in Section 07 92 00.

2.03 SOLID SURFACING MATERIAL COUNTERTOPS

A. Quality Standard: Comply with WI Section 17D, “Decorative Synthetic Marble Countertops and Sinks”.
   1. Grade: Premium.
   2. Thickness of solid surfacing shall be constant and shall not vary.

B. Fabrication: Fabricate tops in one piece with shop-applied backsplashes and edges, unless otherwise indicated. Comply with solid surfacing material manufacturer’s recommendations for adhesives, sealers, fabrication, and finishing.
   1. Drill holes in countertops for plumbing fittings.
   2. Thickness: 1/2-inch.
   3. Colors, Patterns and Finishes: Provide the Architect’s selections from manufacturer’s full range of colors and finishes.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Anchor countertops securely to base units and other support systems as indicated. Caulk space between backsplash and wall with specified sealant.
   1. Install countertops with no more than 1/8-inch in 96 inch sag, bow, or other variation from a straight line.
   2. Secure backsplashes to tops with concealed metal brackets at 16 inches on center.

B. Seal joints in accordance with manufacturer’s instructions.

3.02 ADJUSTING AND CLEANING

A. Remove damaged or otherwise disfigured portions and replace with new prior to the District’s acceptance.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Acoustical building insulation.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for insulation products specified.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection: Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer’s recommendations for handling, storage, and protection during installation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Acoustical Insulation
   1. Type 1 - Typical
      a. Unfaced, 3-1/2 inches thick, friction-fit, flexible batt or blanket of fiberglass, formaldehyde-free, 25 percent recycled content, width to fit stud space, and conforming to ASTM C665, Type I, non-combustible when tested in accordance with ASTM E136 and having the following fire resistive requirements when tested in accordance with ASTM E84:
         1) Flame Spread: 10 or less.
         2) Smoke Developed: 10 or less.
      b. Manufacturer: Johns Manville Corp., or equal.
2. Type 2 - Black-Faced Insulation  
   a. Semi-rigid (2 lbs./cu. ft.) fiberglass with black protective matt facing.  

B. Accessories  
   1. Insulation Support: Galvanized wire as required.  
   2. Acoustical Pads for Junction Boxes  

PART 3 - EXECUTION  

3.01 EXAMINATION  
   A. Examine substrates and conditions with installer present, for compliance with requirements of the Sections in which substrates and related work are specified and to determine if other conditions affecting performance of insulation are satisfactory. Do not proceed with installation of insulation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION, GENERAL  
   A. Comply with insulation manufacturer’s instructions applicable to products and application indicated. If printed instructions are not available or do not apply to project conditions, consult manufacturer’s technical representative for specific recommendations before proceeding with installation of insulation.
   B. Extend insulation full thickness as indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections that interfere with placement.
   C. Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.

3.03 INSTALLATION OF GENERAL BUILDING INSULATION  
   A. Apply insulation units to substrate by method indicated, complying with manufacturer’s recommendations. If no specific method is indicated, use mechanical anchorage to provide permanent placement and support of units.

3.04 ACOUSTICAL INSULATION  
   A. Install at all sound-rated construction including walls and floor/ceiling assemblies where indicated.
3.05 PROTECTION

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

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Firestopping and smoke seal materials.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials
   2. E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 degrees C.


1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Through penetration firestopping systems or designs shall be the types tested in accordance with ASTM E814 or UL 1479 and listed by UL FRD or approved by FM P7825.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Conform to CBC for fire resistance ratings and surface burning characteristics.

B. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through penetration firestop systems are installed per specified requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: 3M; Bio Fireshield; Hilti; General Electric; Specified Technologies, or equal.

2.02 MATERIALS

A. Provide asbestos free firestopping material capable of maintaining an effective barrier against flame, gases, and temperature. Provide noncombustible firestopping that is nontoxic to human beings during installation or during fire conditions. Devices and equipment for
firestopping service shall be UL FRD listed or FM P7825 approved for use with applicable construction, and penetrating items.

B. Fire Hazard Classification: Material shall have a flame spread of 25 or less, a smoke developed rating of 50 or less when tested in accordance with UL 723 or UL listed and accepted.

C. Firestopping Rating: Firestopping materials shall be UL FRD listed or FM-7825 approved for “F” and “T” ratings at least equal to fire rating of fire wall or floor in which penetrated openings are to be protected.


E. Slag Wool Fiber Board Safing Insulation: Semirigid boards designed for use as fire stop at openings between edge of slab and exterior wall panels, produced by combining slag wool fibers with thermosetting resin binders to comply with ASTM C612, Type IA and IB; nominal density of 4 lb/cu. ft.; passing ASTM E136 for combustion characteristics; thermal resistivity of 4 degrees Fahrenheit x h x sq. ft./btu x in. at 75 degrees Fahrenheit.
   1. Safing Clips: Galvanized steel safing clips approved by manufacturer of safing insulation for holding safing insulation in place.

PART 3 - EXECUTION

3.01 PREPARATION

A. Prior to application, remove from surfaces dirt, grease, oil, loose materials, rust, or other substances that may affect proper fitting or required fire resistance of firestopping materials. Prepare surface as recommended by manufacturer.

3.02 APPLICATION

A. General
   1. Provide firestopping for conditions specified whether or not firestopping is indicated, and, if indicated, whether such material is designated as insulation, safing, or sealant.
   2. Do not install insulation in place of firestopping materials specified in this Section.

B. Install firestopping in accordance with UL FRD systems or FM P7825 designs, and as recommended by manufacturer. printed instructions of the UL BMD, manufacturer’s instructions, or architectural detail as indicated on the Systems and Applications Schedule.

C. Apply firestopping material in sufficient thickness to achieve rating to uniform density and texture.

D. Install material at the following locations:
   1. Around duct, cable, conduit, piping, and their supports that penetrate fire rated above grade floor slabs, interior partitions and exterior walls.
   2. Around openings and penetrations through fire rated ceiling assemblies.
   3. Around penetration of vertical fire rated service shafts.
4. Around openings and penetrations through fire rated enclosures.
5. Slip joints at concrete construction of rated walls to concrete floor ceilings.
6. At other locations as indicated and/or required by building Code.

E. Install firestop with sufficient pressure to properly fill and seal openings to ensure effective smoke seal.

F. Where floor openings without penetrating items are more than 4 inches in width and subject to traffic or loading, install firestopping materials capable of supporting same loading as floor.

G. Insulated Pipes and Ducts: Cut and remove thermal insulation where pipes and ducts pass through firestoppings. Replace thermal insulation with material having equal thermal insulation characteristics and equal firestopping characteristics.

3.03 FIELD QUALITY CONTROL

A. Immediately notify the Architect if the specified firestopping systems cannot meet the requirements of the Specification.

B. All areas of work must be accessible until inspected by the Architect and the District’s applicable fire protection representative. Correct unacceptable firestops and provide additional inspection to verify compliance with this Specification at no additional cost.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Joint sealants and backing systems for the following locations:
   1. Interior joints in vertical surfaces and horizontal nontraffic surfaces as indicated below:
      a. Perimeter joints of exterior openings where indicated.
      b. Other joints as indicated.
   2. Interior joints in horizontal traffic surfaces as indicated below:
      a. Control and expansion joints in cast-in-place concrete slabs.
      b. Other joints as indicated.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 45 00 - Metal Support Assemblies: Provision of metal support assemblies.
   2. Section 06 61 16 - Solid Surfacing Fabrications: Provision of solid surfacing countertops.
   5. Section 08 71 00 - Door Hardware: Provision of door hardware.
   6. Section 09 29 00 - Gypsum Board: Provision of gypsum board.
   7. Section 09 65 00 - Resilient Flooring: Provision of resilient flooring.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide joint sealers that have been manufactured to establish and maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.

1.04 SUBMITTALS

A. Product Data: Submit product data from manufacturers for each joint sealant product required.
B. Samples: Submit samples for initial selection purposes in form of manufacturer’s standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view.

C. Samples for verification purposes of each type and color of joint sealant required. Install joint sealant samples in 1/2-inch wide joints formed between two 6 inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General Requirements
   1. Provide joint sealers compatible with one another and with substrates.
   2. Manufacturer’s standard color range shall permit matching sealants to color of contacting surfaces.

B. One Part Neutral Cure Silicone Sealant - Type A
   1. ASTM C834 that accommodates joint movement of not more than 5 percent in both extension and compression for a total of 10 percent.
   2. Color: As selected by the Architect.

2.02 ACCESSORIES

A. Primer: Non-staining type recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: ASTM D1056 round, closed cell polyethylene foam rod; oversized 30 to 50 percent larger than joint width as recommended by manufacturer of sealant material.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine joints indicated to receive joint sealants, with installer present, for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealant performance.

B. Do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

3.02 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturer and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt and frost.
2. Clean metal, glass and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealant manufacturer based on preconstruction joint sealant substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer’s recommendations. Confine primers to areas of joint sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.03 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturer’s printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations of ASTM C1193 for use of joint sealants as applicable to materials, applications and conditions indicated.

C. Installation of Sealant Joint Backings: Install sealant joint backings to comply with the following requirements:
1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   a. Do not leave gaps between ends of joint fillers.
   b. Do not stretch, twist, puncture or tear joint fillers.
   c. Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.
2. Install bond breaker tape between sealants where backer rods are not used between sealants and joint fillers or back of joints.

D. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration and providing uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.
E. Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

1. Provide concave joint configuration per Figure 5A in ASTM C1193, unless otherwise indicated.

F. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, and to comply with sealant manufacturer’s directions for installation methods, materials, and tools that produce seal continuity at ends, turns and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in conformance with sealant manufacturer’s recommendations.

3.04 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

3.05 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so that and installations with repaired areas are indistinguishable from original work.

3.06 SCHEDULE

A. Type A

1. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
2. All other interior joints not indicated otherwise.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Flush steel doors for interior locations.
   2. Steel frames for interior doors and windows.

B. Products Installed but not Furnished Under this Section
   1. Section 08 71 00 - Door Hardware: Furnishing of finish hardware.

C. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

D. Related Sections
   1. Section 05 50 00 - Metal Fabrications: Provision of grout.
   2. Section 08 14 16 - Flush Wood Doors: Provision of flush wood doors.
   3. Section 09 90 00 - Painting and Coating: For field painting of primed doors and frames.

1.02 REFERENCES

A. ANSI - American National Standards Institute
   1. A115 - Specifications for Steel Door and Frame Preparation for Hardware.
   3. A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcement.

B. ASTM - American Society for Testing and Materials

C. DHI - Door and Hardware Institute
   1. RL - Recommended Locations for Builder’s Hardware on Standard Steel Doors and Frames.

D. SDI - Steel Door Institute
   1. 100 - Recommended Specifications Standard Steel Doors and Frames.
   2. 105 - Recommended Erection Instructions for Steel Frames.
3. 112 - Galvanized Standard Steel Doors and Frames.

E. UL - Underwriters Laboratories Inc.

1.03 SUBMITTALS

A. Product Data: Submit product data for each type of door and frame specified, including details of construction, materials, dimensions, hardware preparation, core, label compliance, sound ratings, profiles and finishes.

B. Shop Drawings: Submit shop drawings showing fabrication and installation of standard steel doors and frames referenced to the Architect's door mark and hardware group. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of door and frame hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
1. Provide schedule of doors and frames using same reference numbers for details and openings as those on the Contract Drawings.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Acceptance at Site
1. Deliver doors and frames cardboard-wrapped or crated to provide protection during transit and job storage.
2. Inspect doors and frames upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to the Architect; otherwise, remove and replace damaged items as directed.

B. Storage and Protection: Store doors and frames at building site under cover. Place units on minimum 4 inches high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4-inch spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: Republic Builders Products; Steelcraft Manufacturing Co., or equal.

2.02 MATERIALS

A. Hot-Rolled Steel Sheets and Strip: Commercial quality carbon steel, pickled and oiled, complying with ASTM A568.

B. Cold-Rolled Steel Sheets: Commercial quality carbon steel, complying with ASTM A568.
C. Galvanized Steel Sheets: Zinc-coated carbon steel sheets of commercial quality, hot dipped galvanized in accordance with ASTM A924 with A60 or G60 coating designation, mil phosphatized.

D. Supports and Anchors: Fabricate of not less than 18 gauge sheet steel; galvanized where used with galvanized frames.

E. Inserts, Bolts, and Fasteners: Manufacturer’s standard units. Where items are to be built in at exterior walls, hot-dip galvanize in compliance with ASTM A153, Class C or D as applicable.

F. Grout: As specified in Section 05 50 00.

G. Shop Applied Paint: Apply after fabrication.
   1. Primer: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints complying with ANSI A224.1.

H. Finish: As specified in Section 09 90 00.

2.03 DOORS

A. Provide metal doors of SDI grades and models specified below or as indicated on the Drawings or schedules:
   1. Interior Doors: Provide doors complying with requirements indicated below by referencing ANSI 250.8 for level and model and ANSI A250.4 for physical endurance level:
      a. Level 1 and Physical Performance Level C, (Standard Duty), Model 1 (Full Flush).
   2. Door Louvers: Provide sightproof stationary louvers for interior doors where indicated, constructed of inverted V-shaped or Y-shaped blades formed of 24 gauge cold-rolled steel set into minimum 20 gauge steel frame.

B. Door Cores
   1. Core Stiffeners: Vertical steel stiffeners or steel channel grid.
   2. Core Filler: Sound deadening mineral composition, incombustible, moisture resistant, chemically inert in accordance with reviewed manufacturer’s recommendations.

C. Frames: Provide metal frames for doors of types and styles as indicated on the Drawings and schedules. Conceal fastenings, unless otherwise indicated.
   1. Interior
      a. Type 1: Fabricate fully welded frames of minimum 18 gauge cold-rolled steel.
      b. Type 2: Fabricate knock-down frames of minimum 18 gauge cold-rolled steel.
   2. Door Silencers: Except on weatherstripped and smoke gasketed frames, drill stops to receive 3 silencers on strike jambs of single door frames and 2 silencers on heads of double door frames.

D. Hardware: As specified in Section 08 71 00.
2.04 FABRICATION

A. Fabricate steel door and frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer’s plant. Clearly identify work that cannot be permanently factory-assembled before shipment, to assure proper assembly at Project site. Comply with SDI 100 requirements.

1. Internal Construction: Manufacturer’s standard vertical steel stiffeners or unitized steel grid with internal sound deadener on inside of face sheets in accordance with SDI standards.

2. Clearances: Not more than 1/8-inch at jambs and heads except between non-fire rated pairs of doors not more than 1/4-inch. Not more than 3/4-inch at bottom.

B. Fabricate exposed faces of doors and panels, including stiles and rails of nonflush units, from only cold-rolled steel.

C. Tolerances: Comply with SDI 117.

D. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot-rolled steel.

E. Fabricate doors, panels, and frames from galvanized sheet steel in accordance with SDI 112. Close top and bottom edges of doors as integral part of door construction or by addition of minimum 14 gauge inverted steel channels.

F. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed screws and bolts.

G. Hardware Preparation: Prepare doors and frames to receive mortised and concealed hardware in accordance with final Door Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 Series Specifications for door and frame preparation for hardware.

1. For concealed overhead door closers, provide space, cutouts, reinforcing and provisions for fastening in top rail of doors or head of frames, as applicable.

H. Reinforce doors and frames to receive surface applied hardware. Drilling and tapping for surface applied hardware may be done at Project site.

I. Locate hardware as indicated on final shop drawings or, if not indicated, in accordance with DHI RL.

J. Shop Painting: Clean, treat and paint exposed surfaces of steel door and frame units, including galvanized surfaces.

1. Clean steel surfaces of mill scale, rust, oil, grease, dirt and other foreign materials before application of paint.

2. Apply shop coat of prime paint of even consistency to provide a uniformly finished surface ready to receive finish paint.
2.05 FINISHES

A. Finish Painting: As specified in Section 09 90 00.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Install steel doors, frames, and accessories in accordance with final shop drawings, manufacturer’s data, and as herein specified.

B. Placing Frames: Comply with provisions of SDI 105, unless otherwise indicated.
   1. Except for frames located at existing concrete, masonry or drywall installations, place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
   2. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels. In closed steel stud partitions, attach wall anchors to studs with screws.
   3. Fully fill hollow metal door jambs with grout where acoustically required.

C. Door Installation: Fit hollow metal doors accurately in frames, within clearances specified in SDI 100.

3.02 ADJUST AND CLEAN

A. Prime Coat Touch-Up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

B. Final Adjustments: Check and readjust operating hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Non-fire rated and fire-resistance rated solid core doors.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   3. Section 08 71 00 - Door Hardware: Provision of door hardware.
   4. Section 09 90 00 - Painting and Coating: For finish painting of doors.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials


C. DHI - Door and Hardware Institute
   2. WDHS-3 - Recommended Hardware Locations for Wood Flush Doors.

D. NFPA - National Fire Protection Association
   1. 80 - Fire Doors and Windows.

E. UL - Underwriters Laboratories Inc.

F. WDMA - Window and Door Manufacturers Association

1.03 SUBMITTALS

A. Product Data: Submit product data for each type of door, including details of core and edge construction, trim for openings and louvers, and factory-finishing specifications.

B. Shop Drawings: Submit shop drawings indicating location and size of each door referenced to the Architect’s door mark and hardware group, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, requirements for factory finishing and other pertinent data.
1. For factory machined doors, indicate dimensions and locations of cutouts for locksets and other cutouts adjacent to light and louver openings.
2. Samples for verification in the form and size indicated below:
   a. Corner sections of doors approximately 12 inches square with door faces and edgings representing the typical range of color and grain for each species of veneer and solid lumber required.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements
   1. Fire Rated Wood Doors: Provide wood doors that comply with NFPA 80; are identical in materials and construction to units tested in door assemblies per ASTM E2074; and are labeled and listed by UL, Intertek Testing Agency or another testing and inspection agency acceptable to authorities having jurisdiction.
   2. Temperature Rise Rating: At stairwell enclosures, provide doors that have a temperature rise rating of 450 degrees Fahrenheit maximum in 30 minutes of fire exposure specified in CBC.

1.05 WARRANTY

A. General Warranty: Door manufacturer’s warranty specified in this Article shall not deprive the District of other rights the District may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Door Manufacturer’s Warranty: Submit written agreement on door manufacturer’s standard form signed by manufacturer, Installer, and Contractor, agreeing to repair or replace defective doors that have warped (bow, cup, or twist) more than 1/4-inch in a 42 inch by 84 inch section or that show telegraphing of core construction in face veneers exceeding 0.01-inch in a 3 inch span, or do not conform to tolerance limitations of referenced quality standards.
   1. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors where defect was not apparent prior to hanging.
   2. Warranty shall be in effect during the following period of time after date of Substantial Completion, Beneficial Occupancy or Notice of Completion, whichever is earlier.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

2.02 MATERIALS

A. Non-Fire Rated Flush Solid Core Doors: Maximum 5 ply consisting of core material, crossbanding and veneers conforming to WDMA I.S.1-A and the following requirements:
   1. Core: Manufacturer’s standard.
   2. Stiles and Rails: Manufacturer’s standard.
   3. Edge Bands: Wood species to match face veneers.
   5. Faces: Paint grade Birch.

B. Fire Resistive Rated Solid Core Doors
   1. Faces and Grade: Provide faces and grade to match non-fire rated doors in same area of building, unless otherwise indicated.
   2. Construction: Manufacturer’s standard core construction as required to provide fire-resistance rating indicated.
   3. Blocking: Provide composite blocking designed to maintain fire resistance of door but with improved screw-holding capability of same thickness as core and with minimum dimensions as follows:
      a. 5 inch top rail blocking.
      b. 5 inch bottom rail blocking.
      c. 5 inch by 18 inch lock blocks.
      d. 5 inch midrail blocking.
   4. Edge Construction: Provide manufacturer’s standard laminated edge construction for improved screw-holding capability and split resistance as compared to edges composed of a single layer of treated lumber.
   5. Pairs: Furnish formed steel edges and astragals for pairs of fire rated doors, unless otherwise indicated.

C. Door Frames: As specified in Section 08 11 15.

D. Hardware: As specified in Section 08 71 00.

2.03 FABRICATION

A. Fabricate flush wood doors to comply with the following requirements:
   1. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI WDHS-3. Comply with final hardware schedules, shop drawings, DHI A115-W series standards, and hardware templates.
      a. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before proceeding with factory machining.
      b. Metal Astragals: Premachine astragals and formed steel edges for hardware for pairs of fire resistance rated doors.

B. Openings: Factory cut and trim openings through doors to comply with applicable requirements of referenced standards for kinds of doors required.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

2.04 FINISHES

A. Finish Painting: As specified in Section 09 90 00.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Hardware: See Section 08 71 00.

B. Manufacturer’s Instructions: Install wood doors to comply with manufacturer’s instructions and referenced quality standard and as indicated.
   1. Install fire rated doors in corresponding fire rated frames according to requirements of NFPA 80.

C. Job-Fit Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire rated doors. Seal cut surfaces after fitting.
   1. Fitting Clearances for Non-Fire Resistance Rated Doors: Provide 1/8-inch at jambs and heads; 1/16-inch per leaf at meeting stiles for pairs of doors, and 1/8-inch from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4-inch clearance from bottom of door to top of threshold.
   3. Bevel non-fire resistance rated doors 1/8-inch in 2 inches at lock and hinge edges.
   4. Bevel fire resistance rated doors 1/8-inch in 2 inches on lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Field Finished Doors: See Section 09 90 00.

3.02 ADJUSTING AND PROTECTION

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Refinish or replace doors damaged during installation.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Access doors and frames.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 09 90 00 - Painting and Coating: For finish painting.
   2. Division 26 - Electrical: Provision of electrical work.

1.02 SUBMITTALS

A. Product Data: Submit manufacturer’s data completely describing products.

B. Shop Drawings: Submit drawings showing attachment to structure in each typical condition.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: Milcor, Inc.; J. L. Industries, or equal.

2.02 MATERIALS

A. Non-Fire Rated Access Doors
   1. General: Equip with screw driver turned locks.
   2. Type 1
      a. Flush steel door and flanged frame for gypsum board wall installations.
      b. Size: As indicated.
   3. Type 2: Flush steel door and flanged frame for masonry or tile installations.
   4. Type 3: Flush stainless steel door and flanged frame for masonry, tile, and gypsum board installations where finish material is ceramic tile.

B. Finishes
   1. Steel: Chemically etch and apply baked-on rust inhibitive zinc dust prime coat.
   2. Stainless Steel: Reviewed manufacturer’s No. 4 finish.
   3. Finish Painting: As specified in Section 09 90 00.
PART 3 - EXECUTION

3.01 INSTALLATION

A. Install access doors in accordance with manufacturer’s instructions and at locations authorized by the Architect in accordance with requirements for work of Division 26.

B. Securely attach frames to supporting work and ensure doors operate smoothly and are free from warp, twist, and distortion.

3.02 ADJUSTING AND CLEANING

A. Thoroughly clean surfaces of grease, oil, or other impurities, touch-up abraded prime coat, and otherwise prepare for finish painting where required.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

SECTION 08 43 13
ALUMINUM-FRAMED STOREFRONTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Storefront type framing system and entrances.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 50 00 - Metal Fabrications: For protection of dissimilar materials.
   2. Section 07 92 00 - Joint Sealants: Provision of sealants.
   3. Section 08 71 00 - Door Hardware: Provision of door hardware.
   5. Section 08 80 00 - Glazing: Provision of glass and glazing.

1.02 REFERENCES

A. AA - Aluminum Association

B. AAMA - American Architectural Manufacturers Association
   1. 611 - Voluntary Standards for Anodized Architectural Aluminum.

C. ASCE - American Society of Civil Engineers
   1. 7 - Minimum Design Loads for Buildings and Other Structures

D. ASTM - American Society for Testing and Materials
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA


F. GANA - Glass Association of North America

G. NAAMM - National Association of Architectural Metal Manufacturers
   1. MFM - Metal Finishes Manual for Architectural and Metal Products.

H. SSPC - The Society for Protective Coatings

1.03 SYSTEM DESCRIPTION

A. Design Requirements: Provide aluminum storefront systems that comply with structural performance, air infiltration and water penetration requirements indicated.
   1. Wind Loads: Provide aluminum storefront assemblies capable of withstanding wind design pressures calculated according to requirements of authorities having jurisdiction or the ASCE 7 or CBC, whichever is more stringent.
   2. Structural Performance: Conduct tests for structural performance in accordance with ASTM E330. At the conclusion of the tests there shall be no glass breakage or permanent damage to fasteners, anchors, hardware or actuating mechanism. Framing members shall have no permanent deformation in excess of 0.2 percent of their clear span.
   3. Seismic Loads: Provide storefront systems, including anchorage, capable of withstanding the effects of earthquake motions calculated according to CBC, Seismic Design Category D.
   4. Deflection Normal to the Plane of the Wall: Test pressure required to measure deflection of framing members normal to the plane of the wall shall be equivalent to the wind load specified above. Deflection shall not exceed 1/360 of the clear span, when subjected to uniform load deflection test.
   5. Deflection Parallel to the Plane of the Wall: Test pressures required to measure deflection parallel to the plane of the wall shall be equal to 1.5 times the wind pressures specified above. Deflection of any member carrying its full dead load shall not exceed an amount that will reduce glass bite below 75 percent of the design dimension and shall not reduce the edge clearance between the member and the fixed panel, glass or other 1 fixed member above to less than 1/8-inch. The clearance between the member and an operable door or window shall be at least 1/16-inch.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

6. Air Infiltration: Provide aluminum storefront framing system with an air infiltration rate of not more than 0.06 cfm per square foot of fixed area when tested in accordance with ASTM E283 at an inward test pressure differential of 1.57 psf.

7. Water Penetration: Provide framing systems with no uncontrolled water penetration as defined in the test method when tested in accordance with ASTM E331 at an inward test pressure differential of 6.24 lbf per square foot.

8. Glazing: Physically and thermally isolate glazing form framing members.

9. Glazing to Glazing Joints: Provide glazing to glazing joints that accommodate thermal and mechanical movements of glazing and system, prevent glazing to glazing contact and maintain required edge clearances.

B. Performance Requirements: Provide aluminum storefront assemblies that comply with performance characteristics specified, as demonstrated by testing the manufacturer’s corresponding stock assemblies according to test methods indicated.

1. Thermal Movement: Design the aluminum storefront framing systems to provide for expansion and contraction of the component materials.
   a. The system shall be capable of withstanding a metal surface temperature range of 180 degrees Fahrenheit without buckling, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction of performance, stress on glass, or other detrimental effects.

2. Condensation Resistance: Provide storefront systems with condensation resistance factor (CRF) of not less than 45 when tested according to AAMA 1503.1.

3. Average Thermal Conductance: Provide storefront systems with maximum U-value of not more than 0.63 Btu/sq. Ft. x h x degree F when tested according to AAMA 1503.1.

1.04 SUBMITTALS

A. Product Data: Submit product data for each aluminum storefront system required, including:
   1. Manufacturer’s standard details and fabrication methods.
   2. Data on finishing, hardware and accessories.
   3. Recommendations for maintenance and cleaning of exterior surfaces.
   4. Profiles and dimension of components.
   5. Written installation instructions.

B. Shop Drawings: Submit shop drawings for aluminum storefront system and entrances required, including:
   1. Layout and installation details, including relationship to adjacent work.
   2. Elevations at 1/4-inch scale.
   3. Detail sections of typical composite members.
   4. Anchors and reinforcement.
   7. Entry door details, flashing details and other special conditions.
   8. Structural calculation for wind, seismic, and gravity loads on structural components of system. Drawings and calculations shall be by licensed engineer in the State of California and engineer shall be fully familiar with glazing systems.
C. Samples
   1. For Initial Color Selection: Submit pairs of samples of specified finish on 12-inch long sections of extrusions or formed shapes.
   2. For Verification Purposes: The Architect reserves the right to require additional samples, that show fabrication techniques and workmanship, and design of hardware and accessories.

D. Quality Control Submittals: Provide certified test reports from a qualified independent testing laboratory showing that aluminum storefront systems have been tested in accordance with specified test procedures and comply with performance characteristics indicated.

1.05 WARRANTY

A. Warranty: Submit a written warranty, executed by the manufacturer, agreeing to repair or replace units that fail in materials or workmanship within the specified warranty period. Failures include, but are not necessarily limited to:
   1. Structural failures including excessive deflection, excessive leakage or air infiltration.
   2. Faulty operation.
   3. Deterioration of metals, metal finishes and other materials beyond normal weathering.

B. Warranty Period: 2 years after the date of Substantial Completion.

C. The warranty shall not deprive the District of other rights or remedies the District may have under other provisions of the Contract Documents, and is in addition to and runs concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: Vistawall; Kawneer Company, Inc.; Arcadia, or equal.

2.02 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated, complying with the requirements of standards indicated below.
   2. Extruded Bars, Rods, Shapes, and Tubes: ASTM B221.

B. Steel Reinforcement: Complying with ASTM A36 for structural shapes, plates, and bars; ASTM A1008 for cold-rolled sheet and strip; or ASTM A1011 for hot-rolled sheet and strip.

C. Glazing: As specified in Section 08 80 00.

D. Glazing Gaskets: Manufacturer’s standard pressure-glazing system of black, resilient glazing gaskets, setting blocks, and shims or spacers, fabricated from an elastomer of type and in hardness recommended by system and gasket manufacturer to comply with system performance requirements. Provide gasket assemblies that have corners sealed with sealant recommended by gasket manufacturer.
E. Sealants and Joint Fillers for Joints at Perimeter of Storefront Systems: As specified in Section 07 92 00.

F. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC Paint 12 requirements, except containing no asbestos, formulated for 30-mil thickness per coat.

2.03 COMPONENTS

A. Entrances: Provide manufacturer’s standard 1-3/4 inch thick glazed entrances with minimum 0.125-inch thick, extruded tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deep penetration and fillet welded or that incorporate concealed tie-rods.
   2. Stile Design: As indicated on the Drawings.

B. Brackets and Reinforcements: Provide manufacturer’s standard brackets and reinforcements that are compatible with adjacent materials. Provide non-staining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer’s standard corrosion resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
   1. Reinforce members as required to retain fastener threads.

D. Concrete Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A123 or ASTM A153 requirements.

E. Concealed Flashing: Manufacturer’s standard corrosion resistant, non-staining, non-bleeding flashing, compatible with adjacent materials, and of type recommended by manufacturer.

F. Compression Weather Stripping: Manufacturer’s standard replaceable molded neoprene weatherstripping complying with ASTM D2000 requirements or molded PVC complying with ASTM D2287 requirements.

G. Hardware: As specified in Section 08 71 00.

2.04 FABRICATION

A. General: Fabricate components that, when assembled, will have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.
   1. Fabricate components for screw-spline frame construction.

B. Forming: Form shapes with sharp profiles, straight and free of defects or deformations, before finishing.
C. Prepare components to receive concealed fasteners and anchor and connection devices. No “through-bolting” will be accepted.

D. Fabricate components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.

E. Glazing Channels: Provide minimum clearances for thickness and type of glass indicated according to GANA’s “Glazing Manual”.

F. Storefront: Fabricate framing in profiles as indicated on final Drawings for center glazing (without projecting stops). Provide subframes and reinforcing of types indicated or, if not indicated, as required for a complete system. Factory assemble components to greatest extent possible. Disassemble components only as necessary for shipment and installation.
   1. Dimensions: 2 inches wide by 4 inches deep by height as indicated on the Drawings.

G. Entrances: Fabricate entrance framing in manufacturer’s standards and required thickness for structural conditions. Reinforce as required to support imposed loads. Factory assemble entrance door and frame units and factory install hardware to greatest extent possible. Reinforce door and frame units as required for installing hardware indicated. Cut, drill, and tap for factory-installed hardware before finishing components.
   1. Exterior Entrance Doors: Provide compression weatherstripping at fixed stops. At other locations, provide sliding weatherstripping retained in adjustable strip mortised into door edge.

2.05 FINISHES

A. General: Comply with NAAMM’s MFM for recommendations for applying and designating finishes.

B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

C. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
   1. Color: Dark bronze to match existing.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas with the installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of storefront system. Do not proceed with installation until unsatisfactory conditions are corrected.

3.02 INSTALLATION

A. General: Comply with manufacturer’s written instructions for protecting, handling, and installing storefront, entrance systems and breakforms. Do not install damaged components.
Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints. Seal joints watertight.

B. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.

D. Set continuous sill members and flashing in a full sealant bed to provide weathertight construction, unless otherwise indicated. Comply with requirements of Section 07 92 00.

E. Install framing components plumb and true in alignment with established lines and grades without warp or rack of framing members.

F. Install entrances plumb and true in alignment with established lines and grades without warp or rack. Lubricate operating hardware and other moving parts according to hardware manufacturers’ written instructions.
   1. Install surface-mounted hardware according to manufacturer’s written instructions using concealed fasteners to greatest extent possible.

G. Protection of Dissimilar Metals: As specified in Section 05 50 00.

H. Install glazing to comply with requirements of Section 08 80 00.

I. Install perimeter sealant to comply with requirements of Section 07 92 00.

J. Erection Tolerances: Install storefront system to comply with the following maximum tolerances.
   1. Variation from Plane: Limit variation from plane or location shown to 1/8-inch in 12 feet; 1/4-inch over total length.
   2. Diagonal Measurements: Limit difference between diagonal measurements to 1/8-inch.

3.03 CLEANING

A. Remove excess sealant and glazing compounds, and dirt from surfaces.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

SECTION 08 51 13
ALUMINUM WINDOWS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Fixed aluminum porthole windows.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 50 00 - Metal Fabrications: For protection of dissimilar materials.
   2. Section 07 92 00 - Joint Sealants: Provision of sealants.
   4. Section 08 71 00 - Door Hardware: Provision of finish hardware.
   5. Section 08 80 00 - Glazing: For requirements for glazing windows, including those specified to be factory-glazed.

1.02 REFERENCES

A. AA - Aluminum Association

B. AAMA - American Architectural Manufacturers Association
   2. 611 - Voluntary Standards for Anodized Architectural Aluminum.

C. ASTM - American Society for Testing and Materials

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each type of window required, including:
   1. Construction details and fabrication methods.
   2. Profiles and dimensions of individual components.
   3. Data on finishes.
   4. Recommendations for maintenance and cleaning of exterior surfaces.
B. Shop Drawings: Submit shop drawings for each type of window required. Include information not fully detailed in manufacturer’s standard product data and the following:
1. Layout and installation details, including anchors.
2. Elevations of continuous work at 1/4 inch = 1 foot scale and typical window unit elevations at 3/4 inch = 1 foot scale.
3. Full size section details of typical composite members, including reinforcement.
5. Accessories.

C. Samples
1. Submit samples for Initial Color Selection: Submit samples of each specified finish on 12 inch long sections of window members. Where finishes involve normal color variations, include sample sets showing the full range of variations expected.
2. Samples for Verification Purposes: The Architect reserves the right to require additional samples that show fabrication techniques, workmanship and design.

1.04 PROJECT CONDITIONS

A. Field Measurements: Check actual window openings by accurate field measurement before fabrication. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of work.
1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit of window units.

1.05 WARRANTY

A. Aluminum Window Warranty: Submit a written warranty, executed by the window manufacturer, agreeing to repair or replace window units that fail in materials or workmanship within the specified warranty period. Failures include but are not necessarily limited to:
1. Structural failures including excessive deflection, excessive leakage, or air infiltration.
2. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
3. Warranty includes window extrusions, panning and trim. Insulated glass and factory glazing shall also be warranted.

B. Warranty Period: 10 years after the date of Substantial Completion, Beneficial Occupancy or Notice of Completion, whichever is earlier.

C. The warranty shall not deprive the District of other rights or remedies that the District may have under other provisions of the Contract Documents and is in addition to and runs concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Anemostat, “14-Inch Low Profile Metal Vision Frame”, or equal.
2.02 MATERIALS

A. Aluminum Extrusions: Provide alloy and temper recommended by window manufacturer for strength, corrosion resistance and application of required finish, but not less than 22,000 psi ultimate tensile strength and not less than 0.125-inch thick at any location for main frame and sash members.

B. Fasteners: Provide aluminum or nonmagnetic stainless steel.
   1. Reinforcement: Where fasteners screw anchor into aluminum less than 0.125-inch thick, reinforce interior with aluminum or nonmagnetic stainless steel to receive screw threads or provide standard, noncorrosive, pressed-in, splined grommet nuts.
   2. Exposed Fasteners: Except where unavoidable, do not use exposed fasteners.

C. Anchors, Clips, and Nail Fins: Fabricate anchors, clips, and nail fins of aluminum, nonmagnetic stainless steel, or hot-dip zinc coated steel complying with ASTM B633. Provide sufficient strength to withstand design pressure indicated.

D. Compression Type Glazing Strips: Unless otherwise indicated, provide compressible stripping for glazing such as molded EPDM or neoprene gaskets complying with ASTM D2000 Designation 2BC415 to 3BC620, or molded PVC gaskets complying with ASTM D2287, or molded expanded EPDM or neoprene gaskets complying with ASTM C509, Grade 4.

E. Accessories: Provide manufacturer’s standard accessories that comply with indicated standards.

F. Sealants: As specified in Section 07 92 00.

G. Glazing: Manufacturer’s 1/4-inch frosted glass; glazing standards as specified in Section 08 80 00.

H. Protection of Dissimilar Materials: As specified in Section 05 50 00.

2.03 FABRICATION

A. General: Fabricate aluminum window units to comply with indicated standards. Include a complete system for assembly of components and anchorage of window units.
   1. Provide units that are reglazable without dismantling sash or ventilator framing.

B. Preglazed Fabrication: Preglaze window units at the factory where possible and practical for applications indicated. Comply with glass and glazing requirements of Section 08 80 00 and AAMA 101.

2.04 FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. As-Fabricated Finish: AA-M10 (Mechanical Finish: as fabricated, unspecified).
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

C. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine openings before beginning installation. Verify that rough opening is correct and level.
   1. Metal surfaces shall be dry; clean; free of grease, oil, dirt, rust and corrosion, and welding slag; without sharp edges or offsets at joints.

3.02 INSTALLATION

A. Install window units and other components of work as shown on the Drawings and in accordance with manufacturer’s instructions.

B. Before inserting frame, apply heavy bead of polyurethane sealant, as specified in Section 07 92 00, on inside face of nailing fin around entire perimeter.

C. Set windows into opening, and press into place. Windows shall be plumb, level, and true to line, without warp or rack of frames or sash.
   1. Separate aluminum and other corrodbile surfaces from sources of corrosion or electrolytic action at points of contact with other materials by complying with the requirements specified under paragraph “Dissimilar Materials” in the Appendix to AAMA 101.

D. Anchor securely in place by screwing integral nailing fin to framing on all 4 sides. Seal fastener penetrations.

E. Additional interior and exterior perimeter sealing shall be as indicated, conforming to requirements specified in Section 07 92 00.
   1. Where priming is required, priming shall be applied before sash is installed.
   2. Give special attention to proper cleaning of aluminum surfaces in contact with sealant.

3.03 CLEANING

A. Clean aluminum surfaces promptly after installation of windows. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing and sealant compounds, dirt, and other substances.

B. Clean glass of preglazed units promptly after installation of windows. Comply with requirements of Section 08 80 00 for cleaning and maintenance.
3.04 PROTECTION

A. Initiate and maintain protection and other precautions required through the remainder of the construction period, to ensure that window units will be free of damage or deterioration at the time of Substantial Completion.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
1. Furnish door hardware in accordance with hardware groups scheduled.
   a. Upgrade existing hardware to current District standards.
2. Furnish templates and hardware list of hardware as required.
3. Furnish cylinders for electrical panels and fire alarm panels, as required.
4. Door hardware includes the following:
   a. Pivots/Hinges.
   b. Locksets and latchsets.
   c. Electromagnetic hold-open devices.
   d. Closers.
   e. Deadbolts.
   f. Push/pulls.
   g. Thresholds.
   h. Kickplates.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
1. Section 07 92 00 - Joint Sealants: Provision of sealers and caulks.
2. Section 08 11 15 - Steel Doors and Frames: Provision of steel doors and frames.
7. Section 09 90 00 - Painting and Coating: For finish painting.

1.02 REFERENCES

A. ADA - Americans with Disabilities Act


C. DHI - Door and Hardware Institute
   1. RL - Recommended Locations for Builders Hardware for Standard Steel Doors and Frames.

D. Intertek Testing Agency
E. NFPA - National Fire Protection Association
   1. 80 - Fire Doors and Windows.

F. UL - Underwriters Laboratories Inc.

G. WDMA - Window and Door Manufacturers Association
   1. I.S.1.7 - Hardware Locations for Wood Flush Doors.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
   1. Final hardware schedule, incorporating the Architect’s door numbering system, coordinated with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   2. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into “hardware sets” indicating complete designations of every item required for each door or opening. Include the following information:
      a. Type, style, function, size, and finish of each hardware item.
      b. Name and manufacturer of each item.
      c. Fastenings and other pertinent information.
      d. Location of each hardware set cross referenced to indications on the Drawings both on floor plans and in door and frame schedule.
      e. Explanation of all abbreviations, symbols, and codes contained in schedule.
      f. Mounting locations for hardware.
      g. Door and frame sizes and materials.
      h. Keying information.

B. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.04 QUALITY ASSURANCE

A. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the Project’s vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an experienced architectural hardware consultant (AHC) who is available to the District, Architect and Contractor, at reasonable times during the course of the Work, for consultation, at no additional cost to the District during progress of construction; shall be present at completion of construction; shall inspect installation of all finish hardware items; make all minor adjustments required; and shall report to the Architect on completeness of the installation.
   1. The AHC may be an employee of the supplier.
   2. Require supplier to meet with the District to finalize keying requirements and to obtain final instructions in writing.
B. Regulatory Requirements: Provide door hardware for fire rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by UL or Intertek Testing Agency.

1.05 MAINTENANCE

A. Maintenance Tools and Instructions: With delivery of keys, furnish a complete set of specialized tools and maintenance instructions as needed for the District’s continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: As indicated on the Drawings in accordance with District Standards.

2.02 GENERAL

A. Fasteners
1. Furnish necessary screws, bolts, and other fasteners of suitable size and type to anchor the hardware in position for long life under hard use.
2. Where necessary, furnish fasteners with toggle bolts, expansion shields, sex bolts, and other anchors approved by the Architect, according to the material to which the hardware is to be applied and according to the recommendations of the hardware manufacturer.
3. Provide fasteners which harmonize with the hardware as to finish and material.

B. Where butts are required to swing 180 degrees, furnish butts of sufficient throw to clear the trim.

C. Furnish silencers for door frames at the rate of 3 for each single door and 2 for each door or pair of doors; except weatherstripped doors and doors with light seals, smoke seals or sound seals.

D. Closures
1. At exterior doors, closures shall protect against strong winds (suction) and slamming, and shall be attached with sex-bolts.
2. Comply with CBC, Section 905.3, Section 1004.2 and Section 1133B.2.5.1. for maximum effort to operate doors.
3. Closers shall be attached with sex bolts.

E. Tools and Manuals: With delivery of permanent key, deliver to the District 1 complete set of adjustment tools and 1 set of maintenance manuals for locksets, closers and panic devices in accordance with Project close-out requirements.
F.  Spare Parts: Include 1 gross of extra key blanks for the Project. Deliver as specified below.

G.  Furnish thresholds as specified or as detailed.

2.03  KEYING

A.  Review the keying system with the District and provide the type required.

B.  Provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.
   1.  Permanently inscribe each key with number of lock that identifies cylinder manufacturer’s key symbol, and notation, “DO NOT DUPLICATE”.

C.  Key Material: Provide keys of nickel silver only.

D.  Key Quantity: Furnish 3 change keys for each lock.

2.04  OTHER MATERIALS

A.  Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

2.05  FINISHES

A.  Typical: US32, Bright Stainless Steel, or US32D, Satin Stainless Steel, to match existing, unless otherwise specified. Verify in field.

PART 3 - EXECUTION

3.01  DELIVERIES

A.  Stockpile items sufficiently in advance to assure their availability, and make necessary deliveries in a timely manner to assure orderly progress of the total Work.

3.02  COORDINATION

A.  Coordinate as necessary with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

3.03  INSTALLATION

A.  Mount hardware units at heights indicated in DHI RL and WDMA I.S.1.7, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by the Architect.

B.  Install each hardware item in compliance with the manufacturer’s instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Entrance door operator and associated equipment.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 08 43 13 - Aluminum-Framed Storefronts: For finish of aluminum.
   2. Section 08 71 00 - Door Hardware: Provision of door hardware.

1.02 REFERENCES

A. ANSI - American National Standards Institute

B. ICC - International Code Council

C. UL - Underwriters Laboratories Inc.
   1. 325 - Standard for Door, Drapery, Gate, Louver and Window Operators and Systems.

1.03 SYSTEM DESCRIPTION

A. Design Requirements: Provide automatic entrance door system that complies with performance requirements indicated.
   1. Wind Loads: Provide automatic entrance door assembly capable of withstanding wind pressures of 20 psf inward and 20 psf outward acting normal to the plane of the wall.

B. Performance Requirements
   1. General: Provide automatic entrance door assembly that complies with performance characteristics specified as demonstrated by testing the manufacturer’s corresponding stock assemblies according to test methods indicated.
   2. Thermal Movement: Design the automatic entrance door system to provide for expansion and contraction of the component materials. Door shall function normally over the specified temperature range.
      a. The system shall be capable of withstanding a metal surface temperature range of 180 degrees Fahrenheit without buckling, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction of performance, stress on glass or other detrimental effects.
   3. Operator: Provide operator that will open and close the door and maintain it in fully closed position when subjected to a 20 mph wind velocity or the equivalent inward differential pressure.
1.04 SUBMITTALS

A. Product Data: Submit product data for automatic entrance, including the manufacturer’s standard details and fabrication methods and the following:
   1. Data on operators, hardware and accessories.
   2. Roughing-in diagrams.
   3. Parts lists.
   4. Data on finishes and recommendations for maintenance and cleaning of exterior surfaces.

B. Shop Drawings: Submit shop drawings for automatic entrance, including:
   1. Layout and installation details, including relationship to adjacent work.
   2. Elevations at 1/4-inch = 1 foot scale.
   3. Detail sections of typical composite members.
   4. Anchors and reinforcement.
   5. Hardware mounting heights.

C. Submit wiring diagrams detailing wiring for power operator, signal and control systems differentiating clearly between manufacturer installed wiring and field installed wiring.

D. Quality Control Submittals: Provide certified test reports from a qualified independent testing laboratory showing that automatic entrance door systems have been tested in accordance with specified test procedures and comply with performance characteristics indicated.

E. Contract Closeout Submittals: Submit manufacturer’s maintenance and service data for door operators and control system including the name, address and telephone number of the nearest authorized service representative.

1.05 QUALITY ASSURANCE

A. Qualifications
   1. Installer: For installation of the automatic entrance door, engage an experienced installer who is an authorized representative of the manufacturer for both the installation and maintenance of the type of units required for this Project.
      a. Maintenance Proximity: The installer shall maintain offices and repair or service facilities not more than 2 hours normal travel time from the Project site.
   2. Manufacturer: Provide automatic entrance doors produced by a firm experienced in manufacturing systems that are similar to those indicated for this Project and that have a record of successful in-service performance.

B. UL Standard: Provide powered door operators that comply with UL 325.

C. Emergency Exit Door: Automatic entrance door serving as a required means of egress shall comply with requirements of authorities having jurisdiction. Provide manufacturer’s certification that door complies with these requirements. Submit ICC Report.
1.06 PROJECT CONDITIONS

A. Field Measurements: Check openings by accurate field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of the Work.
1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit.

1.07 WARRANTY

A. Warranty: Submit a written warranty, executed by the manufacturer, agreeing to repair or replace components of the automatic entrance door system that fail in materials or workmanship within the specified warranty period. Failures include, but are not necessarily limited to:
1. Structural failures including excessive deflection, excessive leakage or air infiltration.
2. Faulty operation of operators and hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

B. Warranty Period: 3 years after the date of Substantial Completion.

C. The warranty shall not deprive the District of other rights or remedies that the District may have under other provisions of the Contract Documents and is in addition to, and runs concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MANUFACTURERS


2.02 HARDWARE

A. General: Refer to Section 08 71 00 for requirements for hardware items other than those indicated to be provided by the entrance door operator manufacturer.

B. Provide heavy duty hardware units as indicated, scheduled or required for operation of entrance door, including the following items of sizes, number, and type recommended by the manufacturer for the service required. Finish hardware items to match finish of the door.

C. Capacity: Provide operator of the size recommended by the manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, maintenance-free operation under normal traffic load for the type of occupancy indicated.

D. Exposed Housing: Provide extruded or formed aluminum housing for operators of 0.062-inch minimum thickness with fasteners concealed when door is in the closed position. Provide access for maintenance.
E. Adjustment Features: Operators shall be fully adjustable without removal of the doors. Provide adjustment for opening, closing and checking speeds, as well as length of time the door remains open.

F. Electro-Mechanical Operators for Swinging Door: Provide self-contained, concealed, overhead electro-mechanical drive unit with power opening and either power or spring closing, and checking for both opening and closing cycles. Include connections for power and control wiring. Provide safety release clutch for obstructed closing. Provide for easy manual opening when power is off. Provide operator action as indicated.

G. Automatic Operation: Push button switch actuates door open; door closes after time delay expires. Opening and closing force, measured 1-inch out from the lock stile of the door, not to exceed 15 pounds of force to stop the door when operating in either direction.
1. Operator to include the following variable adjustments in compliance with ANSI Standard A156.19:
   a. Opening Speed: 4 to 6 seconds.
   b. Closing Speed: 4 to 6 seconds.

2.03 FABRICATION

A. General: Fabricate entrance door system components to design, sizes and thicknesses indicated and to comply with indicated standards.

B. Prefabrication: Provide entrance door operator as prefabricated packaged unit.

C. Reinforce the work as necessary for performance requirements and for support to the structure. Separate metal surfaces at moving joints with nonmetallic separators to prevent “freeze-up” of joints.

D. Dissimilar Metals: Separate dissimilar metals with bituminous paint, a suitable sealant, nonabsorptive plastic or elastomeric tape, or a gasket between the surfaces. Do not use coatings containing lead.

E. Maintain continuity of line and accurate relation of planes and angles. Provide secure attachment and support at mechanical joints, with hairline fit of contacting members.

F. Fasteners: Conceal fasteners wherever possible.

2.04 FINISHES

A. Aluminum: As specified in Section 08 43 13.

PART 3 - EXECUTION

3.01 PREPARATION

A. Templates and Diagrams: Furnish templates, diagrams, and other data to fabricators and installers of related work, as necessary, for coordination of the automatic entrance door installation.
3.02 INSTALLATION

A. Comply with manufacturer’s specifications and recommendations.

B. Set units plumb, level and true to line without warp or rack of frames or door. Anchor securely in place. Separate aluminum and other corrodisle metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

C. Install complete door operator system in accordance with manufacturer’s instructions, including piping, controls, control wiring and remote power units.

D. Set tracks, header assemblies, operating brackets, rails and guides level and true to location with adequate anchorage for permanent support.

3.03 ADJUSTING

A. After repeated operation of completed installation, equivalent to 3 days use by normal traffic (100 to 300 cycles), readjust door operators and controls for optimum operating condition and safety and for a weathertight closure. Lubricate hardware, operating equipment, and other moving parts.

3.04 PROTECTION

A. Institute protective measures required throughout the remainder of the construction period to ensure that entrance door operator will be without damage or deterioration, other than normal weathering, at the time of acceptance.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Glass and glazing of typical windows and doors.
   2. Blind curve overhead safety mirrors.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 50 00 - Metal Fabrications: Provision of aluminum framing for glass wall partition.

1.02 REFERENCES

A. ANSI - American national Standards Institute

B. ASTM - American Society for Testing and Materials


D. CPSC - Consumer Products Safety Commission

1.03 SYSTEM DESCRIPTION

A. Design Requirements: Provide glass and glazing that has been produced, fabricated and installed to withstand normal thermal movement and wind loading, without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials and other defects in the work.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements
   1. Glass and glazing shall meet requirements of CBC Chapter 24.
2. Safety Requirements; Provide glass and glazing of glazed panels conforming to requirements of ANSI Z97.1, CPSC 16 CFR Part 1201 and CBC Chapter 24, Section 2406.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Acceptable Manufacturers: Pilkington; PPG Industries, Inc., or equal.

2.02 MATERIALS

A. General
1. Primary Glass Standard: Provide primary glass which complies with ASTM C1036 requirements, including those indicated by reference to type, class, quality, and if applicable, form, and finish.
2. Sizes: Fabricate glass to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thicknesses indicated or, if not otherwise indicated, as recommended by glass manufacturer for application indicated. Use glass of same thickness in adjacent windows or panels unless otherwise noted.

B. Glass Types
1. Type 1 - Float Glass: ASTM C1036, Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), 1/4-inch thick, unless otherwise noted or where recommended by manufacturer to meet wind load requirements.
2. Type 2 - Float Glass: ASTM C1048, Kind FT (fully tempered) Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), 1/4-inch thick, unless otherwise noted or where recommended by manufacturer to meet wind load requirements.

C. Blind Curve Overhead Safety Mirror: Rectangular glass convex mirror with wide angle vision, thick vinyl coated aluminum edge, and treated hard board back, as manufactured by Mirror Pros, or equal.

2.03 GLAZING ACCESSORIES

A. Setting Blocks, Spacers and Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.


C. Glazing Tape: Provide manufacturer’s standard solvent free butyl-polyisobutylene formulation with solids content of 100 percent; in extruded tape form; non-staining and non-migrating in contact with nonporous surfaces; packaged on rolls with release paper on 1 side; with or without continuous spacer rod as recommended by manufacturers of tape and glass for application indicated.
D. Window Film: As manufactured by 3M, “Prestige 70”, or equal.

PART 3 - EXECUTION

3.01 PREPARATION

A. Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates.

3.02 GLAZING

A. General
   1. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including referenced glazing standards.
   2. Apply primers to joint surfaces where required for adhesion of sealants.

B. Install setting blocks of proper size in sill rabbet, located 1/4 of glass width from each corner, but with edge nearest corner not closer than 6 inches from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.

C. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape, use thickness slightly less than final compressed thickness of tape.

D. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.

E. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.

F. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.

G. Force sealant into glazing channels to eliminate voids and to ensure complete “wetting” or bond of sealant to glass and channel surfaces.

H. Tool exposed surfaces of sealants to provide a substantial “wash” away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

3.03 PROTECTION AND CLEANING

A. Protect exterior glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.

B. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.

C. Wash glass on both faces not more than 4 days prior to date scheduled for inspection intended to establish date of substantial completion. Wash glass by method recommended by glass manufacturer.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Gypsum plasterwork on expanded metal lath.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Section
   1. Section 09 90 00 - Painting and Coating: For finish painting.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials
   1. A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
   9. C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. to 0.112 in. in Thickness.
   10. C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

1.03 SUBMITTALS

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

B. Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.

1.04 QUALITY ASSURANCE

A. Mockups: Before plastering, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Install mockups for the following applications:
      a. Troweled Finishes: Surfaces indicated to receive nontextured paint finishes.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.06 PROJECT CONDITIONS

A. Comply with ASTM C842 requirements or gypsum plaster manufacturer’s written recommendations, whichever are more stringent.

B. Room Temperatures: Maintain temperatures at not less than 55 degrees Fahrenheit or greater than 80 degrees Fahrenheit for at least 7 days before application of gypsum plaster, continuously during application, and for seven days after plaster has set or until plaster has dried.

C. Avoid conditions that result in gypsum plaster drying out too quickly.
   1. Distribute heat evenly; prevent concentrated or uneven heat on plaster.
   2. Maintain relative humidity levels for prevailing ambient temperature that produce normal drying conditions.
   3. Ventilate building spaces in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Expanded Metal Lath: ASTM C847, cold-rolled carbon steel sheet, ASTM A653, G60, hot-dip galvanized zinc coated, as manufactured by CEMCO, or equal.
   1. Paper Backing: Kraft paper factory bonded to back of lath.

B. Metal Accessories: Comply with ASTM C841 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
   1. Cornerite: Fabricated from expanded metal lath with ASTM A653, G60, hot-dip galvanized zinc coating.
   2. Striplath: Fabricated from expanded metal lath with ASTM A653, G60, hot-dip galvanized zinc coating.
   3. Cornerbeads: Fabricated from zinc; small nose corner bead with expanded flanges; use unless otherwise indicated.
   4. Casing Beads: Fabricated from zinc; square-edged style; with expanded flanges.
   5. Control Joints: Fabricated from zinc; 1-piece type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.
   6. Expansion Joints: Fabricated from zinc; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.
PERALTA COMMUNITY COLLEGE DISTRICT  
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER  
FALLON AND EAST 10TH STREET  
OAKLAND, CALIFORNIA  

C. Miscellaneous Materials  
1. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.  
2. Steel Drill Screws: For metal-to-metal fastening, ASTM C1002 or ASTM C954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of no fewer than three exposed threads.  
3. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C841.  
4. Wire: ASTM A641, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter, unless otherwise indicated.  

D. Base Coat Plaster Materials  
2. High Strength Gypsum Neat Plaster: With a minimum, average, dry compressive strength of 2,800 psi per ASTM C472 for a mix of 100 pounds of plaster and 2 cu. ft. of sand.  

E. Finish Coat Plaster Materials  
2. Lime: ASTM C206, Type S, special finishing hydrated lime.  

2.02 PLASTER MIXES  
A. Mixing: Comply with ASTM C842 and manufacturer’s written instructions for applications indicated.  

PART 3 - EXECUTION  

3.01 EXAMINATION  
A. Examine nonstructural and structural metal framing, substrates, and hollow metal frames, for compliance with requirements and other conditions affecting performance of the Work.  
B. Proceed with installation only after unsatisfactory conditions have been corrected.  

3.02 PREPARATION  
A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.  

3.03 INSTALLING EXPANDED METAL LATH  
A. Expanded Metal Lath: Install according to ASTM C841.
3.04 INSTALLING ACCESSORIES

A. General: Install according to ASTM C841.

B. Cornerbeads: Install at external corners.

C. Casing Beads: Install at terminations of plasterwork, except where plaster passes behind and is concealed by other work and where metal screeds, bases, or frames act as casing beads.

D. Control Joints: Install control joints at locations indicated on Drawings.

3.05 PLASTER APPLICATION

A. General: Comply with ASTM C842.
   1. Do not deviate more than plus or minus 1/8-inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
   2. Grout hollow metal frames, bases, and similar work occurring in plastered areas, with base coat plaster material, before lathing where necessary. Except where full grouting is indicated, grout at least 6 inches at each jamb anchor.
   3. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
   4. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

B. Base Coats over Expanded Metal Lath: High strength gypsum plaster with job-mixed sand for scratch coats.

C. Finish Coat Mix for Smooth Troweled Finishes: Gypsum Keene’s cement.

D. Plaster Finish: Provide troweled finish, unless otherwise indicated.

E. Concealed Plaster
   1. Where plaster application will be concealed behind built-in cabinets, similar furnishings, and equipment, apply finish coat.
   2. Where plaster application will be concealed above suspended ceilings and in similar locations, finish coat may be omitted.

3.06 PLASTER REPAIRS

A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.
3.07 CLEANING AND PROTECTION

A. Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Patching of existing gypsum board attached to framing and furring members, joint treatment, and accessories.

B. Products Installed but not Furnished under this Section
   1. Acoustical sealant as specified in Section 07 92 00.

C. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

D. Related Sections
   1. Section 05 45 00 - Metal Support Assemblies: Provision of metal support assemblies.
   2. Section 07 92 00 - Joint Sealants: Provision of caulking and sealants.
   3. Section 09 30 00 - Tiling: Provision of ceramic tile.
   4. Section 09 90 00 - Painting and Coating: For finish painting.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials
   5. C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.


C. GA - Gypsum Association
   1. 201 - Using Gypsum Board for Walls and Ceilings
   2. 216 - Application and Finishing of Gypsum Board.

D. UL - Underwriters Laboratories Inc.
1.03 SYSTEM DESCRIPTION

A. Design Requirements: Where indicated, provide materials and construction which are identical to those assemblies whose fire resistance rating has been determined in accordance with ASTM E119 by a testing and inspecting organization acceptable to authorities having jurisdiction.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer’s product data. Include the following:
   1. Fire Resistance Data: Include required fire test results for gypsum board systems on partitions, ceilings and columns. Correlate with supporting steel framing details.
   2. Sound Transmission Data: Include certified evidence that installed gypsum board systems and materials meet required STC levels.

1.05 QUALITY ASSURANCE

A. Fire Test Response Characteristics: Where fire resistance rated gypsum board assemblies are indicated, provide gypsum board assemblies that comply with the following requirements:
   1. Fire Resistance Ratings: Design designations in UL FRD as indicated on the Drawings.
   2. Gypsum board assemblies indicated are identical to assemblies tested for fire resistance according to ASTM E119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.01 MANUFACTURERS


2.02 MATERIALS

A. Typical Gypsum Board: Fire rated board for fire resistance rated assemblies, ASTM C36, Type X, tapered edges, 48 inches wide, 5/8-inch thick.

B. Fasteners
   1. Screws: ASTM C1002, Type “S” steel drill screws for fastening gypsum board to gypsum board, and metal framing members.
   2. Tie Wire: ASTM A641, Class 1 zinc coating, soft temper, minimum 0.0516-inch thick (18 gauge) diameter wire.
   3. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

C. Accessories

D. Joint Treatment Materials: Products of one manufacturer conforming to ASTM C475, ASTM C840 and recommendations of manufacturer of both gypsum board and joint treatment materials for application indicated. Conform to GA 201 and GA 216 for reinforcing tape, joint compound and water.
   1. Joint Tape: Cross-laminated, tapered edge, reinforced paper or fiber glass mesh tape as recommended by setting type joint compound manufacturer.
   2. Setting Type Joint Compound: Factory prepackaged, job mixed, chemical hardening powder products formulated for uses indicated or factory premixed product.

E. Joint System for Unrestrained Floor Assembly: Provide vinyl, dry, or premixed joint compound, applied in 2 coats to joints and screw heads, paper type, 2 inches wide, embedded in first layer of compound over all joints.

F. Acoustical Sealant: As specified in Section 07 92 00.

2.03 FINISHES

A. Levels of Gypsum Board Finish
   1. Level 1
      a. Ceiling Plenum Areas, Concealed Areas and Where Indicated: All joints and interior angles shall have tape embedded in joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable.
   2. Level 2 - Not Used
   3. Level 3 - Not Used
   4. Level 4 - Not Used
   5. Level 5
      a. Areas to Receive Gloss, Semi-Gloss, Enamel or Nontextured Flat Paints, Where Severe Lighting Conditions Occur, and Where Indicated: All joints and interior angles shall have tape embedded in joint compound and 3 separate coats of joint compound applied over all joints, angles, fastener heads and accessories. A thin skim coat of joint compound or a material manufactured especially for this purpose, shall be applied to entire surface. Surface shall be smooth and free of tool marks and ridges.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Gypsum Board
   1. Install and finish gypsum board to comply with ASTM C840 or GA 216.
      a. Single Layer: Install in accordance with ASTM C840, except as amended or required by specific fire resistive or sound isolation system detailed. In that instance, application shall conform to requirements of the manufacturer’s tests as reviewed and accepted in the submittal. Apply in vertical direction with ends and edges falling on supports and fasten with screws.
b. In vertical applications, gypsum board shall be of length required to reach full height of vertical surfaces in one continuous piece.

2. Position boards so that like edges abut, tapered edges against tapered edges and field cut ends against field cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.

3. Start installation of panels at exterior wall to position butt joints as far away from exterior wall as possible.

B. Fire Resistant Assemblies: Wherever fire rated gypsum board construction is indicated, provide materials and installation methods, including types and spacing of fasteners, in accordance with CBC. Apply firestopping at top of wall and at penetrations through fire resistant assembly.

C. Sound Retardant Installations: Follow manufacturer’s directions and specifications for conditions of installation. Install where indicated. Include around all Toilet Rooms, whether indicated or not.

1. Wrap with insulation and seal electrical or other outlets in sound isolating partitions.

2. Install sealant to completely fill void between gypsum board edges and adjacent surface.

D. Fastenings: Attach gypsum board to framing with screws, lengths and sizes as recommended by manufacturer and in accordance with CBC.

E. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, or furring members), comply with gypsum board manufacturer’s written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

F. Accessories

1. Install resilient channels in accordance with manufacturer’s written instructions.

2. Install corner beads at vertical and horizontal external corners.

3. Install casing beads whenever edge of gypsum board would otherwise be exposed or semi-exposed, or where abutting dissimilar materials.

4. After accessories are installed, correct surface damage and defects.

5. Install trims and expansion joints where required.

G. Allowable Tolerances

1. Offset Between Planes of Board Faces: 1/16-inch.

2. Plane, Level, Warp and Bow: 1/8-inch in 8 feet-0 inches.

3. Shim panels as necessary to comply with tolerances.

3.02 FINISHING OF GYPSUM BOARD

A. Apply joint treatment at gypsum board joints; flanges of corner bead, edge trim and penetrations, fastener heads and surface defects in accordance with ASTM C840 or GA 216. Number of coats of treatment shall be as specified above.

B. Apply joint tape at joints between gypsum boards.
C. Finish interior gypsum board by applying the number of coats of treatment as specified above. Sand between coats and after last coat.

D. Finish Painting: As specified in Section 09 90 00.

E. Sealant
   1. Seal openings around pipes, fixtures and other items projecting through gypsum board as specified in Section 07 92 00.
   2. Apply sealant material with exposed surface flush with gypsum board.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Ceramic tile.
   2. Setting beds, flashing, grouts, and accessories as required for complete tile installation.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Section
   1. Section 09 29 00 - Gypsum Board: Provision of water resistant gypsum board and cementitious backer units.

1.02 REFERENCES

A. ANSI - American National Standards Institute
   2. A108.4 - Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile Setting Epoxy Adhesive.
   5. A118.5 - Chemical Resistant Furan Mortars and Grouts for Tile Installation.
   6. A118.6 - Specifications for Ceramic Tile Grouts.

B. ASTM - American Society for Testing and Materials
   1. A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.

C. TCNA - Tile Council of North America

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each type of product specified.

B. Samples: Submit samples for initial selection purposes in form of manufacturer’s color charts consisting of actual tiles or sections of tile showing full range of colors, textures, and patterns available for each type and composition of tile indicated. Include samples of grout and accessories involving color selection.
1.04 MAINTENANCE

A. Extra Materials: Deliver extra materials to the District. Furnish extra materials that match products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.

B. Tile and Trim Units: Furnish quantity of full size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers
   1. Ceramic Tile: Daltile, or equal.
   2. Tile Setting and Grouting Materials: Custom Building Products; Daltile Corp.; Laticrete International, Inc., or equal.

2.02 MATERIALS

A. Tile Materials
   1. Colors, Textures, and Patterns: As selected by the Architect from manufacturer’s full range of standard colors, textures, and patterns for products of type indicated, with minimum 0.6 percent coefficient of friction.
   2. Tile Grade: Standard Grade, unless otherwise indicated.
   3. Unglazed Ceramic Floor Tile
      a. Factory mounted flat tile.
      b. Size: 12 inches by 12 inches by 3/8-inch thick.
      c. Composition: Porcelain with abrasive admixture.
      d. Face: Plain with cushion edges.
   4. Glazed Ceramic Wall Tile
      a. Size: As indicated on the Drawings.
      b. Composition: Porcelain.
      c. Face: Plain with modified square edge or cushion edge.
   5. Cove Base and Trim Shapes: Same material, size, color, and texture as field tile.

B. Waterproof Membrane: 15 pound roofing felt or 4-mil polyethylene film.

C. Setting Bed Materials
   2. Chemical-Resistant Furan Mortar: ANSI A118.5, with carbon filler, unless otherwise indicated.
7. Water: Potable, free from impurities detrimental to tile work.
8. Sealer: As recommended by tile supplier.

2.03 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with requirements of referenced standards and manufacturers including those for accurate proportioning of materials, water, or additive content; type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortars and grouts of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.01 PREPARATION

A. Blending: For tile exhibiting color variations within the ranges selected during sample submittals, verify that tile has been blended in factory and packaged accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.02 INSTALLATION, GENERAL

A. ANSI Tile Installation Standard: Comply with parts of ANSI 108 series of tile installation standards included under “American National Standard Specifications for the Installation of Ceramic Tile” that apply to type of setting and grouting materials and methods indicated.


C. Extend tile work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions except as otherwise shown. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so that plates, collars, or covers overlap tile.

E. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths unless otherwise shown.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so that extent of each sheet is not apparent in finished work.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

F. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw cut joints after installation of tiles.
   1. Locate joints in tile surfaces directly above joints in concrete substrates.

G. Grout tile to comply with the requirements of the following installation standards
   1. For ceramic tile grouts and latex portland cement grouts, comply with ANSI A108.10.
   2. Seal grout joints at time of completion.

3.03 WATERPROOFING

A. Install waterproofing in compliance with waterproofing manufacturer’s instructions to produce a waterproof membrane of uniform thickness bonded securely to substrate.

B. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

3.04 FLOOR INSTALLATION METHODS

A. Installation of Thick-Set Ceramic Tile Over Bond Coat Over Mortar Bed with Reinforcing Over Waterproof Membrane Over Concrete Subfloor: Install tile to comply with TCNA installation method F121.
   1. Tile: ANSI A108.1A, 1B, or 1C.

3.05 WALL TILE INSTALLATION METHODS

A. Installation of Interior Ceramic Tile Over Adhesive Over Cementitious Backer Units Over Metal or Wood Studs: Install tile to comply with TCNA installation method W413.

3.06 CLEANING AND PROTECTION

A. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
   1. Remove latex portland cement grout residue from tile as soon as possible.
   2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer’s printed instructions, but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
      a. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to brick and grout manufacturer. Trap and remove coating to prevent it from clogging drains.
   3. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.
   4. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer that ensures that tile is without damage or deterioration at time of Substantial Completion.
a. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
b. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.

5. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

SECTION 09 65 00

RESILIENT FLOORING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Flexible terrazzo tile.
   2. Rubber wall base.
   3. Stair treads.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 07 92 00 - Joint Sealants: Provision of caulking.
   2. Section 09 97 25 - Vapor Emission Treatment Systems: Provision of vapor emission treatment system, as required.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials
   9. F710 - Practice for Preparing Concrete Floors and Other Monolithic Floors to Receive Resilient Flooring.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each type of product specified.
B. Samples: Submit samples for initial selection purposes in form of manufacturer’s color charts consisting of actual sections of flexible tile, rubber bases, and resilient stair accessories showing full range of colors and patterns available for each different product indicated.

C. Quality Control Submittals
   1. Certificates: Submit certification by manufacturer that products supplied for installation comply with local regulations controlling use of volatile organic compounds (VOC’s).
   2. Installer certificates signed by floor covering manufacturer certifying that Installers comply with requirements specified under “Quality Assurance” article.


1.04 QUALITY ASSURANCE

A. Installer Qualifications
   1. Engage installer that is an established firm, experienced in the installation of the specified product and shall have access to all manufacturer’s required technical, maintenance, specifications, and related documents.
   2. Installer shall have completed at least 3 projects of similar magnitude, material, and complexity. Installer shall provide 3 reference projects including contact names and telephone numbers.
   3. Installer shall have a factory trained mechanic on site to supervise the entire installation.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Acceptance at Site: Deliver flexible tile, rubber bases, and resilient stair and installation accessories to Project site in original manufacturer’s unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.

B. Storage and Protection
   1. Store flooring materials in dry spaces protected from the weather with ambient temperatures maintained between 50 degrees Fahrenheit and 90 degrees Fahrenheit.
   2. Store resilient flooring on flat surfaces. Move resilient flooring and installation accessories into spaces where they will be installed at least 48 hours in advance of installation.

1.06 PROJECT CONDITIONS

A. Environmental Requirements
   1. Maintain a minimum temperature of 70 degrees Fahrenheit in spaces to receive resilient flooring materials for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. After this period, maintain a temperature of not less than 55 degrees Fahrenheit.
2. Do not install resilient flooring materials until they are at the same temperature as the space where they are to be installed.
3. Close spaces to traffic during resilient flooring materials installation.

1.07 SEQUENCING AND SCHEDULING

A. Install resilient flooring materials and accessories after other finishing operations, including painting, have been completed.

B. Sequence installing products specified in this Section with other construction to minimize possibility of damage and soiling during remainder of construction period.

C. Do not install resilient flooring materials over concrete slabs or gypsum underlayment until the slabs have cured and are sufficiently dry to bond with adhesive as determined by resilient flooring manufacturer’s recommended bond and moisture tests.

1.08 WARRANTY

A. Special Warranty: Manufacturer’s standard form, in which manufacturer agrees to repair or replace components of flexible terrazzo tile flooring systems that fail in materials or workmanship within specified warranty period.
   1. Warranty Period: 20 years from date of Substantial Completion.

1.09 MAINTENANCE

A. Extra Materials: Deliver extra materials to the District. Furnish extra materials matching products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
   1. Furnish 1 box of each class, wearing surface, color, pattern, and size of resilient floor tile installed.
   2. Furnish 50 linear feet in roll form of each different composition, wearing surface, color, and pattern of wall base and resilient stair accessory installed.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers
   1. Flexible Terrazzo Tile: Fritztile, or equal.
   2. Wall Base: Burke. No substitutions.

2.02 MATERIALS

A. Flexible Terrazzo Tile: Provide resilient tile with the following physical properties:
   1. Thickness: As indicated on the Drawings.
   2. Size: 11.92 inches by 11.92 inches.
   3. Abrasive Wear: ASTM F510, resistance to abrasion (1000 gram load at 500 cycles); volume loss/cm3 0.0196.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

4. Coefficient of Friction:  Slip resistance, ASTM D2047, 0.70 - 0.74 average.
5. Thermal Expansion:  ASTM D696, coefficient of linear thermal expansion between minus 30 degrees Centigrade and 30 degree Centigrade, 1.3x10 (-5).
6. Compressive Strength:  ASTM C109/D695, approximately 2,900 to 5,000 psi.
7. Flame-Resistance:  ASTM D648, critical radiant flux, 0.93 watts/cm - Class 1, ASTM E662, smoke generated, NBS smoke density (smoldering 231.76, flaming 292.05) average DMC, ASTM E84.
8. Chemical Resistance:  ASTM F925, resistance to chemicals, no change on surface attack, color change or swelling.
10. Style and Color:  As selected by the Architect.

B. Rubber Wall Base:  Products complying with ASTM F1861.
   1. Style:  Cove with top-set toe.
   3. Height:  6 inches, unless otherwise indicated.
   4. Lengths:  Coils in lengths standard with manufacturer but not less than 100 feet.
   5. Interior and Exterior Corners and Ends:  Premolded.
   6. Color:  As selected by the Architect.
   7. Product:  Burke, “Type TS”.

C. Stair Treads:  Match existing.

D. Sealant:  Silicone sealant as specified in Section 07 92 00.

2.03 INSTALLATION ACCESSORIES

A. Concrete Slab Primer:  Nonstaining type as recommended by flooring manufacturer.

B. Trowelable Underlayments and Patching Compounds:  Latex modified, portland cement based formulation provided or approved by resilient flooring manufacturer for applications indicated.

C. Adhesives (Cements):  Waterproof type recommended by resilient flooring manufacturer to suit resilient flooring products and substrate conditions indicated and compatible with vapor emission treatment systems, if used.

D. Sealant:  Acrylic latex silicon sealant as specified in Section 07 92 00.  When adjacent materials are different colors, notify the Architect which caulk color to use.

E. Waterproof Adhesive:  As recommended by flooring manufacturer.  Adhesive shall be compatible with vapor emission treatment system specified in Section 09 97 25.

F. Metal Edge Strips:  Extruded aluminum with mill finish of width shown, of height required to protect exposed edge of resilient floor coverings and in maximum available lengths to minimize running joints.
PART 3 - EXECUTION

3.01 EXAMINATION

A. General: Examine areas where installation of products specified in this Section will occur, with installer present, to verify that substrates and conditions are satisfactory for resilient flooring installation and comply with manufacturer’s requirements and those specified in this Section.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F710 and the following:
   1. Slab substrates are dry and free of curing compounds, sealers, hardeners and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by flooring manufacturer.
   2. Subfloors are free of cracks, ridges, depressions, scale and foreign deposits of any kind.

3.02 PREPARATION

A. General: Comply with manufacturers’ installation specifications to prepare substrates indicated to receive resilient flooring accessories.

B. Use trowelable leveling and patching compounds per manufacturer’s directions to fill cracks, holes and depressions in substrates.

C. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil or silicone, by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.

D. Broom or vacuum clean substrates to be covered by resilient flooring immediately before installation. Following cleaning, examine substrates for moisture, alkaline salts, carbonation or dust.

E. The General Contractor shall be responsible for acceptability of moisture emission of concrete.
   1. Before installing resilient flooring, concrete slab shall be tested for moisture emission, as specified in Section 09 97 25. The test shall be conducted around the perimeter of each room, at columns and where moisture may be evident. A diagram of the areas showing the locations and results of each calcium chloride test shall be submitted to the Architect. At each area where the moisture emission exceeds 3.5 pounds per 1,000 square feet per 24 hours, a sealant shall be applied as recommended by the flooring manufacturer.

F. Apply concrete slab primer, if recommended by flooring manufacturer, prior to applying adhesive. Apply according to manufacturer’s directions.
3.03 INSTALLATION

A. General: Comply with manufacturers’ installation directions and other requirements indicated that are applicable to each type of installation included in Project.
1. Apply waterproof adhesive in accordance with manufacturer’s instructions.

B. Flexible Terrazzo Tile Flooring Installation: As indicated on the Drawings and according to manufacturer’s written installation instructions.

C. Resilient Wall Base Installation
1. Apply resilient wall base to walls, columns, pilasters, casework, and other permanent fixtures in rooms and areas where base is required. Install wall base in lengths as long as practicable. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
   a. Install inside and exterior premolded corners before installing straight pieces.
2. Place resilient accessories so they are butted to adjacent materials of type indicated and bond to substrates with adhesive. Install reducer strips at edges of flooring that otherwise would be exposed.

D. Stair Accessories Installation: Apply resilient accessories to stairs as indicated and according to manufacturer’s installation instructions.

3.04 CLEANING AND PROTECTION

A. Perform the following operations immediately after completing installation:
1. Remove visible adhesive and other surface blemishes using cleaner recommended by manufacturers.
2. Sweep or vacuum floor thoroughly.
3. Do not wash floor until after time period recommended by manufacturer.
4. Damp-mop resilient flooring and accessories to remove black marks and soil.

B. Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods indicated or recommended by resilient flooring manufacturer.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Carpet tile.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Section
   1. Section 09 97 25 - Vapor Emission Treatment Systems: Provision of vapor emission treatment system, as required.

1.02 REFERENCES

A. ADA - Americans with Disabilities Act

B. ASTM - American Society for Testing and Materials

C. CRI - Carpet and Rug Institute
   1. 104 - Standard for Installation of Commercial Carpet.

D. DOC - Department of Commerce
   1. FF 1-70 - Methenamine Pill Test.

E. EPA - Environmental Protection Agency

F. FCICA - Floor Covering Installation Contractors Association

G. HUD - U. S. Department of Housing and Urban Development
   1. Use of Materials Bulletin UM-44C.
   2. Certified Products Directory.

H. NFPA - National Fire Protection Association

I. UL - Underwriters Laboratories Inc.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each type of carpet material and installation accessory required. Submit written data on physical characteristics, durability, resistance to fading, and flame resistance characteristics.

B. Shop Drawings: Submit shop drawings showing layout and seaming diagrams. Indicate pile or pattern direction and locations and types of edge strips. Indicate columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Show installation details at special conditions.

C. Samples
   1. Submit three 12-inch square samples of each carpet type illustrating color, weave, texture, and pattern.
   2. Submit manufacturer’s full range of color selections for carpet edge strips.

D. Contract Closeout Submittals: Include the following information in maintenance manuals:
   1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer’s recommended maintenance schedule.
   2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.04 QUALITY ASSURANCE

A. Qualifications
   1. Manufacturer: Firm whose carpet materials comply with “Use of Materials Bulletin UM-44C” published by HUD and are currently listed in HUD “Certified Products Directory” and so identified by imprint on back of carpet.
   2. Installer: An experienced installer who is certified by FCICA or who can demonstrate compliance with its certification program requirements.

B. Regulatory Requirements
   1. Carpet floor coverings shall have minimum critical radiant flux limit of 0.22 watts/cm² when tested in accordance with NFPA 253. Such rating shall be maintained for distance of 5 feet on all sides of fire door except as otherwise prohibited by building design and construction.
   2. Carpet Surface Burning Characteristics: Provide carpet identical to that tested for the following fire performance characteristics, per test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify carpet with appropriate markings of applicable testing and inspecting organization.
   3. NBS Smoke Chamber Test: Exceed test requirements with maximum specific optical density of 350 or less in the flaming mode.
   4. Striping for Visually Impaired: Conform to ADA requirements for strip of clearly contrasting color at least 2 inches wide placed parallel to and not more than 1 inch from nose of upper approach and lower tread of each stair.
   5. Carpet pile height shall meet requirements of ADA.
1.05 DELIVERY, STORAGE AND HANDLING

A. Acceptance at Site: Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.

B. Storage and Protection: Store materials in original undamaged packages and containers, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, blocked off ground. Maintain minimum temperature of 68 degrees Fahrenheit at least 3 days prior to and during installation in area where materials are stored.

1.06 PROJECT CONDITIONS

A. Substrate Conditions: No condensation within 48 hours on underside of 4 feet by 4 feet polyethylene sheet, fully taped at perimeter to substrate.

B. Substrate Conditions: pH of 9 or less when substrate wetted with potable water and pHydron paper applied.

C. Environmental Limitations: Comply with CRI 104, Section 6.1. Do not install carpet tile until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

D. Where demountable partitions or other items are indicated for installation on top of carpet, install carpet before installing these items.

1.07 WARRANTY

A. Unless otherwise noted, manufacturer’s 15 years written warranty for new carpet tiles or 7 years for reprocessed re-used carpet tiles. Warranty shall be submitted to the District against product failure covering both labor and material in the following areas:
   1. Edge ravel.
   2. Secondary back adhesion.
   3. Average 20 pounds tuft bind.
   4. No more than 10 percent face yarn loss.
   5. Static control protection.

1.08 MAINTENANCE

A. Extra Materials
   1. Deliver extra materials to the District. Furnish extra materials matching products installed as described below, packaged with protective covering for storage and identified with labels describing contents.
   2. Carpet Tile: Full-size units equal to 3 percent of amount installed for each type indicated, but not less than 6 sq. yd.
PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Acceptable Manufacturer: Collins & Aikman; InterfaceFLOR, or equal.

2.02 MATERIALS

A. Carpet Tile
   1. Type: Recycled composition.
   2. Tile Size: As indicated.
   3. Static Control: Less than 3.5 KV at 70 degrees F and 20 percent RH.
   4. Flammability: NBS smoke chamber NFPA 258, less than 450 flaming mode.
   5. Flooring Radiant Panel: Meets NFPA Class 1 when tested in accordance with ASTM E648.
   6. Odor Emissions: Carpet shall be void of 4--phenylcyclohexene, a by-product of SBR latex.
   7. VOC Limits: Provide carpet tile that complies with the following limits for VOC content when tested according to ASTM D5116.
      a. Total VOCs: 50 g/L.
      b. 4-PC (4-Phenylcyclohexene): 0.05 mg/sq. m x h.
      c. Formaldehyde: 0.05 mg/sq. m x h.
      d. Styrene: 0.4 mg/sq. m x h.
   8. Carpet shall economically maximize the following appearance retention characteristics:
      a. Minimize crushing and matting.
      b. Manage dry soil concerns and ease of maintenance.
      c. Manage staining.
      d. Eliminate seam failure and unravelling.
      e. Eliminate moisture exposure concerns.
      f. Minimize loss of coloration and fading.
   9. Style and Color: As selected by the Architect.

2.03 ACCESSORIES

A. Vinyl Transition Strip: Vinyl, as indicated.

B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.
   1. VOC Limits: Provide adhesives that comply with the following limits for VOC content when tested according to ASTM D5116.
      a. Total VOCs: 50 g/L.
      b. Formaldehyde: 0.05 mg/sq. m x h.
      c. 2-Ethyl-1-Hexanol: 3.00 mg/sq. m x h.
PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine concrete flooring before installing carpeting. Surfaces to receive carpet materials shall be level, plumb, true and clean, free of projections, ridges and waves and free of loose dirt and dust, grease, oil and other deleterious materials such as resin type curing compounds, paint glue and similar materials. Concrete shall be cured with no moisture to affect carpet.

B. The General Contractor shall be responsible for acceptability of moisture emission of concrete.
   1. Before installing carpeting, concrete slab shall be tested for moisture emission, as specified in Section 09 97 25. The test shall be conducted around the perimeter of each room, at columns and where moisture may be evident. A diagram of the areas showing the locations and results of each calcium chloride test shall be submitted to the Architect. At each area where the moisture emission exceeds 3.5 pounds per 1,000 square feet per 24 hours, a sealant shall be applied as specified in Section 09 97 25.

3.02 PREPARATION

A. General: Comply with CRI 104, Section 6.2, “Site Conditions; Floor Preparation”, and carpet tile manufacturer’s written installation instructions for preparing substrates indicated to receive carpet tile installation.

B. Clear away debris and scrape up cementitious deposits from concrete surfaces to receive carpet; apply sealer to prevent dusting.

C. Remove coatings, including curing compounds and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone without using solvents. Use mechanical methods recommended in writing by the carpet manufacturer.

D. Use trowelable leveling and patching compounds, according to manufacturer’s written instructions, to fill cracks, holes and depressions in substrates.

E. Seal powdery or porous surfaces with sealer recommended by carpet manufacturer.

F. Broom and vacuum clean substrates to be covered immediately before installing carpet. After cleaning, examine substrates for moisture, alkaline salts, carbonation or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

G. Unwrap and unpack carpet tiles in a well ventilated location prior to installation. Air the carpet tiles out in off-site location such as a ventilated warehouse for at least 2 days prior to installation.

3.03 INSTALLATION

A. General: Comply with CRI 104, Section 13.
B. Carpet shall be installed after building has been painted and subjected to an airing out of at least a week by forced ventilation, with maximum outside air. Contractor shall ensure construction involving high VOCs and other pollutant will be completed before the airing out.

C. Installation Method: Glue down; install every tile with full-spread, releasable, pressure-sensitive adhesive.

D. Comply with manufacturer’s recommendations for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position; do not place seams perpendicular to door frame, in direction of traffic through doorway. Do not bridge building expansion joints with continuous carpet.

E. Extend carpet under removable flanges and furnishings and into alcoves and closets of each space.

F. Provide cutouts where required, and bind cut edges where not concealed by protective edge guards or overlapping flanges. Maintain reference markers, holes and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.

G. Install carpet edge guard where edge of carpet is exposed; anchor guards to substrate.

H. Install with pattern parallel to walls and borders, unless otherwise indicated.

I. Do not bridge building expansion joints with carpet.

J. Observe CRI and EPA carpet air-out guidelines.
   1. Continuously operate the building ventilation system at normal temperature and maximum outdoor air during installation and for 72 hours after installation is complete. Avoid recirculating air from the installation area, through the heating, ventilation and air-conditioning system, and into occupied areas. Create a temporary exhaust system using fans, open doorways, stairwells and windows. Seal return air grilles.

K. Provide carpet tiles larger than 1/2 tile to the District as additional material above the 5 percent extra materials specified above.

3.04 CLEANING

A. Remove adhesive from carpet surface with manufacturer’s recommended cleaning agent.


3.05 PROTECTION

A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, to ensure carpet is not damaged or deteriorated at time of Substantial Completion.
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
   1. Tackable acoustical panels at walls.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

1.03 SUBMITTALS

A. Product Data: Submit product data completely describing products.

B. Shop Drawings: Show complete layouts, methods, and details of construction and attachment to adjacent work.

C. Samples
   1. Provide 1 foot square samples of material proposed for use for color selection.
   2. Provide 1 linear foot of each type of extrusion.

D. Quality Assurance Submittals: Submit certificates certifying compliance of acoustical assemblies with requirements.

1.04 QUALITY ASSURANCE

A. Fire Hazard Classification: Class A, in accordance with ASTM E84, Flame Spread 25, Smoke Developed 55.

B. Noise Reduction Coefficient: 1.10 in accordance with ASTM C423.
1.05 WARRANTY

A. General Warranty: The special warranty specified in this Article shall not deprive the District of other rights the District may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Special Warranty: Submit a written warranty, executed by the manufacturer, agreeing to repair or replace components of acoustical wall panel system that fail in materials or workmanship within the specified warranty period.

C. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS


2.02 TACKABLE ACOUSTICAL WALL PANEL SYSTEM

A. Provide a complete system, including trim, accessories and anchoring, consisting of textile wrapped over acoustical core.

2.03 MATERIALS

A. Fabric
   1. Fire Hazard Classification: Independently tested as Class A with a flame spread index of less than 25 and smoke developed of less than 55 per ASTM E84.
   2. The fabric shall be of a fiber content and locking weave so as not to be affected by heat or humidity for the life of the installation.
   3. The fabric shall be treated with soil retardant to extend usable life as recommended by the manufacturer.
   4. Pattern: As manufactured by Maharam, “Parallel 901180”, or equal.
   5. Color: As selected by the Architect.

B. Acoustical Core: 2-1/8 inch thick, rigid 6-7 pcf density glass fiber core with 1/8-inch thick face sheet of 10-12 pcf glass mat thermally bonded to the base core finish surface.
   1. Edges shall be resin hardened.

C. Fabric shall fully wrap all edges and return to the back with all corners fully tailored.

D. Perimeter Trim: Full depth, full perimeter clear anodized aluminum profile with mitered and concealed mechanically connected corners.

E. Mounting: Concealed clip mounting as detailed.
PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine the condition of the substrate and the conditions under which the work of this Section is to be performed. Notify the Contractor in writing of any unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner satisfactory to the installer.

B. Field measure each area that is to receive the wall panel system to establish the correct layout.

3.02 INSTALLATION

A. Install materials in accordance with manufacturer’s instructions, and comply with governing regulations, fire resistance rating requirements, as indicated, and industry standards applicable to the work.

B. Examine panels as they are installed for damage, imperfections, and soiling. Notify other trades to use care in working around the installed panels so as not to soil or damage the surface.

3.03 CLEANING AND PROTECTION

A. Clean exposed surfaces of wall panels as necessary. Comply with manufacturer’s instructions for cleaning and repair of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

B. The Installer shall advise the Contractor of required protection, including soiling from other trades and dust control, so that the work will be without damage and deterioration at the time of acceptance by the District.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Surface preparation, painting and finishing of designated exposed interior and exterior items and surfaces.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 05 50 00 - Metal Fabrications: For shop priming ferrous metal.
   2. Section 06 20 00 - Finish Carpentry: Provision of finish carpentry.
   5. Section 08 14 16 - Flush Wood Doors: Provision of flush wood doors.
   7. Section 08 71 00 - Door Hardware: Provision of door hardware.
   8. Section 09 23 00 - Gypsum Plastering: Provision of gypsum plasterwork on expanded metal lath.
   9. Section 09 29 00 - Gypsum Board: Provision of gypsum board.

1.02 REFERENCES

A. FM - Factory Mutual

B. UL - Underwriters Laboratories Inc.

1.03 DEFINITIONS

A. “Paint”: As used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, and other applied materials whether used as prime, intermediate or finish coats.

1.04 SYSTEM DESCRIPTION

A. Performance Requirements
   1. Paint exposed surfaces whether or not colors are designated in the schedules, except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.
2. Painting is not required on prefinished items, finished metal surfaces, concealed surfaces, operating parts and labels.
3. Do not paint over UL, FM, or other code required labels or equipment name, identification, performance rating or nomenclature plates.

1.05 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each paint system specified, including primers.
   1. Provide manufacturer’s technical information including label analysis and instructions for handling, storage and application of each material proposed for use.
   2. List each material and cross reference the specific coating, finish system and application. Identify each material by the manufacturer’s catalog number and general classification.

B. Samples
   1. Following the selection of colors and glosses by the Architect, submit samples for the Architect’s review.
      a. Provide 3 samples of each color and each gloss for each material on which the finish is specified to be applied.
      b. Except as otherwise directed by the Architect, make samples approximately 8 inches by 10 inches in size.
      c. If so directed by the Architect, provide field mock-ups during progress of the Work in the form of actual application of the materials on actual surfaces to be painted for approval by the Architect. Areas shall be 10 feet by 10 feet.
   2. Revise and resubmit each sample or field mock-up as requested until the required gloss, color and texture are achieved. Such samples or field mock-ups, when approved, will become standards of color and finish for accepting or rejecting the work of this Section.
   3. Do not commence finish painting until approved samples are on file at the job site.

C. Quality Control Submittals: Provide certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

1.06 QUALITY ASSURANCE

A. Provide primers and undercoat paint produced by the same manufacturer as finish coats.
   1. Review other Sections of these Specifications as required, verifying the prime coats to be used and assuring compatibility of the total coating system for the various substrates.
   2. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used.
   3. Provide barrier coats over non-compatible primers, or remove the primer and re-prime as required.
   4. Notify the Architect in writing of anticipated problems in using the specified coating systems over prime coatings supplied under other Sections.
1.07 MAINTENANCE

A. Upon completion of the work of this Section, deliver to the District an extra stock equaling 10 percent of each color, type and gloss of paint used in the Work; tightly sealing each container, and clearly labeling with contents and location where used.

PART 2 - PRODUCTS

2.01 MANUFACTURERS


2.02 PAINT MATERIALS

A. Paint Materials, General: Provide primers, finish coat materials, and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer, based on testing and field experience.

B. Material Quality: Provide manufacturer’s best quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer’s product identification will not be acceptable.

2.03 APPLICATION EQUIPMENT

A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of the particular paint, and as approved by the Architect.

B. Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that integrity of the finish will not be jeopardized by use of the proposed equipment.

2.04 OTHER MATERIALS

A. Provide other materials not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 PREPARATION

A. Surface Preparation

1. General

a. Perform preparation and cleaning procedures in strict accordance with the paint manufacturers’ recommendations as approved by the Architect.

b. Remove removable items which are in place and are not scheduled to receive paint finish; or provide surface applied protection prior to surface preparation and painting operations.
c. Following completion of painting in each space or area, reinstall the removed items by using workmen who are skilled in the necessary trades.
2. Clean each surface to be painted prior to applying paint or surface treatment.
3. Remove oil and grease with clean cloths and cleaning solvent of low toxicity and flash point in excess of 200 degrees Fahrenheit prior to start of mechanical cleaning.
4. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.

B. Preparation of Metal Surfaces
1. Thoroughly clean surfaces until free from dirt, oil and grease.
2. On galvanized surfaces, use solvent for the initial cleaning, and then treat the surface thoroughly with the phosphoric acid etch. Remove etching solution completely before proceeding.
3. Allow to dry thoroughly before application of paint.

3.02 PAINT APPLICATION

A. General
1. Touch-up shop-applied prime coats which have been damaged, and touch-up bare areas prior to start of finish coats application.
2. Slightly vary the color of succeeding coats.
   a. Do not apply additional coats until the completed coat has been inspected and approved.
   b. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.
3. Sand and dust between coats to remove defects visible to the unaided eye from a distance of 5 feet.
4. On removable panels and hinged panels, paint the back sides to match the exposed sides.

B. Drying
1. Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suite adverse weather conditions.
2. Consider oil base and oleo-resinous solvent-type paint as dry for re-coating when the paint feels firm; does not deform or feel sticky under moderate pressure of the thumb, and when the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

C. Brush Applications
1. Brush out and work the brush coats onto the surface in an even film.
2. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness and other surface imperfections will not be acceptable.

D. Spray Application
1. Except as specifically otherwise approved by the Architect, confine spray application to metal framework and similar surfaces where hand brush work would be inferior.
2. Where spray application is used, apply each coat to provide the hiding equivalent of brush coats.
3. Do not double back with spray equipment to build up film thickness of 2 coats in 1 pass.

E. For completed work, match the approved samples as to texture, color and coverage. Remove, refinish or repaint work not in compliance with the specified requirements.

F. Miscellaneous Surfaces and Procedures
1. Exposed mechanical items:
   a. Finish electric panels, access doors, conduits, pipes, ducts, grilles, registers, vents and items of similar nature to match the adjacent wall and ceiling surfaces, or as directed.
   b. Paint visible duct surfaces behind vents, registers, and grilles flat black.
   c. Wash metal with solvent, prime and apply 2 coats of alkyd enamel.
2. Exposed pipe and duct insulation:
   a. Apply 1 coat of latex paint on insulation which has been sized or primed under other Sections; apply 2 coats on such surfaces when unprepared.
   b. Match color of adjacent surfaces.
   c. Remove band before painting, and replace after painting.
3. Hardware:
   a. Paint prime coated hardware to match adjacent surfaces;
   b. Paint metal portions of head seals, jamb seals, and astragal seals to match the color of the door frame unless otherwise directed by the Architect.
4. Exposed Vents: Apply 2 coats of heat resistant paint approved by the Architect.

3.03 INTERIOR PAINTING SCHEDULE

A. Concrete Ceilings and Walls
1. Eggshell Finish: 2 finish coats where indicated. No primer necessary if surfaces are adequately scarified.
   a. First and Second Coats
      1) 100 percent acrylic eggshell enamel featuring low odor and zero VOC, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils.
      2) Product: Kelly Moore, “Enviro-Coat 1510”, or equal.

B. Gypsum Board
1. Eggshell Finish: 2 finish coats over a primer where indicated.
   a. Primer
      1) Latex based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
      2) Product: As selected by the Architect.
   b. First and Second Coats
      1) Low luster eggshell, acrylic-latex based, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.8 mils.
      2) Product: As selected by the Architect.
2. **Semigloss Acrylic Enamel Finish**: 2 finish coats over a primer at “wet areas” and where indicated.
   a. **Primer**
      1) Latex based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
      2) **Product**: As selected by the Architect.
   b. **First and Second Coats**
      1) Semigloss, acrylic latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
      2) **Product**: As selected by the Architect.

C. **Opaque Finish for Wood**
   1. **Semigloss, Acrylic-Enamel Finish**: 2 finish coats over a wood undercoater.
      a. **Undercoat**
         1) Alkyd- or acrylic-based, interior wood undercoater, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
         2) **Product**: As selected by the Architect.
      b. **First and Second Coats**
         1) Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
         2) **Product**: As selected by the Architect.

D. **Ferrous Metal**
   1. **Semigloss, Acrylic Enamel Finish**: 1 finish coat over an enamel undercoat and a primer. Primer is not required on shop-primed items.
      a. **Primer**
         1) Quick drying, rust-inhibitive alkyd based or epoxy metal primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils.
         2) **Product**: As selected by the Architect.
      b. **Undercoat**
         1) Alkyd, interior enamel undercoat or semigloss, acrylic latex, interior enamel, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils.
         2) **Product**: As selected by the Architect.
      c. **Finish Coat**
         1) Semigloss, acrylic latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils.
         2) **Product**: As selected by the Architect.
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REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

E. Galvanized Metal
   1. Semigloss, Acrylic Enamel Finish: 2 finish coats over a primer.
      a. Primer
         1) Galvanized metal primer applied at spreading rate recommended by the
            manufacturer to achieve a total dry film thickness of not less than 1.2
            mils.
         2) Product: As selected by the Architect.
      b. First and Second Coats
         1) Semigloss, acrylic latex interior enamel applied at spreading rate
            recommended by the manufacturer to achieve a total dry film thickness of
            not less than 2.6 mils.
         2) Product: As selected by the Architect.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Vapor control barrier applied to interior areas scheduled to receive moisture sensitive floor coverings not limited to resilient, carpet, resinous/epoxy, wood, rubber and linoleum, as required.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
   1. Section 09 65 00 - Resilient Flooring: Provision of resilient flooring.

1.02 REFERENCES

A. ASTM - American Society for Testing Materials

1.03 SUBMITTALS

A. Product Data: Provide the following
   1. Descriptive Literature: Materials and accessories.
   2. Project References: Similar project completed within 5 years.
   3. Installer: Direct factory/manufacturer employed personnel certificates for each installer.
   4. Field Documents: Manufacturer shall provide written acceptance of on-site conditions, concrete mix design, admixtures, concrete salts, sub-slab vapor retarder, and surface applied contaminates, prior to barrier installations. No exceptions.
B. Quality Assurance Submittals: Provide the following independent test results indicating compliance:
1. ASTM C309 Curing Requirements.
2. ASTM D1308 Alkali Resistance.
3. ASTM C1315 Curing/Sealing Requirements.
4. ASTM C156 Water Retention Level.
5. ASTM D4541 Floor Adhesion Testing.

1.04 QUALITY ASSURANCE

A. Qualifications
1. Manufacturer: Manufacturing history of 10 years and product liability insurance in the amount of $1,000,000 per occurrence.
2. Installer: Manufacturer direct installations by factory employed personnel. No exceptions.

1.05 WARRANTY

A. Manufacturer’s Warranty: Written warranty, signed by manufacturer, agreeing to replace water system that does not comply with requirements or that does not remain watertight during specified warranty period.

B. Warranty shall not exclude concrete salts, admixtures, surface contaminants, or resin and silicate surface treatments. Installations on slab surfaces deems acceptance of on-site conditions. Manufacturer is responsible for complete review of concrete mix designs, admixtures, sub-slab vapor retarder installed, and curing methods, for written acceptance prior to installation.

C. Workmanship and Materials Warranty
1. Manufacturing Defects Warranty Period: 10 years.
2. Installation Defects Warranty: 10 years.
3. Warranty Covering Improper Installations: 10 years.
4. Moisture and Alkalinity Damage to Flooring: 10 years.
5. Manufacturer’s limited warranty shall cover 100 percent of the cost to repair or replace floor coverings damaged by moisture and alkalinity. Coverage shall include:
   a. Installed epoxy based vapor/alkalinity barrier.
   b. Floor covering systems or resinous materials.
   c. Adhesives, patching materials and installation accessories.
   d. All installation labor charges involved.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Products for Basis of Design: Subject to compliance with requirements, provide 1 of the following manufacturer direct installed products: Floor Seal Technology, Inc., “Vapor Seal 309”; Dupont Flooring Systems, or equal.
2.02 MATERIALS

A. Vapor/Alkalinity Barrier: 36 percent modified resin based penetrating barrier, containing specifically formulated chemicals and resins to saturate slab surfaces for seamless vapor/alkali barrier to protect floor coverings from damage.

B. Materials containing water based solutions of sodium, potassium, and lithium silicates do not meet performance levels specified in this Section. Silicate based solutions are chemically reactive and do not meet the intent of ASTM C309. See ASTM documents for verification.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Site Verification of Conditions: Verify that sub-slab vapor retarder meets ASTM E1745 Class A; the concrete water-to-cement ratio maximum of 0.45; sub-soil over vapor retarder is not rained on or saturated, and concrete is not poured during a day of rain.

B. Manufacturer shall accept conditions in writing prior to installation.

3.02 PREPARATION

A. General: Coordinate work with work specified under other sections to ensure proper and adequate interface of work. Protect all adjacent surfaces from drips, spray, air pollution of surrounding environment, and other damage from work.

B. Concrete Substrates: Apply when concrete is not marred by walking workman. Freshly poured concrete shall be free of surface contaminates, rain, and other sealing/curing materials.

3.03 APPLICATION

A. General: Apply material to produce a uniform, monolithic wearing surface.

B. Coordinate application of components to provide optimum adhesion to substrate.

C. Begin application by manufacturer employed personnel or factory installer when on-site conditions are accepted.

D. Apply system coat(s) in thickness to achieve maximum performance.

E. Barrier Application: Coverage rate for system shall be based on the surface texture and porosity of the substrates. Maximum cure time of 12 hours. Allow walking traffic in 4 hours.
3.04 FIELD QUALITY CONTROL

A. Inspection: Perform post installation testing at 1 calcium chloride test per 1,000 square feet. Interior temperature and humidity to be similar during the District’s occupancy.

B. Reapply materials in areas above flooring manufacturer’s limits, prior to floor covering installations at no additional charge to the District.

3.05 PROTECTION

A. Protection: Protect installations during specified cure periods from any kind of traffic, topical water, and contaminants.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Tackboard surfaces, with and without glass-enclosed cabinets.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. FS - Federal Specification
   1. LLL-B-810 - Building Board, (Hardboard) Hard Pressed Vegetable Fiber.

1.03 SUBMITTALS

A. Product Data: Provide manufacturer’s product data for visual display surfaces.

B. Shop Drawings: Provide shop drawings for each type of visual display surfaces required. Include sections of typical trim members and dimensioned elevations. Show anchors, grounds, reinforcement, accessories, layout, and installation details.

C. Samples: Provide the following samples of each product for initial selection of colors, patterns, and textures, as required, and for verification of compliance with requirements indicated.
   1. Aluminum Trim and Accessories: Samples of each finish type and color, on 6 inch long sections of extrusions and not less than 4 inch squares of sheet or plate, showing the full range of colors available.

D. Manufacturer’s Installation Data: Manufacturer’s recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.04 QUALITY ASSURANCE

A. Design Requirements: The Drawings indicate size, profiles, and dimensional requirements of visual display boards and are based on the specific type and model indicated. Other visual display boards having equal performance characteristics by other manufacturers may be considered provided that deviations in dimensions and profiles are minor and do not change the design concept or intended performance as judged by the Architect. The burden of proof of equality is on the proposer.
1.05 PROJECT CONDITIONS

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.
   1. Allow for trimming and fitting wherever taking field measurements before fabrication might delay the Work.

PART 2 - PRODUCTS

2.01 MANUFACTURERS


2.02 TACKBOARDS

A. Fixed Tackboards and Cabinets
   1. Tackboard Surface: As selected by the Architect.
   2. Size: As indicated.
   3. Cabinet
      a. Housing: Rectangular aluminum trim with satin anodized finish; inside cabinet depth is 1-3/4 inches.
      b. Doors: 3/16-inch tempered sliding glass doors with ground-in finger pulls with flat key tumbler locks, unless otherwise indicated.
      c. Hanging Device: Z-bar hangers.

2.03 ACCESSORIES

A. Metal Trim and Accessories for Tackboards: Fabricate frames and trim of not less than 0.062-inch thick aluminum alloy, size and shape as indicated, to suit type of installation. Provide straight, single-length units wherever possible; keep joints to a minimum. Miter corners to a neat, hairline closure.

B. Where the size of boards or other conditions exist that require support in addition to the normal trim, provide structural supports or modify the trim as indicated or as selected by the Architect from the manufacturer’s standard structural support accessories to suit the condition indicated.

C. Field-Applied Trim: Provide the manufacturer’s standard slip-on aluminum trim, to eliminate grounds.

2.04 FABRICATION

A. Tackboard
   3. Vinyl Covering: As recommended by tackboard manufacturer.
   4. Adhesives: As recommended by tackboard manufacturer.
PART 3 - EXECUTION

3.01 INSTALLATION OF TACKBOARDS

A. Deliver factory-built tackboards completely assembled in 1 piece without joints, wherever possible. Where dimensions exceed panel size, provide 2 or more pieces of equal length as acceptable to the Architect. When overall dimensions require delivery in separate units, prefir components at the factory, disassemble for delivery, and make final joints at the site. Use splines at joints to maintain surface alignment.

B. Install units in locations and at mounting heights indicated and in accordance with the manufacturer’s instructions. Keep perimeter lines straight, plumb, and level. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for a complete installation.

C. Coordinate job-site assembled units with trim and accessories. Join parts with a neat, precision fit.

3.02 ADJUST AND CLEAN

A. Verify that accessories required for each unit have been properly installed and that operating units function properly.

B. Clean units in accordance with the manufacturer’s instructions. Break in visual display boards only as recommended by the manufacturer.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Lockable directories.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. AA - Aluminum Association

B. AAMA - American Architectural Manufacturers Association
   1. 611 - Voluntary Standards for Anodized Architectural Aluminum.

C. ASTM - American Society for Testing and Materials

D. MS - Military Specification
   1. MIL-C-15116-C - Plastic-Impregnated Cork Sheet.

E. NAAMM - National Association of Architectural Metal Manufacturers
   1. MFM - Metal Finishes Manual for Architectural and Metal Products.

1.03 SUBMITTALS

A. Product Data: Include details of construction relative to materials, dimensions of individual components, profiles, and finishes.

B. Shop Drawings
   1. Include dimensioned plans, elevations and details, large-scale sections of typical members, and other components. Show anchors, grounds, reinforcement and layout, and indicate finishes.
   2. Include setting drawings, templates, and directions for installing anchor bolts and other anchorages to be installed as a unit of Work in other Sections.
C. Samples: Manufacturer’s color charts showing the full range of colors and textures available for the following:
   1. Plastic-Impregnated Cork Sheet: Swatches for each type of plastic-impregnated cork sheet indicated.
   2. Aluminum Trim and Accessories: 4 inch long sections of extrusions and not less than 2 inch squares of sheet or plate for each exposed metal surface showing available metal finishes.
   1. Message Strips: Samples of message strips in color selected with sample of typography specified.

D. Product Certificates: Signed by manufacturers of plastic-impregnated cork sheet tackboards certifying that the products furnished comply with requirements specified for flame spread ratings.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who is an authorized representative of the building directory manufacturer for installation and maintenance of units required for this Project.

B. Fire Test Response Characteristics: Provide plastic-impregnated cork sheet tackboards with the following surface burning characteristics as determined by testing assembled materials composed of facings and backings identical to those required in this Section per ASTM E84 by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify plastic-impregnated cork sheet tackboards with appropriate markings of applicable testing and inspecting agency.
   1. Flame Spread: 25 or less.
   2. Smoke Developed: 10 or less.

1.05 PROJECT CONDITIONS

A. Field Measurements: Verify rough openings for directories by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
   1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating building directories without field measurements. Coordinate wall construction to ensure actual opening dimensions correspond to established dimensions.

1.01 MAINTENANCE

. Extra Materials
   1. Deliver extra blank message strips to the District. Furnish extra message strips that match message strips installed, are packaged with protective covering for storage, and are identified with labels describing contents.
   2. Message Strip Units: Furnish blank, full-size, message-strip units equal to 10 percent of amount installed for the District’s future use.
PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: AARCO Products, Inc.; Claridge Products and Equipment, Inc., or equal.

2.02 MATERIALS

A. Aluminum Extrusions: Manufacturer’s standard extruded-aluminum sections with not less than the strength and durability properties specified in ASTM B221 for 6063-T5 alloy.

B. Tempered Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), 6 mm thick.

C. Plastic-Impregnated Cork Sheet: MS MIL-C-15116-C, Type I, seamless, homogeneous, self-sealing sheet consisting of granulated cork, linseed oil, resin binders, and dry pigments that are mixed and calendared onto burlap backing; with washable vinyl finish and integral color throughout.

2.03 DIRECTORIES

A. Cabinet Housing: Provide perimeter cabinet frame fabricated from aluminum extrusions of the profile indicated, mitered and welded with an aluminum-sheet rear cover panel. Provide mechanical reinforcement to prevent racking and misalignment.
   1. Dimensions: As indicated.

B. Reveal Type Frame and Cover Design: Provide extruded-aluminum frame. Mount cover frame on concealed hinges to form a reveal between the cover frame and the inner edge of perimeter cabinet frame.

C. Film Type Message Strips: Removable, negative-film message strips in interchangeable, interlocking, glass-reinforced plastic carriers approximately 7 inches long.
   1. Provide blank negative-film message strips for each carrier in the directory.
      b. Letter Style: Helvetica Medium.
      c. Letter Case: All capitals.

D. Header Panel: Engraved-type header panel matching message-strip material with graphic design indicated.

2.04 ACCESSORIES

A. Fasteners: Provide screws, bolts, and other exposed fastening devices of the same material as the items being fastened. Provide types, gauges, and lengths to suit installation conditions. Use theft-proof fasteners where exposed to view.
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B. Hardware: Provide building directories with the following hardware:
   1. Hinges: Continuous-type piano hinges.
   2. Locks: Furnish each cover with manufacturer’s standard lock; key locks alike.
      Furnish 2 keys per lock.

2.05 FABRICATION

A. General: Fabricate directories to requirements indicated, including dimensions, design, and thickness and finish of materials. Use metals and shapes of thickness, with reinforcing if needed, to produce flatness, free of oil canning, and to impart strength for size, design, and application indicated.
   1. Fabricate perimeter cabinet and cover frames with reinforced corners, mitered to a hairline fit, with no exposed fasteners.
   2. Hardware for Covers: Equip covers with hardware of type indicated.

2.06 FINISHES

A. General: Comply with NAAMM MFM for recommendations relative to applying and designating finishes.

B. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.
   1. Class II, Color Anodic Finish: AA-M12C22A32/A34 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, integrally colored or electrolytically deposited color coating 0.010 mm or thicker) complying with AAMA 611.
      a. Color: As selected by the Architect.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine wall surfaces, with the installer present, for compliance with requirements and other conditions affecting installation of building directories.
   1. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install units plumb and level, in locations and with mountings shown. Securely attach to supporting structure with concealed fasteners, according to manufacturer’s written installation instructions.

3.03 CLEANING AND PROTECTING

A. At completion of installation, clean surfaces according to manufacturer’s written instructions.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

B. Protect installed directories from damage until acceptance by the District at the time of
Substantial Completion.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes
1. Interior Code required signs.
2. Free-standing aluminum lettering signs.
3. Interior steel blade signs.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Section
1. Section 05 50 00 - Metal Fabrications: Provision of steel blades for signage.

1.02 REFERENCES

A. ADA - Americans with Disabilities Act

B. ASTM - American Society for Testing and Materials


D. PCCD - Peralta Community College District

1.03 SYSTEM DESCRIPTION


1.04 QUALITY ASSURANCE

A. Regulatory Requirements
1. Comply with CBC and ADA requirements for signage, to include Braille.
2. Provide signs at public toilet rooms with the following text: MEN, WOMEN.

1.05 SUBMITTALS

A. Product Data: Submit manufacturer’s product data describing materials and signs.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

B. Shop Drawings
1. Provide shop drawings showing construction details for approval before proceeding with fabrication. Include full size details of exposed edges, joints between materials, hanging, hinging and locking systems and any other details which would affect sign appearance.
2. Fasteners: Detail methods of fastenings and provide exact specifications for all fasteners noted on shop drawings.
3. Artwork
   a. Submit full size patterns or prints of typical copy layouts and/or graphic elements to be applied on signs. Using layouts on the Drawings as a guide, optically enlarge and hand correct images before submitting to the Architect for approval before fabrication.
   b. Elevator Lobby fire evacuation map art shall be schematically presented. Submit camera ready artwork for all floors to the Architect for approval prior to fabrication.
4. Sign Location: Provide Graphic Schedule and location plans to identify and locate all signs. Item numbers listed in the Graphic Schedule shall be found on location plans and shall identify locations of specific sign items.

C. Samples
1. On 6-inch by 6-inch pieces of actual sign materials, submit to the Architect for review and approval, 3 samples of painted and graphic finishes, in each material, color and finish, with texture to simulate actual conditions.
2. Provide listing of the material and application for each coat of each finish sample.
3. Be prepared to resubmit each sample as requested until required sheen, color and texture are approved.
4. Acrylic: Submit color and finish samples of plastics for approval before proceeding with fabrication. No substitution in color, thickness, finish or plastics will be accepted without written approval of the Architect.
5. Aluminum: For each form, finish, and color, on 6-inch long sections of extrusions and castings.
6. Fasteners: Submit 1 sample of all fasteners and hardware for approval.
7. Paint: Submit 3 color and finish samples of all paints and finishes for approval prior to fabrication.

D. Operation and Maintenance: Provide the District with proper cleaning instructions required for continued maintenance of signs.

1.06 QUALITY ASSURANCE

A. Pre-Installation Conferences: Sign locations shown on the location plans are for general information only. Prior to installation and as required, arrange meetings with the Architect at the site for final location for all sign items.
PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: ASI Sign Systems, Inc.; Superior Sign Systems; Vomar Products, Inc., or equal.

2.02 MATERIALS

A. Plastic Signs: Matte finish acrylic plastic, minimum 1/8-inch thick, without frame, with corners radiused. Message and background color shall be sub-surface printed. Provide with raised room numbers and Braille.

B. Aluminum Castings: ASTM B26, of alloy and temper recommended by sign manufacturer for casting process used and for use and finish indicated.

C. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.


E. Fasteners: Where fasteners are indicated or required, use exposed “torx type” tamper-proof security screws.

F. Anchors and Inserts: Use nonferrous metal or hot-dipped galvanized anchors and inserts where required for corrosion resistance.

G. Coatings for Acrylic Plastic Sheet: Use colored coatings, including inks and paints for copy and background colors, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are non-fading for the application intended.

H. Steel Blades: As specified in Section 05 50 00.

2.03 ACRYLIC SIGNS

A. Acrylic Signs: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

B. Unframed Acrylic Signs: Fabricate signs with edges mechanically and smoothly finished to conform with the following requirements:
   1. Edge Condition: Square cut.
   2. Corner Condition: 1/2-inch radius.
   3. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16-inch measured diagonally.
C. Graphic Content and Style: Provide sign copy that complies with the requirements indicated for size, style, spacing, content, position, material, finishes, and colors of letters, numbers, and other graphic devices.

D. Message Inserts: Where sign type makes provision for changeable name slots, provide laser printed name strips with text as scheduled. Obtain message from the District before fabrication. Where no text is scheduled, insert blank message strip in slot for future text by the District.

E. Photopolymer (Raised Copy): Machine-cut copy characters from matte finish opaque acrylic sheet and chemically weld onto the acrylic sheet forming sign panel face. Produce precisely formed characters with square cut edges free from burrs and cut marks.
   1. Panel Material: Matte-finished acrylic stock with opaque color coating surface applied.
   2. Raised Copy Thickness: Not less than 1/32-inch.

2.04 BRAILLE SYMBOLS

A. Braille Symbols: Dots shall be 1/10-inch on centers in each cell with 2/10-inch space between cells. Dots shall be raised a minimum of 1/40-inch above the background.

2.05 ASSISTIVE LISTENING SIGNAGE


2.06 FINISHES

A. Colors: For exposed sign material that requires applied colors, other characteristics related to appearance, see Drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine the substrate and conditions in which the work is to be installed. Correct all unsatisfactory substrate and conditions prior to start of installation.

3.02 INSTALLATION

A. General
   1. Install signage in neat and proper manner.
   2. Install sign items, including all components, in accordance with reviewed Graphic Schedule at locations shown.
   3. Install signs properly aligned, level and true to line and dimension.

B. Install with reviewed manufacturer’s adhesive or mechanical fasteners after application of finish painting at heights noted.
3.03 SCHEDULE

A. Signage font, size, color and background color as indicated on the Drawings.

B. Signage shall be in compliance with CBC.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Toilet accessories, including backing plates for grab bars.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. AISI - American Iron and Steel Institute

B. ASTM - American Society for Testing and Materials
   2. A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.


1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for each toilet accessory item specified, including construction details relative to materials, dimensions, gauges, profiles, mounting method, specified options, and finishes.

B. Shop Drawings: Submit setting drawings where cutouts are required in other work, including templates, substrate preparation instructions, and directions for preparing cutouts and installing anchorage devices.

C. Contract Closeout Submittals: Submit maintenance instructions including replaceable parts and service recommendations.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements
   1. Grab Bars and Fasteners: Strength of grab bars, fasteners and mounting devices shall comply with CBC.
2. Grab Bar Surfaces: Conform to CBC.
3. Mounting Heights of Accessories: Comply with requirements of CBC.

B. Inserts and Anchorages: Furnish accessory manufacturers’ standard concealed inserts and anchoring devices. Coordinate delivery with other work to avoid delay.

1.05 PROJECT CONDITIONS

A. Coordination: Coordinate accessory locations, installation, and sequencing with other work to avoid interference with and ensure proper installation, operation, adjustment, cleaning, and servicing of toilet accessory items.

1.06 WARRANTY

A. Warranty: Submit a written warranty executed by mirror manufacturer, agreeing to replace any mirrors that develop visible silver spoilage defects within warranty period.
   1. Warranty Period: 10 years from date of Substantial Completion.

B. Warranty shall not deprive the District of other rights the District may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: Bobrick Washroom Equipment, Inc.; Bradley Corporation, or equal.

2.02 MATERIALS

A. General: Fabricate toilet accessory items form the following materials and according to requirements specified for individual accessory items.
   1. Stainless Steel: AISI Type 302/304, with polished No. 4 finish, 22 gauge minimum thickness, unless otherwise indicated.
   2. Sheet Steel: Cold-rolled, commercial quality, 20 gauge minimum thickness, unless otherwise indicated. Surface preparation and metal pretreatment as required for applied finish.
   3. Galvanized Steel Sheet: ASTM A653, G60.
   5. Mirror Glass: Nominal 0.23-inch thick, conforming to ASTM C1036, Type I, Class 1, Quality q2, and with silvering, electro-plated copper coating, and protective organic coating.
   7. Fasteners: Screws, bolts, and other devices of same material as accessory unit, or of galvanized steel where concealed.
2.03  ACCESSORIES

A. Provide toilet accessories as scheduled on the Drawings.

B. Mounting Plates: Non-corrosive material; provide as required.

2.04  FABRICATION

A. General: Only a maximum 1-1/2 inch diameter, unobtrusive stamped manufacturer logo, as approved by the Architect, is permitted on exposed face of toilet or bath accessory units. On either interior surface not exposed to view or back surface, provide additional identification by either a printed, waterproof label or a stamped nameplate, indicating manufacturer’s name and product model number.

B. Surface-Mounted Toilet Accessories, General: Except where otherwise indicated, fabricate units with tight seams and joints, exposed edges rolled. Hang doors or access panels with continuous stainless steel piano hinge. Provide concealed anchorage wherever possible.

C. Recessed Toilet Accessories, General: Except where otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors or access panels with full-length, stainless steel piano hinge. Provide anchorage that is fully concealed when unit is closed.

PART 3 - EXECUTION

3.01  INSTALLATION

A. Install toilet accessory units according to manufacturer’s instructions, using fasteners appropriate to substrate as recommended by unit manufacturer. Install units plumb and level, firmly anchored in locations and at heights indicated.

B. Secure mirrors to walls in concealed, tamperproof manner with special hangers, toggle bolts, or screws. Set units plumb, level, and square at locations indicated, according to manufacturer’s instructions for type of substrate involved.

C. Install grab bars to withstand a downward load of at least 250 lbf, complying with ASTM F446.

3.02  ADJUSTING AND CLEANING

A. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.

B. Clean and polish all exposed surfaces strictly according to manufacturer’s recommendations after removing temporary labels and protective coatings.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Fire extinguishers complete with cabinets.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

B. NAAMM - National Association of Architectural Metal Manufacturers
   1. MFM - Metal Finishes Manual for Architectural Metal Products.

C. SSPC - The Society for Protective Coatings
   1. SP 1 - Surface Preparation Specification No. 1: Solvent Cleaning.
   2. SP 5 - Surface Preparation Specification No. 5: White Metal Blast Cleaning.
   3. SP 8 - Surface Preparation Specification No. 8: Pickling.

D. UL - Underwriters Laboratories Inc.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for cabinets include rough-in dimensions, details showing mounting methods, relationships of box and trim to surrounding construction, door hardware, cabinet type and materials, trim style, door construction, panel style, and materials.

B. Samples: Submit samples for initial selection purposes in the form of manufacturer’s color charts consisting of actual units or sections of units showing full range of colors, textures, and patterns available for each type of cabinet finish indicated or exposed to view.

C. Obtain Project Fire Inspector’s approval of cabinet and extinguisher model prior to purchase.

1.04 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain extinguishers and cabinets from one source from a single manufacturer.

B. UL Listed Products: Fire extinguishers shall be UL listed with UL listing mark for type, rating, and classification of extinguisher.
PART 2 - PRODUCTS

2.01 MANUFACTURERS


2.02 MATERIALS

A. Fire Extinguishers: Multipurpose under pressure, dry chemical type bearing UL rating of 2A-10B:C, 5 pounds nominal capacity, nominal 4 inch diameter, in enameled steel container.

B. Fire Extinguisher Cabinets
   1. Recessed, one piece cold-rolled steel construction with 18 gauge steel box, with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated. Weld joints and grind smooth. Miter and weld perimeter door frames.
   2. Provide reviewed manufacturer’s stainless steel door handles.
   3. Door Style: Larsen’s stainless steel “Vertical Duo Door”, or equal.
   4. Door Glazing: Float glass complying with ASTM C1036, Condition A, Type I, Quality q3, Class 1 (clear).
   5. Latches: Accessible lever or push-bar type, not requiring grasping, pinching, or twisting of the wrist.

C. Fire Rated Cabinets: UL listed with UL listing mark with fire resistance rating of wall where it is installed.

D. Accessories
   1. Brackets: Provide brackets for fire extinguishers designed to prevent accidental dislodge of extinguisher, of sizes required for type and capacity of extinguisher required.
   2. Wall Mounted Signs
      a. Provide wall mounted metal signs at 80 inches above the finished floor to center of sign for each fire extinguisher in cabinet. Separate wall mounted sign shall be provided for all extinguishers located in cabinets regardless of cabinet signage available from the manufacturer.
      b. Sign Colors and Lettering: Double faced, flanged, aluminum, 12 inches high by 4 inches wide, fire extinguisher symbol, arrow and red with white letters, which reads “Fire Extinguisher”. Wall mounted signs shall also be provided for other extinguishers in areas where the extinguisher may be obstructed from view during normal use of the facility. Provide permanent aluminum signs as appropriate for the application.

2.03 FINISHES FOR CABINETS, GENERAL

A. Comply with NAAMM’s MFM for recommendations relative to applying and designating finishes.
B. Protect mechanical finishes on exposed surfaces from damage by applying temporary strippable protective covering prior to shipping.

2.04 STEEL CABINET FINISHES

A. Surface Preparation: Solvent-clean surfaces complying with SSPC SP 1 to remove dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC SP 5 or SSPC SP 8.

B. Factory Priming for Field-Painted Finish: Apply shop primer specified below immediately following surface preparation and pretreatment.
   1. Shop Primer: Manufacturer’s or fabricator’s standard fast-curing, lead-free, universal primer, selected for resistance to normal atmospheric corrosion, for compatibility with substrate and field applied finish paint system indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.

C. Baked Enamel Finish: Immediately after cleaning and pretreatment, apply manufacturer’s standard 2-coat baked enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer’s instructions for applying and baking to achieve a minimum dry film thickness of 2.0 mils.
   1. Color and Gloss: As selected by the Architect from manufacturer’s standard choices for color and gloss. Paint the following:
      a. Exterior of cabinet, except for those surfaces indicated to receive another finish.
      b. Interior of cabinet.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine walls and partitions for thickness and framing for cabinets to verify cabinet depth and mounting prior to cabinet installation.

B. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Follow manufacturer’s printed instructions for installation.

B. Install in locations and at mounting heights indicated or, if not indicated, at heights to comply with applicable regulations of governing authorities.
   1. Fasten mounting brackets and cabinets to structure, square and plumb.

END OF SECTION
SECTION 10 83 16

BANNERS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Decorative banners.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 SYSTEM DESCRIPTION

A. Performance Requirements: Design, fabricate, and install banners to withstand loads from gravity, wind, seismic and structural movement, including thermally induced movement; and to resist, without failure, other conditions of in-service use, including exposure to weather.

1.03 SUBMITTALS

A. Product Data: Include construction details, material descriptions, edge and corner reinforcement descriptions, hardware, fittings, and mounting accessories for banners.

B. Shop Drawings: Show materials, fabrication, dimensions, mounting heights, clearances, and installation details for banners. Show colors and graphic layout and content.

C. Samples for Initial Selection: For each type of banner indicated, provide samples of banner components, graphics, hardware, and accessories involving color selection.

D. Samples for Verification: For each of the following products and for full range of color, texture, and pattern variations required, prepared on Samples of size indicated below:
   1. Banner Fabric: 12-inch square section of fabric from dye lot to be used for the Work, with specified treatments applied. Mark face of fabric.
   2. Graphics: Not less than 12-inch square section showing graphic application method.
   3. Seam, Edge, and Corner Condition: Not less than 12-inch long section showing seam, edge, and corner treatment.
   4. Exposed Hardware Finishes: Manufacturer’s standard-size unit, not less than 3 inches square.
   5. Accessories: Manufacturer’s full-size unit.

E. Maintenance Data: For banners to include in maintenance manuals.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
1.05 DELIVERY, STORAGE, AND HANDLING

A. Store banners rolled over rigid tubes; do not fold banners.

1.06 PROJECT CONDITIONS

A. Environmental Limitations: Do not install banners until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers: As selected by the Architect.

2.02 MATERIALS

A. Decorative Banner
   1. Base Banner Material: As indicated.
      a. Color: As selected by the Architect.
   2. Graphics Applications: Applique, unless otherwise indicated.
   3. Applique Material: As indicated.
      a. Color: As selected by the Architect.

B. Anchors, Fasteners, Fittings, Hardware, and Installation Accessories: Complying with performance requirements indicated and suitable for exposure conditions, supporting structure, anchoring substrates, and installation methods indicated. Corrosion-resistant or noncorrodible units; tamperproof, vandal- and theft-resistant, compatible, nonstaining materials. Provide as required for banner assembly, mounting, and secure attachment. Number as needed to comply with performance requirements and to maximize appearance; evenly spaced. Where exposed to view, with finish and color as selected by Architect from manufacturer’s full range.

2.03 FABRICATION

A. Fabric Banners: Reinforce wear points and hardware attachment points with non-woven webbing.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions for compliance with requirements for supporting members, blocking, inserts, installation tolerances, clearances, lighting, HVAC, and other conditions affecting banners.
   1. Proceed with installation only after unsatisfactory conditions have been corrected.
3.02 INSTALLATION

A. General: Install banners at locations and in position indicated, securely connected to supports, and in proper relation to adjacent construction. Use mounting methods of types described and in compliance with Shop Drawings and fabricator’s written instructions.

B. Install banners after other finishing operations, including painting, have been completed.

C. Anchoring to In-Place Construction: Use anchors, fasteners, fittings, hardware, and installation accessories where necessary for securing banners to structural support and for properly transferring load to in-place construction.

D. Adjust components and accessories.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Garbage disposer.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

C. Related Sections
1. Division 22 - Plumbing: Provision of rough-ins and connections to plumbing.
2. Division 26 - Electrical: Provision of rough-ins and connections to electrical supply.

1.02 REFERENCES

A. UL - Underwriters Laboratories Inc.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer’s literature describing products.

B. Shop Drawings: Show locations of equipment, dimensions, required clearances, and rough-ins.

C. Contract Closeout Submittals: Provide operating and maintenance instructions. Collect in properly identified binder; include service information and serial numbers. Provide 2 copies to the District.

1.04 QUALITY ASSURANCE

A. Certification: Provide residential equipment which complies with standards and bears certification labels as follows:
1. Energy Ratings: Provide energy guide labels with energy cost analysis (annual operating costs) and efficiency information.
2. UL Standards: Provide residential equipment with UL labels.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection
1. Deliver products to Project site in manufacturer’s undamaged protective containers, after spaces to receive them have been fully enclosed.
2. Protect as required to prevent damage during construction.
1.06 Warranties

A. Special Warranties: Manufacturer’s standard form in which manufacturer of each appliance specified agrees to repair or replace appliances or components that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.01 Equipment

A. Garbage Disposer: As selected by the Architect.

PART 3 - EXECUTION

3.01 Examination

A. Examine areas to receive equipment and verify that conditions are suitable and utility services and critical dimensions are correct.

B. Do not install equipment until unsatisfactory conditions have been corrected.

3.02 Installation

A. General
   1. Comply with manufacturer’s instructions and recommendations.
   2. Set units securely in place in accordance with manufacturer’s recommendations.
   3. Conceal all fasteners.

B. Built-In Equipment
   1. Securely anchor units to supporting casework or countertops with concealed fasteners.
   2. Verify that clearances are adequate for proper functioning, and rough openings are completely concealed.

C. Free Standing Equipment
   1. Place units in final locations after finishes have been completed in each area.
   2. Verify that clearances are adequate for proper operation of equipment.

D. Utilities: Refer to Divisions 22 and 26 for plumbing and electrical requirements.

3.03 Adjusting and Cleaning

A. Testing: Test each item of residential equipment to verify proper operation. Make necessary adjustments.

B. Accessories: Verify that accessory items required have been furnished and installed.

C. Cleaning: Remove pricing material and labels from residential equipment items and leave units in clean condition, ready for operation.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

SECTION 12 24 00

WINDOW SHADES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Manually operated window shades.

B. Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials

B. FS - Federal Specifications
   1. CCC-C-521e - Cloth, Coated, Window Shade

C. NFPA - National Fire Protection Association

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Shade cloth shall be constructed of a woven screen material consisting of yarns comprised of extruded vinyl coated polyester core yarn as a composite thermoplastic shade cloth that shall be sealed at the edges, assuring binding the core yarn to the coating at the cut edge to assure a sealed edge to substantially minimize raveling. Screen clothes to have inert core yarns; i.e. fiberglass shall not be acceptable.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for shade specified. Include printed data on physical characteristics.

B. Shop Drawings: Submit shop drawings showing location and extent of shades. Show installation details at and relationship to adjoining work. Include elevations indicating shade units. Indicate location of shade controls.

C. Samples: Submit samples for verification of the following items, in manufacturer’s standard sizes, showing the full range of color, texture, and pattern variations expected. Prepare samples from the same material to be used for the Work.
   1. Material: 12-inch square unit, from lot used for the Work, with specified treatments applied. Show complete pattern repeat. Mark top and face of material.
   2. Schedule of shades using same room designations indicated on the Drawings.
D. Quality Control Submittals: Submit manufacturer’s installation instructions for each type of window treatment specified.

E. Contract Closeout Submittals: Submit maintenance data for window treatments including the following:
   1. Methods for maintaining treatments and finishes.
   2. Precautions for cleaning materials and methods that could be detrimental to finishes and performance.

1.05 PROJECT CONDITIONS

A. Field Measurements: Check actual dimensions by accurate field measurements before fabrication and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.06 MAINTENANCE

A. Extra Materials
   1. Furnish extra materials that match products installed; are packaged with protective covering for storage, and are identified with labels describing contents.
   2. Furnish full size units equal to 5 percent of amount installed for each size indicated, but not less than 1 unit.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Mecho Shade Systems, Inc., or equal.

2.02 MANUALLY OPERATED WINDOW SHADES

A. Provide manually operated shades with heavy-duty commercial grade hardware; chain-operated roller shade system with adjustable slip clutch.

B. Shade Material: Meet requirements of FS CCC-C-521e for fire retardancy and NFPA 701 Small Scale requirements. Antimicrobial without topical treatment. Material shall meet requirements of ASTM E84, with flame spread rating of 17 and smoke density index of 118.
   1. Blackout Shade Cloth: 1 percent openness factor, as manufactured by Mecho Shade Systems, Inc. and as selected by the Architect.
      a. Color: As selected by the Architect.
   2. Privacy Shade Cloth: 5 percent openness factor, as manufactured by Mecho Shade Systems, Inc., “Euroveil 5300 Series”.
      a. Color: Graphite, #5311.

C. Mounting: As indicated.
2.03 FABRICATION

A. Shade Unit Sizes: Obtain units fabricated in sizes to fill window and other openings as follows, measured at 74 degrees Fahrenheit.
   1. Units Installed Between (Inside) Jambs: Width equal to 1/4-inch per side or 1/2-inch total less than jamb to jamb dimension of opening in which each shade is installed. Length equal to 1/4-inch, plus or minus 1/8-inch, less than head to sill dimension of opening in which each shade is installed.

B. Installation Fasteners: Not less than 2 fasteners per bracket, fabricated from metal noncorrosive to shade hardware and adjoining construction; support shades under conditions of normal use.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of shades. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install shades level and plumb in accordance with manufacturer’s instructions and reviewed shop drawings.

B. Adjust as required such that shades permit proper positioning over full range of movement and smooth raising and lowering without binding.

3.03 ADJUSTING

A. Adjust components and accessories for proper operation.

3.04 CLEANING

A. Clean shade surfaces, according to manufacturer’s instructions, after installation.

B. Remove surplus materials, packaging, rubbish and debris resulting from installation. Leave installation areas neat, clean, and ready for use.

3.05 PROTECTION

A. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer that ensure that shades and blinds are without damage or deterioration at the time of Substantial Completion.

END OF SECTION
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLOON AND EAST 10TH STREET
OAKLAND, CALIFORNIA

SECTION 15800

HEATING AND VENTILATING AND AIR CONDITIONING

PART 1 - GENERAL

1.1 SCOPE

A. Furnish all labor, material and services required for installation of complete and satisfactorily operable heating and ventilating systems, as shown on Drawings and as specified herein.

1. Work shall include but not be limited to the following:

   Extend existing ductwork where required.
   
   Exhaust ventilation.
   
   New fan coil units with extension to existing chilled and heating hot water piping.

1.2 EQUIPMENT LISTING

A. All electrical materials shall bear the label of, or be listed by, the Underwriter’s Laboratories (UL).

1.3 SUBMITTALS

A. Provide for the following equipment at the same time before purchase order of any materials in accordance with Division 1 requirements:

   1. Ventilation Equipment.
   2. Exhaust fans.
   3. Louvers, dampers, filters, etcetera.
   4. Sheet metal ductwork gauge schedule.
   5. Flexible Ductwork.
   6. Supports and seismic bracing.
   7. Testing and balancing firm certification and narrative of procedures to be used.

PART 2 - PRODUCTS

2.1 DUCTWORK

A. General: All ductwork shall be fabricated and installed per SMACNA low pressure ductwork.

B. Pressure and seal classifications for all ductwork shall be as follows:

   1. -1/2 inches WG Class.

C. Round ductwork shall be galvanized steel, single wall

   1. Round ductwork fittings shall be 2 gauges thicker than the straight ductwork.
2.2 DUCT ACCESSORIES

A. Dampers
   1. General
      a. Provide adjustable manual dampers as shown on the plan and necessary requirement for proper control and balancing of air distribution.
      b. Same material as ductwork, except as otherwise specified. Rigid construction, free of all rattling and vibration, with edges crimped or creased for stiffness.

B. Duct Hardware.
   1. General: Provide duct hardware, manufactured by Ventfabrics Inc., Young Regulator Co., or equal.
      a. Test Holes: Provide in ductwork at fan inlet and outlet, and elsewhere as indicated, duct test holes, consisting of slot and cover, for instrument tests.

C. Duct Access Doors.
   1. General: Provide where indicated, duct access doors of size indicated. Unit shall be Ruskin, Ventfabrics, Air Balance, or equal.
   2. Construction: Construct of same or greater gauge as ductwork served. Provide flush frames for uninsulated ductwork. Provide one side hinged, other side with one handle-type latch for doors 12" high and smaller, 2 handle-type latches for larger doors.

D. Flexible Connections.
   1. General: Provide flexible duct connections wherever ductwork connects to vibration isolated equipment. Construct flexible connection of neoprene-coated flameproof fabric crimped into duct flanges for attachment to duct and equipment. Make airtight joint. Provide adequate joint flexibility to allow for thermal, axial, transverse, seismic and torsional movement, and also capable of absorbing vibrations of connected equipment. Unit shall be Ventfabrics, Duro Dyne, or approved equal.

2.3 LOUVERS

A. Exterior wall louvers shall be sizes shown on the drawings, Ruskin ELF375 extruded aluminum or equal unless otherwise noted. All colors shall be as selected by the Architect. Provide with bird/insect screen.

2.4 SUPPORTS

A. Support concealed round steel ductwork from building structure with 1-1/4" x 18" gauge galvanized steel straps with inside radius of loop equal to outside radius of duct. Provide threaded rod support and strap bracket, Ductmate type BA or equal, for all exposed round ducts. Ducts 12" diameter and larger, support not more than 6'-0" o.c. Ducts under 12" diameter, support not more than 10'-0" o.c. Not less than one hanger per branch shall be provided in any case.

2.7 TEMPERATURE CONTROLS
EXECUTION

2.5 GENERAL EQUIPMENT INSTALLATION

A. Install equipment so that a minimum of space is occupied and fittings or offsets necessary to this end be furnished and installed without additional cost to the Contract price.

B. Ductwork shall be exposed and run parallel to building lines unless otherwise noted.

C. Install metal ductwork in accordance with SMACNA Round Industrial Duct Construction Standards.

D. Install concrete expansion inserts for support of ductwork in coordination with formwork as required to maintain construction sequence and avoid delays in work.

E. Avoid any penetrations of ducts.

F. Install ductwork accessories in accordance with manufacturer’s installation instructions, with applicable portions of details of construction as shown in SMACNA standards, and in accordance with recognized industry practices to ensure that products properly serve intended function.

G. Install access doors to open against system air pressure, with latches operable from either side, except outside only where duct is too small for person to enter.

H. Coordinate with other work, including ductwork, as necessary to interface installation of ductwork accessories properly with other work.

I. All ductwork shall be seismically supported and braced per the SMACNA Seismic Restraint Manual Guidelines for Mechanical Systems.

2.6 CLEANING AND PRESERVATION

A. Per Division 1 requirements.

2.7 TEST, BALANCING AND ADJUSTING

A. General
   1. The balancing contractor shall be a sub-contractor directly to the general contractor not to the mechanical contractor. Test, balance, and adjust all exhaust air/air distribution systems. This work shall be performed by a firm certified either by the National Environmental Balancing Bureau (NEBB) or by the Associated Air Balance Council (AABC), with calibrated instruments in accordance with the certifying organization's procedural standards for testing, balancing, and adjusting. Perform the testing, balancing, and adjusting under the direction of a supervisor who is qualified by the certifying organization. All instruments used for measurements shall be accurate, and the calibration histories for each instrument shall be available to the Architect for examination. Accuracy of measurement shall comply with the certifying organization's standards. Submit four copies of certified, final test reports to the Architect. Include in the test the temperatures of the supply air on full heating and full cooling modes.
B. Ductwork Testing
   1. General:
   2. Ductwork: Examine exhaust air systems and clear any obstruction and debris. With blast gates wide open and closed, run fan systems and check for air leaks.
      a. Patch, repair or replace ductwork as required. Repair or replace failed ducts and joints as required to the satisfaction of the Architect.

2.8 COMMISSIONING

Commission the systems in accordance with the Title 24 requirements

END OF SECTION 15800
SECTION 15400 - PLUMBING

PART 1 – GENERAL

1.1 SCOPE:

A. Furnish all labor, materials and services required for installation of complete and satisfactorily operable systems, including extensions of, modifications to and connections with existing systems or the work provided by others, as shown on the drawings and as specified herein.

1. Lack of specific mention of any work or item necessary for complete and properly operating systems shall not lessen responsibility or entail any increase in contract price.

2. Work includes, but is not limited to, the following:
   Provide and install complete plumbing fixtures.
   a. Provide and extend existing utilities to new and relocated plumbing fixtures...
   b. Pressure test and clean new piping.
   c. Coordinate with all trades to ensure proper installation clearances and sequence.
   d. Hangers, seismic bracing, sleeves, domestic water supply piping sterilization, pipe insulation and any other items required for complete system.
   e. Connection to equipment furnished by Owner and connected by Contractor.

1.2 SUBMITTALS:

A. Provide in accordance with Division 1 requirements on the following, including all necessary fittings, trim, optional accessory items and hardware:

1. Plumbing solenoid valves and equipment.
2. Pipes, fittings and valves.
3. Insulation, including installation procedures.
4. Supports and seismic bracing.
5. Pipe testing procedures, including schedule of test pressures and media to be used.
6. Domestic water systems sterilizing procedure.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET

OAKLAND, CALIFORNIA

RELATED SECTIONS See 07650 Quickflash, 07842 Fire Resistive Sealant, 07920 Joint Sealants.

PART 2 - PRODUCTS:

2.1 ACCEPTABLE MANUFACTURERS:

A. Drains, Carriers, Cleanouts, Shock Arresters:
   1. J.R. Smith
   2. Zurn
   3. Josam

B. Dielectric Unions:
   1. Eclipse, Inc.
   2. Perfection Corp.
   3. Watts Regulator Co.

2.2 PIPING: The term "piping" as used herein shall mean all pipe, fittings, nipples, valves, unions, and related items, as may be required for continuous system of piping, and shall be so considered in this specification section 15050.

A. Soil, waste, storm drain and vent piping:
   1. Building interior piping shall be No-Hub Cast Iron piping, with No-Hub Fittings. Fittings shall be FM standard 1680 class I couplings with neoprene gaskets and type 304 stainless steel bank and screw jointing assembles.

B. Domestic hot and cold water piping.
   1. Above ground: Type "L" hard drawn copper tubing with lead and antimony free solder.

2.3 VALVES AND FITTINGS:
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET

OAKLAND, CALIFORNIA

A. Valves: Red-White, Jenkins, Nibco, Stockham, or approved equal. Valves shall be product of one manufacturer.

   1. Domestic Water and Low Pressure Natural Gas Shut-Off: Bronze ball valve, full port up to 1 inch and conventional port from 1-1/4 to 2 inches, 400 lbs WOG rated, two piece body with threaded ends, Buna-N seats, packing and gasket, UL listed for LPG service.

B. Unions on copper tubing 2" and smaller: Mueller "Streamline" ground joint, cast bronze.

C. Nipples: Waste and water supply nipples used in the installation of fixtures shall be threaded red brass, IPS.

2.4 CLEANOUTS:

A. Wall Cleanouts: No hub, with round stainless steel access cover, secured with vandal-proof screws. Match pipe size, 4 inches maximum.

B. Floor Cleanouts: Field adjustable round scoriated nickel bronze cover, secured with vandal-proof screws. Match pipe size, 4 inches maximum.

C. Outside Grade Cleanouts: Provide with bronze countersunk cleanout plug. Match pipe size, 4 inches maximum.

2.5 SHOCK ARRESTERS:

A. Shock Arresters: Zurn Shoktrol Z-1700 Series water hammer arresters, properly sized and selected per P.D.I. Standard WH201 and having sufficient displacement volume to dissipate the calculated kinetic energy generated by the piping system.

   1. Construct unit casing and bellows of stabilized 18-8 stainless steel.
   2. Install all units in a vertical position.

B. Installation: Install units in all domestic hot and cold water piping branch lines serving fixtures provided with quick closing devices such as flush valves.

C. Access Panels: Provide access panel with Allen wrench key lock for each arrester.

2.6 HOSE BIBBS:

Hose Bibbs: See schedule..
2.7 ESCUTCHEONS:
A. Grinnell as specified, or Beaton-Corbin; Fig. 2 for copper tubing; Fig. 13 for steel pipe; polished chrome-plated.
B. Provide at exposed piping penetrations of walls, floors and ceilings of mechanical rooms.
C. Where piping is insulated, escutcheons shall fit insulation’s outside diameter.
D. Where piping requires special escutcheon sizes, they shall be manufactured from stainless steel.

2.8 INSULATION:
A. Insulate hot water piping with Owens Corning Fiberglass 25ASJ-SSL-II heavy-duty insulation, thickness per Title-24. Insulate any cold water piping exposed to the weather with 1” thick, Owens Corning Fiberglass 25ASJ-SSL-II or equal.
B. Jacket shall be fire-retardant jacket with self-sealing cover.
C. Insulate fittings and valves and enclose with PVC jacket or equal preformed jacket. Extend valve handles as required to accommodate insulation thickness.
D. Where insulation is exposed to the weather, mount 0.016 stainless steel jacketing around the insulation.

2.9 PIPE HANGERS AND SUPPORTS:
A. General:
   1. Support piping as required to prevent sagging, noise, or excessive strain on piping under both operating and static conditions.
   2. Readjust hangers with the piping system in operating conditions so that hanger rods are vertical, piping is at proper level and uniformly supported by all hangers.
   3. Relocate hangers as necessary to correct unsatisfactory conditions that may become evident when system is put into operation.
   4. Provide hangers within 12 inches of end of fittings at each change in direction for pipe 1-1/2” or larger. Smaller pipes shall not cantilever more than 3 feet or less as required to eliminate visible sagging and hangers at changes in direction for smaller pipes shall not span more than distances required for straight runs of smaller pipe.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET

OAKLAND, CALIFORNIA

5. Supports shall be designed to the combined weight of the pipe, contents and pipe insulation, when applicable, and shall have a safety factor of at least five based on the ultimate tensile strength of the material used.

6. Provide isolation between dissimilar metal contact.

7. Vertical piping shall be supported at the top and bottom and at each penetration through floor or roof. Equipment shall not be used as supports.

8. Seismic restraints shall be provided per the “SMACNA Guidelines for Seismic Restraint of Mechanical Systems and Plumbing Systems" or the Superstrut A Seismic Restraint System for pipes and conduit only or the B-Line A Seismic Restraint System for pipes and conduit only.

B. Manufacturers:

1. SuperStrut
2. Grinnell
3. B-Line
4. Unitstrut

5. Maximum support spacing, on centers, shall not exceed the following. In all cases, avoid concentrating hangers and evenly distribute loads on the structural framing system.

<table>
<thead>
<tr>
<th>Type of Pipe</th>
<th>up to 1 1/2&quot;</th>
<th>2&quot; or Larger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Pipe</td>
<td>6'</td>
<td>10'</td>
</tr>
<tr>
<td>Cast Iron no Hub</td>
<td>--</td>
<td>5&quot;*</td>
</tr>
</tbody>
</table>

* and at each joint

2.10 Wet standpipe piping. Galvanized steel pipe. Or match existing piping.

2.11 Fire Hose Cabinets: Match existing fire hose cabinets. Provide fire extinguisher to match existing.

PART 3 - EXECUTION

3.1 GENERAL, PIPING AND EQUIPMENT INSTALLATION:

A. Fixtures shall be the product of a single manufacturer. Fittings of the same type shall be product of a single manufacturer.

B. Protect fixtures against abuse and damage during construction.

C. Check millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.
D. Install piping, fixtures, equipment and related items, so that a minimum of space is occupied and fittings or offsets necessary to this end are furnished and installed without additional cost to the Contract price.

E. Wherever possible, piping shall be concealed and run parallel to building lines.

3.2 FIXTURES:

A. Install each fixture with appropriate trap. All brass traps shall be readily removable for servicing.

B. Supplies to fixtures shall be provided with appropriate reducers and escutcheons. Supplies serving fixture supply trim not having integral stops shall be provided with loose key stops.

C. After installation and prior to final acceptance, remove fixture labels, thoroughly clean fixtures with mild detergent and water solution, rinse with clean water, and wipe dry.

3.3 WASTE AND VENT PIPING:

A. Slope soil and waste lines in accordance with requirements of governing Plumbing Codes, in flow direction shown on Drawings.

B. Establish grade lines with surveyor’s level. Verify location of sewer taps before start of Work and make necessary grade adjustments. Drain vent lines back to waste lines.

C. Bring exterior cleanouts up to grade; provide concrete box with cast iron cover over each exterior cleanout.

D. Flush piping clean with water after installation.

E. Lubricate cleanout plugs with mixture of graphite and linseed oil. Prior to final acceptance, remove cleanout plugs, relubricate and reinstall using only enough force to insure permanent leak-proof joint.

F. Venting of plumbing fixtures and drains shall be as required by plumbing laws, ordinances and regulations, and as indicated on plans, and shall be installed with as few bends as possible, and connected to and with main vertical vent risers at an angle of 45 degrees.

G. Piping shall be installed without undue stresses or strains and provision made for expansion, contraction and structural settlement. No structural member shall be
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET

OAKLAND, CALIFORNIA

weakened or impaired beyond a safe limit by cutting, notching or otherwise, unless provision is made for carrying structural load.

H. Cleanouts shall be installed where indicated and where required, of same size as pipe. They shall be placed in an accessible location.

I. Supports shall be spaced not over 5 feet apart for cast iron piping near hubs at each section, with separate hanger for each branch over 3-feet long. Each suspended length of "No-Hub" piping shall be supported with two hangers to insure no sags in installation. Minimum of three hangers shall be used for single "Y" fittings and four hangers shall be used for double "Y" fittings.

3.4 WATER PIPING:

A. Provide dielectric unions with appropriate end connections for the pipe materials in which installed (screwed, soldered, or flanged), which effectively isolate dissimilar metals, prevent galvanic action, and stop corrosion.

B. Connections between copper and steel pipe shall be made with brass nipples, minimum 6" long.

C. No structural framework shall be weakened or impaired beyond a safe limit by cutting, notching, or otherwise, unless provision is made for carrying structural load. Hangers for hot supply and return water piping shall be equipped with rods of sufficient length to allow for free piping movement.

D. No valve shall be installed with stem below horizontal.

3.5 REAMING AND THREADING: All piping, including waste and vent shall be carefully cut, and reamed. Threads to be even, true and tapered.

3.6 TESTING AND INSPECTION:

A. Complete and test pipe rough-in before insulation or other finish work is applied. Covering of work before acceptance is prohibited.

B. After completion, inspect and test fixtures for adequate water pressure, flow, and proper flushing action. Make necessary adjustments. Cooperate with other trades in testing fixtures and equipment involving work under this Section.
C. Furnish all test pumps, gauges and equipment necessary to conduct tests required herein. Isolate equipment and other material items as required to prevent damage from pipe test pressures.

1. The domestic water systems shall be tested at 175 psi with water for a minimum of four hours until approved.
2. Low pressure natural gas systems shall be tested at 100 psi with air for a minimum of four hours.
3. Sanitary waste and vent systems shall be plugged and tested by filling water to the highest point and holding for a minimum of four hours.
4. Any leaks detected from the above tests shall be immediately repaired, replacing with new material where required and retested.
5. Test

3.7 STERILIZATION/CHLORINATION OF DOMESTIC WATER SYSTEMS:

A. Upon completion of the work, the entire water piping systems shall be sterilized before use by the following methods:

1. A solution of chlorine gas and water containing not less than 50 parts per million (PPM) of free chlorine shall be injected into the system, in such a manner as to insure that the entire system is completely filled with the solution. During this procedure, all valves shall be operated and outlets shall be tested for residual chlorine. Injection shall continue until all outlets indicate at least 50 PPM of free chlorine.
2. After injection, the system shall be isolated and the solution be held in retention, for a period no less than 24 hours. Tests shall be made for residual chlorine after retention. If such tests indicate less than 50 PPM of residual chlorine, the entire procedure shall be repeated. After satisfactory sterilization has been effected, the system shall be flushed from an approved source, until all traces of chlorine have been removed or until the chlorine content is no greater than that in the existing supply.
3. Until sterilization of the water system has been made, all domestic water outlets shall have signs posted at their location stating that the water system has not been sterilized and shall not be used for human consumption.
4. Sterilization shall be accomplished by Bennet Marine Utility Inc., or approved equal, acceptable to the Architect.
5. A certificate of sterilization/chlorination, together with bacteriological reports, shall be prepared by such firm and delivered to the Architect stating the work has been done in accordance with the specifications set forth above and that the system is bacteriologically safe and at least equal in safety to that of principal water supply.
PERALTA COMMUNITY COLLEGE DISTRICT
REHABILITATIONS TO LANEY COLLEGE ADMINISTRATIVE TOWER
FALLON AND EAST 10TH STREET

OAKLAND, CALIFORNIA

End of Section 15400
SECTION 26 00 50
GENERAL ELECTRICAL

PART 1 - GENERAL

1.1 DESCRIPTION

A. General: 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.

B. Work Included:

1. Lighting fixtures and lamps
2. Grounding
3. Patching, fire safing and sealing
4. Wireways
5. Branch circuit wiring and devices
6. Emergency lighting and exit signs
7. Panels and overcurrent devices
8. Fire alarm devices
9. Conduits, raceways and conductors and associated supports
10. Branch circuits, connections for equipment

C. Related Work Specified Elsewhere: Perform the following work, in accordance with appropriate sections of the specifications cited, where and as necessary to furnish a complete, working electrical installation.

1. Section 024120 – Selective Demolition
2. Section 030192 - Concrete
3. Section 099000 - Paints
4. Section 078400 - Fire stopping
5. Section 087100 - Door Hardware

1.2 REFERENCES

A. Codes and Regulations: The following publications or editions of the documents current at the time the project is on-going shall apply:

1. NEC National Electrical Code
2. CUBC - California Uniform Building Code
3. CUFC - California Uniform Fire Code
4. CCR - California Code of Regulations, Title 24
5. ADA - Americans with Disabilities Act
6. NFPA - National Fire Protection Association

B. Standards: 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. CBM - Certified Ballast Manufacturers
4. ANSI - American National Standard Institute

1.3 SUBMITTALS

A. Section 013300 - Submittals: Submittals.

B. Specific:

1. Submittals shall consist of detailed shop drawings, specifications, catalog "cuts" and data sheets containing physical and dimensioned information, performance data, electrical characteristics, materials used in fabrication, material finish and those optional accessories which are included and those which are excluded. In addition, include seismic data regarding installation and seismic withstand certification if applicable.

2. Each submittal shall be thoroughly reviewed by the contractor. The cover letter accompanying submittal letter shall list in full the items and data submitted and shall contain a statement acknowledging that the contractor has performed a detailed review of the submittal documents prior to submission. Failure to comply with this requirement shall constitute grounds for return of data for resubmission without review.

3. Contractor agrees that Shop Drawings submittals processed by the Engineer are not change-orders. The purpose of Shop Drawing submittals is to demonstrate to the Engineer that the Contractor understands the design concept. The Contractor demonstrates this understanding by indicating which equipment and material he intends to furnish and install, and by detailing the fabrication and installation methods he intends to use.

1.4 QUALITY ASSURANCE

A. Preparation, handling and installation shall be in accordance with manufacturer's written instructions and technical data particular to the product specified and/or approved except as otherwise specified. Coordinate work and cooperate with others in furnishing and placing this work. Work to approved shop drawings for work 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.

1.5 DRAWINGS

A. Layout: General layout shown on the drawings 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.
1.6 SUBSTITUTIONS

A. Section 01330 - Submittals: Substitutions.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Section 01660 - Materials and Equipment: transporting, handling, staging and protecting products.

B. Equipment and materials shall be properly stored and adequately protected and carefully handled to prevent damage before and during installation. Equipment and materials shall be handled, stored, and protected in accordance with the manufacturer's recommendations and as approved by the Owner. Electrical conduit shall be stored to provide protection from the weather and accidental damage. Plastic conduit shall be stored on even supports and in locations not subject to direct sun rays or excessive heat. Cables shall be sealed, stored and handled carefully to avoid damage to the outer covering or insulation and damage from moisture and weather. Damaged or defective items, in the opinion of the Architect or Engineer shall be replaced with new items at no cost to the Owner.

1.8 PERMITS AND FEES:

A. Provide, procure and pay for all permits, licenses and fees required to carry on and complete the work.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.1 TESTS

A. Tests shall be conducted during the construction period and at completion to determine conformity with applicable codes and with these specifications. Tests shall be performed in the presence of the Owner's Representative, and shall include, but are not limited to, the following:

1. Insulation Resistance: Perform 1000-volt D.C. tests for one minute on all 480 volt feeders and 500-volt D.C. tests on 208 volt feeder conductors, including the neutral, and make a typed record of all readings to be included in the maintenance instructions. Submit record for approval to Engineer. Repair or replace circuits showing less than 4 megohms resistance to ground. Make tests using Biddle Insulation Resistance Megger, or equal.

2. Circuits Continuity: Test all feeder and branch for continuity. Test all neutrals for improper grounds.

3. Equipment Operations: Test lighting circuits for correct operation through their control devices, including occupancy sensors and time switch controls.

4. Lighting Control Circuits: Perform operation tests for all lighting circuits.

5. Circuit Numbering Verification: Select on a random basis various circuit
breakers in the panelboards and cycle them on and off to verify compliance of the typed panel directories with actual field wiring.

6. Ground Fault Equipment: Test all ground fault sensing and trip control equipment in accordance with manufacturers instruction and NEC. Submit test results. Field verify that wiring is correctly connected and set pickup point and time delay as follows:

7. Product Failure: Any products which fail during the tests or are ruled unsatisfactory by the Owner shall be replaced, repaired, or corrected as prescribed by the Owner at the expense of the Contractor. Tests shall be performed after repairs, replacements or corrections until satisfactory performance is demonstrated.

8. Contractor to provide a written report to the owner.

3.2 INSTRUCTIONS AND MANUALS

A. Section 01783 - Operation and Maintenance Data: Instruction manuals.

B. At the time of completion, an adequate period 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 representatives. The Equipment Manufacturer shall provide product literature and application guides for the Users' reference.

C. Costs, if any, for the above services, shall be paid for by the Contractor.

3.3 PROJECT RECORD DOCUMENTS (RECORD DRAWINGS)

A. Provide project record drawings and specifications as required by other sections of the specifications and as required herein. Such drawings shall fully represent installed conditions including actual location of outlets, true panelboard connections following phase balancing routines, correct conduit and wire sizing as well as routing, revised fixture scheduling listing the Manufacturer and products actually installed and revised panel schedules. All changes to drawings shall be made by qualified draftspersons to match existing line work and lettering as closely as possible.

3.4 SCHEDULE OF WORK

A. Arrange work to conform to the schedule which has been established for the progress of the work. Advise regarding shipping schedule of major equipment.

3.5 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.

3.6 PROTECTION
A. Keep conduits, junction boxes, 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 paints, before final acceptance. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.

3.7 SPECIAL TOOLS

A. All special tools for proper operation and maintenance of the equipment provided under this section shall be delivered to the Owner's representative.

3.8 SEISMIC BRACING

A. All electrical components shall be braced and supported to conform to California Code of Regulations, CBC 1632 (1998) and shall accommodate displacements per CBC 1630.10 (1998).

3.9 CUTTING AND PATCHING

A. Install all required sleeves, forms and inserts before walls or partitions are built. Cutting and patching of walls, partitions, ceilings and floor necessary for reception of work, cause by failure to provide or properly located sleeves, forms and inserts, incorrect location of work or failure to cooperate with other trades, shall be done at expense of trade responsible.

B. No cutting of finished or structural work may be done without acceptance. When necessary to have finished material or structural work cut, finish necessary drawings to trade whose materials are out to be cut.

3.10 CLEARANCES

A. Provide necessary working clearances in front, above, and to sides for all electrical equipment as required by the National Electrical Code Article 110.

B. No non-electrical pipes or ducts shall pass directly over switchboards or panelboards. Where non-electrical pipes or ducts are found above switchboards or panelboards provide suitable structural ceiling below such pipes and ducts so that the conduits can be run from switchboards or panelboards and be properly supported from said ceiling. Ceiling construction shall be as approved by Architect.

END OF SECTION
SECTION 26 05 00
COMMON MATERIALS & METHODS

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work specified in this section encompasses products, assemblies and basic installation methods required for electrical project systems specified under this division and includes, but is not limited to:

1. Conduit, raceways, and fittings
2. Wire and cables.
3. Wire connections and devices
4. Hangers and supports
5. Outlet boxes
6. Pull and junction boxes
7. Switches and receptacles
8. Device plates.
9. Overcurrent protective devices
10. Disconnect switches
11. Cable Tray

1.2 SUBMITTALS

A. Submit in conformance with the requirements of Section 16010 the following items:

1. Switches and receptacles and device plates
2. Wire and cable
3. Overcurrent protective devices
4. Conduits, raceways, and fittings
5. Junction and pull boxes
6. Wireway/cable tray

PART 2 - PRODUCTS

2.1 CONDUIT AND FITTING

A. Rigid Steel Conduit

1. Conduit, rigid steel: full weight, threaded, hot- dip galvanized, inside enameled, conforming to ANSI C80.1


4. Threadless connectors: electroplated, cast malleable iron, on threaded male hub plastic insulated throat rated 90 degrees C minimum. Efcor 1750B
series, O.Z./Gedney 31-050 1T series or equal.

5. Insulated bushings: threaded polypropylene or thermosetting phenolic rated 150 degrees C minimum.


7. Insulated metallic bushings: threaded cast malleable iron body with plastic insulated throat rated 105 degrees C. O.Z./Gedney Type B, Thomas & Betts 1222 series or equal.

B. Electrical Metallic Tubing (EMT)

1. Conduit: Shall be formed of cold rolled strip steel, electrical resistance welded continuously along the longitudinal seam and hot-dip galvanized after fabrication. Conduit shall conform to ANSI C80.3 specifications and shall meet U.L. requirements.

2. Couplings: Electroplated, cast malleable iron, gland compression type, U.L. listed rain and concrete tight through 1-1/4 inch trade size. O.Z./Gedney 6050W series, Efcor 760 series, or equal. Set-screw type couplings may be used in dry locations, O.Z./Gedney 5050 series or equal.

3. Connectors: Gland compression type with cast malleable iron body with male hub and insulated plastic throat 150 degrees C temperature rated. O.Z./Gedney 4050 series or equal. Set-screw type couplings may be used in dry locations.

C. Flexible Metallic Conduit

1. Conduit: Shall be fabricated in continuous lengths from galvanized steel strip, spirally wound and formed to provide an interlocking design.

2. Fittings: Connectors shall be made of the screw clamp with cast malleable iron bodies and threaded male hubs with insulated throats.

D. Liquid Tight Flexible Metallic Conduit

1. Conduit: Anaconda Type U.A., Coleman Type Uxt1 or equal.

2. Fittings: Connector body and gland nut shall be of cadmium plated cast malleable iron, with insulated throat, T & B 5331 series, O.Z./Gedney 4Q-38-1T series, or equal.

E. Rigid Non-Metallic Conduit

1. Conduit: Carlon Schedule 40 PVC.

2. All fittings solvent welded. For use direct buried underground, and underground concrete encased.
F. Electrical Nonmetallic Tubing (ENT): Use is not allowed on project.

G. Metal-Clad Cable (MC): Use is allowed only for non-theatrical or non-auditorium areas of the project.

H. Minimum acceptable conduit size shall be 3/4 inch, except ½ inch may be used for connections to light fixtures and wall switches.

I. Surface Raceways: Surface raceways shall be as manufactured by Wiremold and per the following schedule:

<table>
<thead>
<tr>
<th>Surface raceways in Classrooms for data/video/voice/power</th>
<th>Wiremold 5400 series with all necessary covers and outlets, jacks for the various functions as noted on the drawings. Cable fill shall not exceed the 40% fill allowance per code.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface raceways in the Classrooms, corridors, and misc rooms for the fire alarm system, intercom, data, etc.</td>
<td>Wiremold 400/800/2300 series with all necessary covers and joints for a complete raceway for either power, data, voice, or video runs. Cable fill shall not exceed the 40% fill allowance per code</td>
</tr>
</tbody>
</table>

2.02 WIRE AND CABLE

A. General:

1. Acceptable manufacturers: Southwire, Triangle, PWC Inc., or equal.

2. Conductor material: All wire and cable shall copper. Minimum temperature rating shall be 75 degrees Celsius.

3. Insulation: Insulation shall be THWN-THHN for wire sizes through size 1/0 AWG. For larger sizes insulation shall may be THWN, XHHW or as required to suit application.

4. Fixture wire: Type AF.

5. Minimum conductor size: Power and lighting branch circuits: #12 AWG.

6. Color coding: Conductors shall be identified as to phase connections by means of color impregnated insulation or approved colored marking tapes as follows:

<table>
<thead>
<tr>
<th>VOLTAGE</th>
<th>A-PH.</th>
<th>B-PH.</th>
<th>C-PH.</th>
<th>NEUTRAL</th>
<th>GRD.</th>
</tr>
</thead>
<tbody>
<tr>
<td>208V/120</td>
<td>Black</td>
<td>Red</td>
<td>Blue</td>
<td>White</td>
<td>Green</td>
</tr>
</tbody>
</table>
7. Data Cable: Enhanced Category 6, 4 pair 24 gauge UTP, solid copper, yellow jacket, Berk-Tek LANmark 350 or equal.

8. Voice Cable: Minimum Category 3, 4 pair 24 gauge UTP, solid copper, blue jacket, BERK-Tek, Belden or equal.

9. Voice Trunk Cable: Minimum Category 3, 24 gauge solid copper, exact number of pairs as indicated on plans.

10. Video Cable: RG 6 co-axial cable

11. Fiber cable shall be single mode with minimum of 16 fibers. As manufacture by Superior Essex or approved equal.

2.03 WIRE CONNECTIONS

A. Wire Joints: Wires ranging in size from #18 to #8 AWG: 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, by 3M Scotch-loks, or equal.

Wire sizes: No. 6 AWG and larger join with solderless gutter tap connectors with rounded edges, two-bolt type for sizes No. 6 to 350 MCM and four-bolt type for 500 MCM and larger wire, or suitable compression connections.

B. 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.

C. Joints in wires in moist locations, copper conductors:
   1. No. 8 and smaller: Join as above and encapsulate by "Scotch-cast" kit or approved system.
   2. No. 6 and larger: Join with solderless connection and encapsulate by as specified.

D. Voice/Data Cables:
   1. Voice and Data cables shall be terminated at punch down blocks/patch panels and at each device jack location.
   2. Voice Terminal Blocks shall be 50 pair, 66-type block, Leviton 40066-M50 or equal.
   3. Data Patch Panel/Hub shall be Category 6 compliant, 8 position and 8 conductor modular ports on the front, 110 IDC contacts on the back, wired to T568B specifications and wall mountable.
   4. Voice/Data jacks shall be modular construction for outlet box cover
mounting, Leviton 41080 series or equal: Voice– Cat 3/ Data– Cat 6

2.04 OUTLET BOXES AND COVERS

A. Standard Outlet Boxes: Galvanized, one-piece, 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.

B. Cast Outlet Boxes: Malleable iron, for use with threaded conduit, of size and configuration best suited to the application. As manufactured by Appleton, Killark, or Crouse Hinds.

C. Cast Floor Boxes: Adjustable metallic floor boxes, sized as required to accommodate devices, with threaded plug openings, brass covers: As manufactured by Steel City, Walker or equal.

2.05 SWITCHES AND RECEPTACLES

A. General

1. All general purpose 20 ampere, 125-250 volt receptacles and 120-277 volt switches shall conform to NEMA WD-1 and applicable U.L. tests. Color of devices shall be black.

B. Receptacles

1. Ground fault circuit interrupter receptacle: NEMA type 5-20R, Leviton #6399 or equal.

2. Duplex receptacles shall be NEMA type 5-20R, heavy duty, specification grade, Leviton #5362, or equal.

C. Switches: Twenty amperes, 120-277 volts, fast make– slow break, quiet type switch with silver cadmium alloy contacts, binding head terminal screws, back and side wired. All switches shall be ivory in color.

1. Single pole, single throw: Leviton 1221, or equal.

2. Three-way: Leviton #1223, or equal.

3. Double pole, single throw: Leviton #1222, or equal.


D. Switches and Receptacles located with the Class I Division 2 areas will be installed per section NEC 500 and materials shall be rated to comply.

2.06 DEVICE PLATES

A. Flush Device Plates: Device plates shall be of one-piece type of suitable shape for the devices to be covered. Where the device plate does not cover the outlet opening, special large plates shall be used. Sectional Device Plates will not be permitted. Plates shall be brushed stainless steel type 302, 0.04 inches thick.
B. Surface Mounted Devices, indoor: Galvanized metal to fit box.

C. Outdoor, Weatherproof: Cast aluminum with hinged cover flap.

2.07 DISCONNECT SWITCHES

A. Switch Interior: Dead-front construction with hinged arc suppressor and switch blades which are fully visible in the "OFF" position and with door open.

B. Switch Mechanism: Quick-make and quick-break operating handle and mechanism with dual cover interlock to prevent unauthorized opening of the switch door in the "ON" position or closing the switch mechanism while the door is open.

C. Ratings: Switches shall be horsepower rated for the operating voltage and with fused or non-fused arrangements as shown on the drawings.

D. Enclosures: NEMA 1, code gauge sheet steel with hinged cover, NEMA 9 CLASS I DIVISION 2, or NEMA 3R as shown on drawings.

E. Required: Provide H.P. rated manual disconnect in sight form and within 25’ of each motor and packaged unit. Control circuit "lock-out" are not permitted. This disconnect is in addition to any other which may be required. Cord and plug is an acceptable disconnect for movable equipment.

2.08 PROTECTIVE DEVICES

A. Circuit Breakers:

1. Automatic Type: Molded case, bolt-on, thermal magnetic type, 40 degrees C. ambient temperature compensated, fixed mounting, with quick-make, quick-break switching mechanism mechanically trip-free from the operating handle and conforming to applicable.


B. Ratings: Refer to drawings and panel schedules for trip frame and poles required. Minimum short circuit rating for 120/208 volt breakers is 10,000 A., minimum short circuit rating for 480 volt breakers is 30,000 A., unless otherwise noted.

C. Manual motor starters: Fractional H.P. 1 phase motors shall be protected by thermal O.L. relay integral with the disconnect; "Motor-Minder, or equal.

D. Fuses: Non renewable type with dual elements, current limiting time delay, for motor Bussmann or equal.

E. Motor Starters (Not part of a motor control center): Furnished and installed under Division 15, connected under Division 16, unless otherwise noted.

2.09 ELECTRICAL SUPPORTING DEVICES

A. Concrete Fasteners: Remington, Ramset, or equal. Powder-driven concrete pin fasteners, low velocity type.
B. Conduit Straps: Hot-dip galvanized, cast malleable iron, one hole type strap with cast clamp-backs and spacers as required: O.Z./Gedney #14-50G strap and #141G spacer; Efcor #231 strap and #131 spacer, or equal.

C. Construction Channel: 1-1/2 inch by 1-1/2 inch 12 gauge galvanized steel channel with 17/32 inch diameter bolt holes, 1-1/2 inches on center, in the base of the channel: Kindorf 905 series, Unistrut P-1000-HS, or equal.

D. Fasteners: (General 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.

2.10 IDENTIFYING DEVICES

A. Nameplates: Engraved black Bakelite, 1 inch by 3-1/2 inch, 1-8 inch high white letters, machine screw retained. For permanent identification of all panelboards, motor starter and cabinet enclosed apparatus. Panelboard numbers shall be inside the panel door.

B. Panelboard Directories: Shall be typewritten, arranged in numerical order and shall show the number of the circuit is located. The room numbers used shall be verified with the Owner and shall not necessarily be those used in the drawings. Mount directories in a 6” x 8” metal frame under glass inside each panelboard.

C. All outlets and disconnects will be identified with the panel and circuit number(s) of its source of power on its faceplate.

D. Wire & Terminal Markers: Self-adhering, pre-printed vinyl with self-laminating wrap around strip. Brady B191 series; Thomas & Betts WSI series, or equal.

2.11 PLYWOOD BACKBOARDS

A. Where indicated for telephone or communication system terminals, or for motor control or other equipment assemblies, provide backboards of size indicated.

1. Use Douglas Fir plywood, exterior grade with "B" face, primed painted and finished painted with light gray flame retardant paint.

2. Unless otherwise indicated, provide 3/4” thick plywood.

2.12 TERMINAL CABINETS

A. Provide surface or recess mounted types of sizes indicated, constructed of code-gauge sheet steel with minimum 12-gauge hinged lockable doors and trim.

1. Lock shall be common keyed with panelboards.

2. Equip full area of each cabinet with 3/4” thick plywood backboard, painted as previously specified for plywood backboards.

3. On the inside of cabinet doors, provide index card holders for each section.
2.13 GROUNDING

A. Enclosures of equipment, raceways, and fixtures shall be permanently and effectively grounded. Provide code-sized, (unless otherwise indicated) copper, insulated green equipment ground with feeders per NEC. Equipment ground shall originate at panelboard ground bus and shall be bonded to all electrical equipment enclosures.

2.14 CABLE TRAY

A. Open light weight cable tray for routing of data/telephone conductors.

B. Manufacturers: Cablofil, Cooper B Line, Chalfant, or approved equal.

PART 3 - EXECUTION

3.1 CONDUIT AND RACEWAY APPLICATIONS

A. Rigid Steel Conduit: For all exposed conduits exposed to mechanical damage. Rigid Steel Conduit used at all exterior locations shall be with steel threaded watertight fittings.

B. Electrical Metallic Tubing (EMT): Interior power and lighting branch circuits where run concealed above suspended ceiling, in stud walls, furred spaces, and where not exposed to mechanical damage, or above 6 feet from floor. No set screw fittings allowed only compression fittings.

C. Flexible Metallic Conduit: In dry locations for connection from adjacent outlet boxes to transformers, vibrating equipment, and to lighting fixtures installed in suspended ceilings.

D. Liquid-Tight Flexible Metallic Conduit: In damp and wet locations for connection to all pump motors, solenoid valves, HVAC equipment and similar devices shall be made using liquid-tight flexible metallic conduit.

E. PVC Conduits: Schedule 40 PVC may be used underground with 3" sand under and 6" sand over when serving lighting circuits, power secondary circuits, and communications.

3.2 CONDUIT INSTALLATION

A. General

1. Conduit system shall be concealed unless exposed work is clearly called for on the drawings.

2. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing "pennies" to seal open ends.

3. In all empty conduits or ducts, install a 200-pound tensile strength polyethylene pulling rope.
4. Conduit systems shall be electrically continuous throughout. Install code size, insulated, copper, green grounding conductor in all conduit runs indicated, or required by code, or as indicated on drawings.

5. All exposed conduits shall be painted to match adjacent finishes after installation.

6. Conduit fill shall comply with the NEC.

B. Layout

1. Locations of conduit runs shall be planned in advance of the installation, and coordinated with the ductwork, plumbing, ceiling and wall construction in the same areas. and shall not unnecessarily cross other conduits or pipe, nor prevent removal of ceiling or tiles or panels, nor block access to mechanical or electrical equipment.

2. Where practical, install conduits in groups in parallel, vertical or horizontal runs and at elevations that avoid unnecessary offsets.

3. Exposed conduit shall be run parallel or at right angles to the centerlines of columns and beams.

4. Conduits shall not be placed closer than 12 inches from a parallel hot water or steam line or 3 inches from such lines crossing perpendicular to the runs.

C. Supports

1. All raceway systems shall be secured to the building structures using specified fasteners, clamps and hangers spaced according to code requirements.

2. Support single runs of conduit using one-hole pipe straps. Where run horizontally on walls in damp or wet location, install "clamp backs" to space conduit off the surface.

3. Multiple conduit runs shall be supported using "trapeze" hangers fabricated from specified construction channel, mounted to 1/2 inch diameter, threaded steel rods secured to building structures. Fasten conduit to construction channel with standard one hole pipe clamps or the equivalent.

D. Termination and Joints

1. Raceways shall be joined using specified coupling or transition couplings where dissimilar raceway systems are joined.

2. Conduits shall be securely fastened to cabinets, boxes and gutters using two locknuts and an insulating bushing or specified insulated connectors. Install grounding bushings or bonding jumpers on all conduits terminating at concentric knockouts.

3. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using specified connectors and hubs.
4. Install expansion couplings where any conduit crosses a building separation or expansion joint.

E. Penetrations

1. Waterproof through Exterior Walls and Floors Below Grade:
   a. Use cast iron sleeves with pre-manufactured sealing rings and pressure bushings as specified.
   b. Keep pressure bushing accessible for future tightening.
   c. Slopes: Slope conduit down from buildings and slope conduits into manholes and pull boxes.

2. Through Interior Concrete Walls and Floors; 2 Conduits and Less:
   a. General: Use rigid steel sleeves.
   b. Wall Sleeves: Extend 2" on both sides of wall.
   c. Floor Sleeves: Set flush with bottom of floor, extend 2" above floor.
   d. Sleeves for Future Use: Shall have threaded end with cap above floor and on one side of wall.

3. Through Interior Concrete Walls and Floors More the 2 Conduits: Provide precast opening in wall or floor. Fill openings around and between conduits with light-weight concrete or grout cement.

4. In Electrical and Telephone Rooms and Closets:
   a. Through floors, regardless of the number of penetrations, provide rigid steel sleeves as specified above for interior concrete walls and floors.
   b. Through walls provide slot openings to accommodate number of conduits.

5. Through Interior Fire Rated Dry Walls:
   a. For one or Two Conduits: Use sheet metal sleeves and 3-M fire seal compound per manufacturer's instructions. Extend sleeves minimum 1/4" on both sides of wall.
   b. For More Than Two Conduits: Provide opening in wall, maximum 3/4" larger than needed for conduits. Fill openings around and between conduits with grout cement or plaster.

6. Through Interior Non Fire Rated Dry Walls:
   a. Provide opening in wall, maximum 3/4" larger than needed for
conduit or group of conduits.

b. Fill opening around and between conduits with plaster.

7. Through Roof: Provide sheet metal flashing with sloping flanges between two layers of roofing material and separate watertight counter-flashing on conduit.

8. Filling of Wall Openings: Shall be flush with wall, smoothly finished and maintain original wall fire rating.

9. Wall and Floor Openings: Verify exact locations and sizes prior to installation.

E. Vertical Conduits: Support so that no weight of conduit will be carried by cabinet, pullbox, or junction box.

F. Floating Pad or Inertia Pad: Terminate conduit adjacent to pad and rigidly support with Unistrut channels with pertaining J-box or pullbox. Use liquid tight flexible conduit for final connection.

3.3 CABLE AND WIRE INSTALLATION

A. General

1. Conductors shall not be installed in conduit until all work of any nature that may cause injury is completed. Care shall 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 power and control cables shall be installed and tested in accordance with Manufacturer's requirements and warranty.

B. Voice/Data Cables:

1. All voice cables shall be tested for continuity, polarity and shorts.

2. All Data Cat 6 cables shall be tested in accordance with the EIA/TIA TSB-67 specifications for CAT 6 testing. Tests shall include wire map, length, attenuation, NEXT and must be performed by a Category 6 tester, WAVE-Tek LANtek PROXL or equal.

3.4 INSTALLATION OF BOXES AND WIRING SERVICES

A. General

1. All outlets shall finish flush with building walls, ceiling and floors except where exposed work is called for.

2. Install raised device covers (plaster rings) on all outlet boxes concealed in concrete, masonry or stud walls; or in furred, suspended, or exposed concrete ceilings Covers shall be of a depth to suit the wall or ceiling finish.
3. Leave no unused openings in any box. Install close-up plugs as required to seal openings.

4. Exposed outlet boxes and boxes in damp and 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. Outlet boxes in stud walls and partitions shall not be mounted back to back nor shall through-wall boxes be permitted.

C. Supports

1. Boxes installed in metal stud walls shall be equipped with brackets designed for attaching directly to the studs or shall be mounted on heavy gauge galvanized steel, snap-in box supports. Efcor MBS series or equal.

2. Fixture outlet boxes installed in suspended ceilings of gypsum board or lath and plaster construction shall be mounted to 16 gauge metal channel bars attached to main ceiling runners.

3. Fixture outlet boxes installed in suspended ceilings supporting acoustical tiles or panels shall be supported directly from the structures above wherever pendant-mounted fixtures are installed on the box.

D. Mounting Heights: Mounting heights of devices shall be as follows, and in accordance with persons with disabilities accessibility requirements of State code.

<table>
<thead>
<tr>
<th>Device</th>
<th>Height (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience receptacles</td>
<td>18</td>
</tr>
<tr>
<td>Convenience receptacles above counters or at lavatories</td>
<td>42</td>
</tr>
<tr>
<td>Switches, light</td>
<td>48</td>
</tr>
<tr>
<td>Telephone Outlet</td>
<td>18</td>
</tr>
<tr>
<td>Manual Pull Station to center line</td>
<td>48</td>
</tr>
<tr>
<td>Strobe Lights</td>
<td>80</td>
</tr>
<tr>
<td>Alarm Horn</td>
<td>80</td>
</tr>
</tbody>
</table>

END OF SECTION
SECTION 26 27 00
LOW VOLTAGE DISTRIBUTION EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work under this section includes products, assemblies and basic installation methods required for electrical systems specified herein but shall not be limited to the following:
   1. Panelboards.
   2. Disconnect Switches.

1.02 SUBMITTALS

A. Submit in conformance with the requirements of Section 26 00 50 the following items:
   1. Panelboards
   2. Disconnect Switches.

1.03 SERVICE VOLTAGES

A. Building Distribution Voltages:
   1. Service equipment: 120/208 volts, 3 phase, 4 wire.
   2. Lighting & receptacle panels: 120/208 volts, 3 phase, 4 wire.

PART 2 - PRODUCTS

2.01 PANELBOARDS

A. Manufacturer: General Electric, Square D, Cutler Hammer, Siemens, Challenger, or approved equal.

B. Construction: Cabinets shall be provided with stretcher-leveled, steel doors and trim of code thickness, complete with concealed butt hinges. Provide combination spring catch and lock on inside edge of door trims with good fitting joint between door and trim. Locks on all panelboards, cabinets and switchboards shall be keyed alike. Doors 36 inches and over shall be provided with a three-point latch. Provide necessary hardware to permit locking each circuit breaker handle in the "OFF" position. Provide a ground bar. Bus shall be full length.

C. Finish: Finish shall be standard gray ASA 61 enamel.

D. Overcurrent Devices; Molded case, thermal magnetic circuit breakers 40 degrees C., ambient compensated as specified under Section 26 05 00.

E. Terminal Lugs: Approval for use with copper or aluminum conductors.

F. Additional Features: Refer to Drawings for information regarding specific panel schedules including the following:
   Number and type of circuit breakers
   Bus ampacity and arrangements
   Terminal lug size and location
   Interrupting capacity
   Service voltage
Mounting arrangement

G. Standards: Panelboards shall be designed to meet the following applicable industry standards:

1. Underwriters' Laboratories - UL67, UL50, and E52977 (loadcenters).
2. NEMA PB1
3. National Electrical Code

2.02 MOTOR DISCONNECTS (SAFETY SWITCHES)

A. Provide and install motor disconnects (safety switches) where shown on the plans. All safety switches shall be NEMA Type GD and Underwriters Laboratories listed Enclosure rated for several purpose NEMA-1, or rainproof, NEMA Type 3R, shall be provided as shown on the plans. Switches shall be horsepower rated. All fusible switches shall accept Class R fuses and have provisions for field installation of a UL listed rejection features to reject all, except Class R fuses. Where fuses are required provide dual element type. Enclosures shall have a factory applied gray baked enamel finish.

PART 3 - EXECUTION

3.01 PANELBOARDS

A. Set cabinets plumb and symmetrical with building lines, with tops at 72" AFF maximum.

B. Free-standing switchboards and distribution panels, should be accurately aligned, leveled and bolted in place on full-length channels securely fastened to the 2" high concrete housekeeping pad.

C. Free-standing switchboards, equipment cabinets, etc., shall be anchored and braced to withstand seismic forces calculated in accordance with the Uniform Building Code, Section 2314. Free-standing switchboards shall have diagonal steel channel braces bolted to switchboard structure and to building structure.

D. "Train" interior wiring: Bundle and clamp using specified plastic wire wraps. Touch-up paint any marks, blemished, or other finish damage suffered during installation.

E. Replace cabinets, doors or trim exhibition dents, bends, warps or poor fit which may impede ready access, security or integrity. Install nameplates, legend plates, and panel directories as specified under Section 26 00 50.

*END OF SECTION*
PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included
   1. Furnishing, installation and connection of all fixtures, lamps, ballasts, lighting control devices, related components and accessory wiring as shown on the plans, Fixture Schedule or as specified herein.

B. Related Sections:
   1. Section 26 00 50 - General Requirements.

1.2 REFERENCES

A. ANSI C82.2
B. ASTM C635 AND E580.
C. NFPA 70.
D. UL 57, 924, 935
E. CCR TL24.
F. CBM.

1.3 SUBMITTALS

A. Submit in conformance with the requirements of Section 26 00 50 the following items:
   1. Catalog and photometric data for all lighting fixtures
   2. Shop drawings for all special fixtures
   3. Control devices, relays and cabinets

1.4 COORDINATION

A. Refer to Architectural Plans for exact location of lighting fixtures installed on exterior and interior of buildings and walkways.

PART 2 - PRODUCTS

2.1 LAMPS

A. Lamps shall be as manufactured by G.E., Sylvania/Osram, VEnture and Philips only.

B. Incandescent Lamps: General purpose A-base lamps shall be inside frosted, rated 125 VAC, or as noted on Fixture Schedule.

C. Fluorescent Lamps
   1. 24, 36 and 48 inch long lamps, shall be instant start energy saving T-8
Octron triphosphor 3500 degree K, 85 CRI. 32 watt super T8, minimum 3100 lumen 24000 hour rated life, 85CRI

2. Compact twin-tube and double twin-tube, 7, 9, 13, 18 and 26 watts nominal, triphosphor 3500 degree K, 82 CRI

D. Metal Halide Lamps: Clear bulb, medium or mogul base as required, 4000 degrees K, 65 CRI, pulse-start, position oriented type, as manufactured by Venture Lighting Uniform pulse start systems. Minimum average lamp life for 250 watt lamps shall be 15,000 hours.

2.2 BALLASTS

A. Ballasts shall be as manufactured by Advance, Etta, Valmont, or Magnetek. Minimum warranty shall be five years.

B. Fluorescent Lamp Ballasts

1. Ballasts for all 36" and shorter single tube fluorescent lamps shall be UL approved, CBM certified or ETL tested, Class P, Sound Rated A., "full output" energy-saving ballasts as follows: Advance Mark III; General Electric Maxi-Miser II; Jefferson Energy Lok; Universal SLH Watt Reducer or approved equal.

2. Ballasts for 48" long fluorescent lamps shall be full-electronic, instant start lamp type, for T8 lamps, with harmonic distortion <20% THD; Magnetek, ETTA, Advance or Venture.

3. Ballasts for compact fluorescent lamps shall be electronic-type with high power factor, as manufactured by Advance, ETI, or equal.

4. Ballasts shall be approved for use with energy saving lamps by the lamp manufacturer.

5. Ballast description, identifying manufacturer and product number, must be submitted with lighting fixture submittal.

6. Fluorescent lamp ballast and luminaires shall be certified by the manufacturer to comply with the CCR Appliance Standards for Fluorescent Ballasts (Section 2-5314, Table 53-G, Item 7).

B. Metal Halide Ballasts

1. Ballasts shall be of suitable type for Venture Uniform pulse-start MH lamps as specified. Ballasts shall operate lamps at full light output as published by lamp manufacturer.

2.3 REFRACTORS, REFLECTORS AND LOUVERS

A. All glassware, plastic and metal shall be uniform, free from defects, and photometrically tested for distribution by an independent testing laboratory.
B. Plastic diffusers shall be of virgin acrylic plastic.

C. Polished reflectors used with triphosphor compact lamps shall have anti-iridescent optical coating.

2.4 TIME SWITCHES & CONTACTORS

A. Provide electronic style time switches with battery powered power carryover feature, for control of exterior building lighting. Time switches shall have astronomic adjustment.

B. Time switches shall be listed by State of California in accordance with CCR Title 24 as manufactured by Tork, Sangamo or Intermatic. Time delay relays shall be as manufactured by GE, Cutler Hammer, Furnace, or Porter.

C. Where multiple circuits are controlled, provide multi-pole 30 ampere lighting contactors controlled by time switches. Contactors shall be as manufactured by GE, Sq D, ASCO, group mounted in suitable cabinets with lockable doors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Contractor shall be responsible for handling, and fixtures shall be plumb, level, in straight lines without distortion and clean.

B. Install each fixture in a manner recommended by the fixture manufacturer and approved by the Architect. Under this Section of the work, furnish and install all additional ceiling bracing, hanger supports and other structural reinforcements to the building required to properly and safely suspend fixtures, all as approved by the Architect.

C. Surface mounted exterior mounted fixtures shall have silicon caulking installed to maintain water tightness of outlet and wiring.

D. Fixtures in areas of exposed duct and pipe work shall be suspended to avoid conflict with same.

E. Pendant fixtures shall be provided with ball aligners and sway adapters. Fixture chain shall not be used for supporting fixtures. In addition to pendant conduits, install an 1/8" diameter stranded steel safety wire, secured to outlet box independent of pendant canopy, and secured to fixture independent of pendant connection.

F. Ballasts: Ballasts judged by the Architect to be noisy and failed or malfunctioning ballasts shall be replaced at no expense to the owner within 12 months after installation is completed.

3.2 FIXTURE SUPPORT - SUSPENDED CEILINGS
A. Fixture support - Suspended Ceilings: Ceiling members of suspended ceilings systems used to support fixtures shall be securely fastened to each other and shall securely attached to the building structure at appropriate intervals. Fixtures so supported shall be securely fastened to the ceiling framing members by mechanical means, such as bolts, screws or rivets. Clips identified for use with the type of ceiling framing member and fixture shall also be permitted.

B. In addition, the following shall apply:

1. Only "intermediate" and "heavy duty" ceiling systems may be used for the support of lighting fixtures.

2. When intermediate systems are used recessed fixtures weighting less than 20 lbs. shall have wires attached to the grid members within three inches of each corner of the fixture and secured to the main runners of the suspended ceiling system by bolts, screws, rivets or approved clips. Fixtures may also be secured from support members using black iron wire No.10 gauge, or other approved supports tied in a secure manner to the main runners.

3. All recessed lighting fixtures weighting 20 lbs or more but less than 56 lbs. shall have, in addition to the requirements set forth in NEC 410-16(c)2, #12 gauge minimum hanger wires connected from the fixture housing to the ceiling system hangers or to the structure above (These wires may be slack and may be the continuous looped end of the ceiling hanger wires).

4. Where heavy duty systems as defined in ASTM C 635-76 are installed, supplemental hangers wires as set forth in NEC 410-16(c)2 are not required if a 48 inches modular hanger pattern is followed.

5. Surface mounted fixtures shall be supported directly to the structure above by approved hangers.

6. Pendant mounted industrial fluorescent fixtures shall be provided with heavy- duty swivel aligner canopies.

7. See architectural general notes for required testing of hanger and bracing wires.

END OF SECTION
PART 1 - GENERAL

1.1 DESCRIPTION

A. Work specified in this section encompasses products, assemblies and basic installation methods required for a complete and operable fire alarm system, and includes, but is not limited to:

1. Modification to Main fire alarm control panel and auxiliary panels.
3. Smoke detectors, duct detectors and heat detectors.
4. Conduit and wiring system.
5. All necessary appurtenances.

1.2 QUALITY ASSURANCE

A. Each and all items of the Fire Alarm System shall be USFM listed only.

B. Fire Protection Signaling System shall not be installed until shop drawings, including State Fire Marshal listing numbers for each component of the system have been submitted and approved by the Fire Marshal. Submit only approved drawings to the Engineer.

1.3 SUBMITTALS

A. Submit in conformance with the requirements of Section 26 00 50 the following items:

1. Catalog data for all equipment, in manual form.

2. Shop drawings: submit a comprehensive schematic wiring diagram identifying each system component and its relative location with respect to other components and showing the number, size, identification and types of conductors required for the interconnection of all system components.

3. Plot plans and building floor plans showing location of devices, and conduit and wire requirements.

4. Battery and voltage drop calculations.

5. Point-to-point diagram.

6. Riser diagram.

B. Record drawings and Maintenance Manuals: At completion of the work and prior to final testing, the Contractor shall turn over to the Owner two sets of the following:

1. All shop drawings, instruction sheets, control diagrams, bulletins, and all pertinent information required by the fire alarm technicians for proper operation of each and every piece of equipment furnished under this contract.
2. Riser diagram showing all cables, junction boxes, terminal cabinets and devices, with all cable numbers indicated.

3. As-built drawings showing all cable routing, wire markings, and color-codes for each conductor.

1.4 SYSTEM DESCRIPTION

A. General: The FACP system (Simplex) existing on site is a Simplex 4020. The following describe the general functional requirements of the FACP system:

1. The FACP shall support the connection and reporting of alarm initiating, sprinkler supervision, and fire detection devices.
2. The FACP shall provide identification, annunciation, and communication of alarmed detectors by point and/or “grouped” zone.
3. The FACP shall be capable of segregating the points (i.e., a detector or group of detectors zoned together) into separate, independent reporting groups.
4. The FACP shall be expandable using hard-wired addressable identification modules.
5. The FACP shall be capable of supporting the DCP Intelligent protocol for the purpose of communicating with analog fire alarm sensors.
6. The FACP shall be UL listed to electrically self test itself and the analog smoke detector device connected to it.
7. The FACP shall have electrically supervised detection loops and power supplies (mains and battery(s)). This supervision shall be programmable for the purpose of reporting this information to the DACR (Digital Alarm Communicating Receiver).
8. The FACP shall be capable of monitoring and switching to a functional telephone line(s) when trying to establish communications with the DACR and transmitting a report.
9. The FACP shall be capable of reporting and communicating alarm or trouble event data by reporting to one, two, or three off-site remote Digital Alarm Communicator Receivers (DACR) via dial-up analog telephone lines.
10. The FACP shall be capable of sending (manually or automatically) test and status reports to remote DACRs.
11. The FACP shall be programmable locally. Programming shall be accomplished via a front panel keypad or a computer.
12. The FACP shall annunciate alarm, trouble, service reminders, and other relevant system status messages in custom English text at the Alarm Command Center (ACC).
13. The FACP shall be capable of activating 100 relays for auxiliary functions. Relays shall be programmable to follow one or more alarm or supervisory points.
14. The FACP shall be capable of interrogating each polling loop to determine device type by address for the purpose of self programming system response.
15. Each address in the system shall provide for the following type of response in the system:
   a. Fire Alarm Initiation
   b. Sprinkler System Device Supervision
   c. Positive Alarm Sequence
   d. Cross Zoning
B. All peripheral devices shall be the standard product of the original manufacturer Simplex, and shall display the manufacturer's name on each component.

C. Networking: When required for larger installations, the individual FACP can be configured to connected to other FACPs in a network configuration.

D. Fire Alarm System shall meet the minimum requirements of NFPA Pamphlets 71 and 72, 101 Life Safety Handbook, UBC Section 809, and UFC.

1.05 OPERATION

A. The system alarm operation subsequent to the alarm activation of any manual station, or automatic device, shall be as follows:

1. All audible alarm indicating appliances shall sound a continuous fire alarm signal/prerecorded message until silenced by the alarm silence switch at the control panel.

2. All visual alarm indicating appliances (Xenon Strobes) shall display a continuous pattern until extinguished by the Alarm Silence Switch.

3. Reset/Alarm Silence: Fire Alarm Control Panel shall be of the type that can silence the alarm without resetting the system.

4. Supervision of fire sprinkler systems pressure, water flow and tamper switches.

5. Provisions shall be made for the immediate notification of the public fire department by telephone. The telephone line shall be equipped for direct outside dial without going through a telephone switchboard.

1.6 SUPERVISION

A. System shall contain independently supervised initiation circuits so that a fault in any one zone shall not affect any other zone. The alarm activation of any initiation circuit shall not prevent the subsequent alarm operation of any other initiation circuit.

B. All auxiliary manual controls shall be supervised so that all switches must be returned to the normal automatic position to clear system trouble.

C. Each independently supervised circuit shall include discrete amber "Trouble" LED to indicate disarrangement conditions per circuit.

D. System shall be provided with sufficient battery capacity to operate the entire system upon loss of normal 120VAC power in a normal supervisory mode for a period of 60 hours with five minutes of alarm operation at the end of this period. The system shall automatically transfer to the standby batteries upon power failure. All battery charging and recharging operations shall be automatic.

E. All circuits requiring system operation power shall be 24VDC and shall be individually fused at the control panel.
2.1 FIRE ALARM CONTROL PANEL

A. Fire Alarm Control Panel is located in Administration building. Provide and install devices to the existing system as noted on the drawing. Construction shall be modular with solid state electronics. All visual indicators shall be high contrast, LED type. The existing FACP system control panel is Simplex model 4020.

B. Control panel shall contain the following features:

1. Initiation Device Circuits
2. Alarm Indication Appliance Circuit
3. Supervised Annunciator Circuits
4. Remote Station Module
5. 2 Form C Alarm Contacts (2.0 Amps ea.)
6. From C Trouble Contact (2.0 Amps ea.)
7. Earth Group Supervision Circuit
8. Basic 5 Amp Power Supply
9. Automatic Battery Charger
10. Standby Batteries

C. Zones: The Fire Alarm Control Panel shall have separate alarm zones for all detection circuits for the buildings, fire damper smoke detectors, area smoke detectors, heat detectors, including manual alarms, and sprinkler flow zones.

D. All products to be by Simplex unless approved by the Laney College.

2.2 PERIPHERAL DEVICES

A. Manual stations shall be addressable, type single action and shall be constructed of high impact, red Lexan with raised white lettering and a smooth high gloss finish. The break glass rod station shall have a hinged front with key lock. Stations that utilize screwdrivers, Allen wrenches, or other commonly available tools shall not be accepted. Stations shall be keyed alike with the fire alarm control panel. When the station is operated, the handle shall lock in a protruding manner to facilitate quick visual identification of the activated station.

B. Automatic initiating appliances:

1. Photoelectric smoke detectors
2. Heat Detectors
3. Duct Smoke Detectors

C. Audio/Visual Alarm Indicating Appliances:

1. Strobes shall operate at 24VDC, and strobe candela rating shall be as indicated on plans in accordance with CUBC, ADA and NFPA. Strobes in same room shall be synchronized-operation in accordance with CUBC and UFC.

2. Horns, flush mounted with grille, 96dBA at 10 feet, 24VDC. Where located on exterior of buildings, horns shall be of waterproof construction.

3. Mini-horns, flush mounted, 85-90dBA at 10 feet, 24VDC, shall be shall
provided for reduced sound levels in small rooms, such as restrooms, offices, and conference rooms.

4. Water flow alarm bells, 120VAC with protective cover, waterproof construction, for sprinkler water flow alarm.

D. All outdoor, peripheral devices shall be listed for exterior usage.

E. Addressable Zone Adapter Modules: mounted on 4 square outlet box.

F. Addressable Zone Control Relay: with dry contacts to switch loads, for fire dampers and HVAC unit shutdown.

G. Magnetic Door Holders: 24VDC of suitable design to suit doors. Refer to Architectural door finish schedules. Doors shall be released during fire emergency.

2.3 WIRING

A. Signaling Line Circuits: Twisted shielded pair No. 18 AWG.

B. Strobe/Horn: Minimum No. 14 AWG solid THHN-THWN, or larger, determined from voltage drop calculations.

C. Interconnection Circuit: Unshielded twisted pair No. 18 AWG minimum, UL listed for direct burial, with water blocked construction, moisture resistance PVC jacket.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Provide and install the system in accordance with the Plans and Specifications, all applicable codes and the Manufacturer’s recommendations.

1. All wiring shall be installed in strict compliance with all the provisions of NEC - Article 760 A and C, Power-Limited Fire Protective Signaling Circuits, or may be reclassified as non-power limited and wired in accordance with NEC-Article 760 A and B. Upon completion, the Contractor shall so certify in writing to the Owner and General Contractor.

2. All wiring shall be in conduit.

3. All junction boxes covers where located above suspended ceiling, or where exposed in stage or technical catwalk areas shall be sprayed red. Wiring color code shall be maintained throughout the installation.

B. Programming: Programming of the system shall include the following tasks:

1. Programming system configuration parameters (hardware and software, zone/circuit numbers, communications parameters).

2. Programming operational parameters such system response text (custom English) displays of events, activation of relays that drive auxiliary devices, and identifying types of zones/loops.
3. Other system programming tasks required by the owner. These additional programming requirements shall be coordinated between the owner and the contractor.

C. Installation of equipment and devices that pertain to other work in the Contract shall be closely coordinated with the appropriate Subcontractors.

D. Contractor shall clean all dirt and debris from the inside and the outside of the fire alarm equipment after completion of the installation.

E. Manufacturer’s authorized representative shall provide onsite supervision of installation.

3.2 TESTING

A. Completed fire alarm system shall be fully tested in accordance with applicable State Codes, and NFPA 72, by Contractor in the presence of the Owner's Representative and the Inspector of Record.

B. Hard-copy System Printout
   The contractor shall submit a hard-copy system printout of all components tested and certify 100 percent operation indicating all devices/panels/units have passed the test criteria set forth by the manufacturer.

C. An acceptance test plan form shall be prepared/provided by the contractor prior to the acceptance walk-through. This form shall include separate sections for each device/panel/unit as well as a column indicating the manufacturer’s performance allowance/margin, a column indicating the result of the testing performed by the contractor (pass/fail), and an empty column for recording findings during the walk-through.

D. Upon completion of a successful test, Contractor shall so certify in writing to the Owner and General Contractor.

3.3 WARRANTY

A. Contractor shall warrant the completed fire alarm system wiring and equipment to be free of inherent mechanical and electrical defects for a period of one (1) year (parts and labor) from the date of the completed and certified test or from the date of first beneficial use. Warranty service shall be provided by a qualified factory-trained service representative. System maintenance and repair of system or workmanship defects during the warranty period shall be provided by the Contractor free of charge (parts and labor).

B. Manufacturer shall make available to the Owner a maintenance contract proposal to provide a minimum of two (2) inspections and tests per year in compliance with NFPA-72 guidelines.

C. Extended service/maintenance agreements shall be offered by the Contractor for up to four years after the warranty expires. The agreement shall be renewable monthly, quarterly, or yearly.

END OF SECTION