ADDENDUM No. 2 DATED JUNE 10, 2014
TO THE PROJECT MANUAL and PLANS

(Bid No. 13-14/ 29) LANEY COLLEGE CHILDLIFE CARE REMODEL
PROJECT NO. 6206

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. **Acknowledge receipt of this addendum in the space provided on the BID FORM. Failure to do so may subject Bidder to disqualification.**

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Item 2: Contractor shall delete the bid drawings and replace them with the attached DSA approved drawings dated 5/29/2014.

The following is a list of the changes from the original bid set to the DSA approved bid set. The following list is to assist Bidder in review of the DSA approved Bid Set; however Bidder shall in no way limit their review of the new DSA approved Bid Set solely on this narrative and is responsible for all parts thereof.

1. Sheet A0.00
   - Index of Drawing has been revised to include the fire alarm drawings.
   - Add to Deferred Approvals, Upgrade of the Ansl System to UL 300.
   - Applicable Codes have been updated.

2. Sheet C1.00 - no changes

3. Sheet A1.01
   - Plan 1, added sign on post per detail 5/A9.00 at the entrance to the driveway.
   - Plan 1, added keynote tag 02.34 to north entrance paving
   - Added keynote 02.34 - (E) concrete paving
   - Legend is corrected to show all patterns

4. Sheet A1.02
   - Detail 1, slope are change to 4.5% with a rise of 4".
• Detail 2, added transition between concrete walkway are indicated to be flush with a maximum gap of ½”
• Detail 3, added maximum distance to grade is indicated as 2’-6”.
• Detail 5, added missing patterns
• Detail 6, parking stall is increased to 8’-0” wide and keynote for ISA is replaced with detail tag
• Legend is corrected to show all patterns
• The following missing keypoints were added:
  02.17 – Blue Strip at Edge of Concrete Paving.
  02.24 – (E) Seat Wall
  02.25 – 20” x 20” Play Surface Tiles on 4” Base Rock

5. Sheet A1.03
• Detail 6, note change to read: “Painted Yellow Stripe with Embedded Sand at each Tread and Edge of Landing”.
• Detail 9, changed wedge anchor to Hilti TZ SS 304
• Detail 11, changed gate latch. See change to spec section 02820
• Moved “Curve Fence - Gate Hinge” detail to Detail 15
• Added Detail 13, “Walkway to Play Surface Ramp”, which refers to keynote 02.33.
• Added Detail 14, “Steel Fence Gate”.
• Added Detail 16, “Curved Fence”, which adds solid panels at the bottom of the gate.
• Added Detail 17, “Ext. Handrail Mounting”

6. Sheet A1.04
• Added missing keynote 02.29 – 1 ½” Handrail.

7. Sheet A2.00
• Plan 1, added sheet note “Remove Flooring, Typ.”.
• Plan 2, changed the doors to restrooms 7 and 8 to swing out instead of into the rooms.
• Plan 2, revised the toilet and partition layout at the north end of restrooms 12 and 19 and added grab bars.
• Added note to Kitchen 15 “(e) Kitchen hood, upgrade kitchen Ansul to UL 300”

8. Reference: Sheet A2.01
• Changed the doors to restrooms 7 and 8 to swing out instead of into the rooms.

9. Reference: Sheet A3.00
• At the north elevation 6, added existing fence elevation and keynote 05.05 to existing gate.
• Delete keypoints 01.01, 01.02, 01.03, and 08.03.
• Added the following keypoints:
  05.05 – (E) Steel Fence and Gate, Modify Gate per Detail 14.A1.03.
  06.14 – Remove Battens and Chair Rail, Install Fiber Cement Boards and Battens over (E) Siding with “Z” Flashing at Joints

10. Sheet A9.00
• Detail 1, revised restroom signage
• Detail 4, updated standard mounting locations
• Detail 5, added sign on top of ADA sign
• Detail 7 added

11. Sheet A9.01
• Detail 2, added height dimensions
12. Sheet A9.02
   • Detail 5, changed expansion anchor
   • Detail 7, change fastener
   • Detail 9 added
   • Detail 12, added plan view of blocking connect

13. Sheets FA0.01, FA1.00, FA6.01 and FA6.02 added.

14. Specification Section 00 0110 Table of Contents
   • Added Section 02500 Asphalt Paving
   • Added Section 13852 Fire Alarm

15. Specification Section 00 0115 List of Drawing.
   • Added fire alarm drawings.

16. Specification Section 01 1100 Summary of Work.
   • Added fire alarm system to article 1.02.A.

17. Specification Section 02500 Asphalt Paving added.

18. Specification Section 08700 – Finished Hardware
   • Hardware Group 5, changed lockset to panic, CD99NL-3’, Von Duprin, 626.


END OF ADDENDUM NO. 2
REMINDER - BID DATE IS JUNE 17, 2014 AT 2:00 P.M.
Peralta Community College District

Project Manual for:

Bid No. 13-14/29

Laney College Child Care Remodel
Project Number: 6206

Located at:
900 Fallon Street, Oakland, CA 94607
May 15, 2014

Peralta Community College District
Department of General Services
Atheria Smith, Facilities Project Manager
(510) 587-7864

Gelfand Partners Architects
165 Tenth Street, Suite 100
San Francisco, California 94103

Bid No.: 13-14/29
Advertisement Date: 5/15/14 & 5/22/14
Bid Date: 6/10/14
(Project No.: 6206)
Child Care Center Renovation
Laney College
East 10th Street
Oakland, CA 94606

BACKCHECK
May 29, 2014
GPA Project # 1402
DSA Application #01-114100
DSA File #1-C1

Gelfand Partners
ARCHITECTS
165 Tenth Street #100, San Francisco, CA 94103 - 415-346-4040

ARCHITECT
Gelfand Partners Architects
165 Tenth Street, Suite 100
San Francisco CA 94103
415-346-4040

FIRE ALARM
EDesignC
582 Market Street, Suite 400
San Francisco CA 94104
415-963-4303
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- 10442 Signage
- 10800 Toilet Room Accessories

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## DIVISION 12 – FURNISHINGS
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## DIVISION 13 - SPECIAL CONSTRUCTION
- 13852 Fire Alarm

## DIVISION 14-16 - MECHANICAL, PLUMBING AND ELECTRICAL – Not Used

Note: see drawings for specified plumbing and light fixture.

**END OF SECTION**
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 01 15

LIST OF DRAWINGS

A0.00 TITLE SHEET
C1.00 SURVEY
A1.01 SITE PLAN
A1.02 ENLARGED SITE PLANS
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A1.04 ENLARGED SITE PLAN - WEST YARD
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A9.01 CASEWORK DETAILS
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FA0.01 SITE PLAN AND DETAILS
FA1.00 FIRE ALARM FLOOR PLAN
FA6.01 FIRE ALARM CALCULATIONS AND RISER DAIGRAM
FA6.02 FIRE ALARM REFERENCE SHEET

END OF DOCUMENT
NOTICE INVITING BIDS

1.01 Notice Inviting Bids: Owner will receive sealed Bids at Peralta Community College District, Purchasing Department, 501 5th Avenue, Oakland, CA 94606 until 2 p.m. on June 10, 2014 for the following public work:

Peralta Community College District
Laney College Child Care Remodel
900 Fallon Street, Oakland, CA 94607

1.02 Project Description: The existing facility is child care center for the children of staff and students of the Peralta Community College District. This is not an instructional facility.

1.03 The project is a renovation that generally includes ADA upgrades, window and exterior door replacement, cabinets, flooring, replacement of ceiling tiles, replacement of plumbing fixtures, exterior and interior painting, siding repair, signage, movable wall replacement, regrading of play yards, play structures, play surface replacement, concrete and asphalt paving, landscaping and irrigation in accordance with the Construction Documents prepared by Gelfand Partners Architects.

The project shall be Substantially Completed within 90 Calendar days from the date when Contract Time commences to run.

Procurement of Bidding Documents: Bidding Documents contain the full description of the Work. Bidders may obtain Bidding Documents from

(Available for purchase)
ARC Northern California
1700 Jefferson Street,
Oakland, CA 94612
Tel. (510) 287-5485 Fax (510) 444-1264
www.e-arc.com
Email: oakland@e-arc.com

Note: The Bid and Contract Documents are available at ARC Northern California for non-refundable payment of the cost of reprographics and shipping per set. Payment shall be made to ARC Northern California.

(Available for viewing)

Department of General Services
Plan Room
Peralta Community College District
333 East 8th Street, Oakland, CA 94606

A copy of Contract Documents may be obtained online through the Peralta Website.

Website: www.peralta.edu
Under “Quick Links”, click “Business Opportunities” to download the bid packet
The following plan room services have received sets of Bidding Documents for the Work contemplated herein:

Builders Exchange of Alameda
3055 Alvarado Street
San Leandro, CA 94577
Tel. 510-483-8880 Fax 510-352-1509
Email: beac@beac.com

1.04 **Bid shall be received** at 501 5th Avenue. For information pertaining to the Bidding Documents, please contact **John Hiebert**, District Buyer.

   a. **Bid shall be received and reviewed at:**

   Peralta Community College District
   Purchasing Department
   Attn: **John Hiebert**
   501 5th Avenue
   Oakland, CA 94606
   (510) 466-7217

1.05 **Instructions:** Bidders shall refer to Document 00 2000 Instructions to Bidders for required documents and items to be submitted in a sealed envelope, at 501 5th Avenue no later than the time and date set forth in Paragraph 1 above.

1.06 **Mandatory Pre-Bid Site Visit:** PCCDD will conduct a Mandatory Pre-Bid Conference and Site Visit at **10:00 AM on May 27, 2014** the conference room of the Department of General Services, Peralta Community College District, 333 East 8th Street, Oakland, CA 94606. The Pre-Bid Conference and Site Visit will last approximately two hours.

1.07 **Bid Preparation Cost:** Bidders are solely responsible for the cost of preparing their Bids.

1.08 **Reservation of Rights:** Owner specifically reserves the right, in its sole discretion, to reject any or all Bids, to re-bid, or to waive inconsequential defects in bidding not involving time, price or quality of the work. Owner may reject any and all Bids and waive any minor irregularities in the Bids.

**ARTICLE 2 – LEGAL REQUIREMENTS**

2.01 **Required Contractor’s License(s):** A California **B class** contractor’s license is required to bid this contract. Joint ventures must secure a joint venture license prior to award of this contract.

2.02 **Substitution of Securities:** Owner will permit the successful bidder to substitute securities for any retention monies withheld to ensure performance of the contract, as set forth in Document 00 6290 Escrow Agreement For Security Deposits In Lieu Of Retention and incorporated herein in full by this reference, in accordance with Section 22300 of the California Public Contract Code.

2.03 **Prevailing Wage Laws:** The successful Bidder must comply with all prevailing wage laws applicable to the Project, and related requirements contained in the Contract Documents. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations.

END OF DOCUMENT
Bids are requested by Owner, for a general construction contract, or work described in general, as set forth in Document 00 1113 (Notice Inviting Bids), and the following additional terms.

ARTICLE 1 - PROCEDURES FOR SUBMISSION OF BIDS

1.01 Required Pre-Bid Conference and Site Visit
A. Owner will conduct Pre-Bid Conference and Site Visit at the date, time and location indicated in Document 00 1113 (Notice Inviting Bids), to consider such matters as Bidders may request and perform a Site Visit immediately following, at the Site. Bidders must attend Pre-Bid Conference and Site Visit and sign an attendance roster as a condition to bidding.
B. The Site Visit may be the Bidders’ only opportunity to investigate conditions at the Site. Other Pre-Bid Site Visits may be scheduled at Owner’s sole discretion, depending on staff availability.

1.02 Required Pre-Bid Investigations
A. Prior to submission of Bid, Bidder must conduct a careful examination of Bidding Documents and understand the nature, extent, and location of Work to be performed. Refer to Document 00 7200 (General Conditions) on required pre-bid investigations.
B. Bidders may examine any available existing conditions information (e.g., record documents, specifications, studies, drawings of previous work), as well as applicable environmental assessment information (if any) regarding the Project, at the District plan room, 333 East 8th Street. Contact Atheria Smith, (510) 587-7864 to schedule an appointment.

1.03 Bidder Questions and Answers
A. Bidders must direct all questions about the meaning or intent of Bidding Documents to Owner in writing, via email to Johnnie Fudge (jfudge@peralta.edu). Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by written Addenda mailed, faxed, or delivered to all parties recorded by Owner as having received Bidding Documents. Owner may not answer questions received less than ten days prior to the date for opening bids.
B. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect, and Bidders shall not rely on oral statements.

1.04 Addenda
A. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner. Addenda shall be acknowledged by number in Document 00 4113 (Bid Form) and shall be part of the Contract Documents. A complete listing of Addenda may be secured from Owner.

ARTICLE 2 - RECEIPT OF BIDS:

2.01 Date and Time
A. Sealed Bids will be received by the Owner until the date and time indicated in Document 00 1113 (Notice Inviting Bids). All Bid envelopes will be time-stamped to reflect their submittal time. Owner shall reject all Bids received after the specified time and will return such Bids to Bidders unopened. Bidders must submit Bids in accordance with this Document 00 2113.
2.02 **Bid Submission:**
A. Owner will receive Bids in opaque sealed 10 inch x 13 inch envelopes, containing the required items described herein.
B. Bidders should mark their Bid envelopes using the name, address, identifying information and contract number, indicated in Document 00 1113 (Notice Inviting Bids).

2.03 **Required Contents of “Envelope” – Bid Submittals”**
A. Document 00 4113 (Bid Form). Bidders must submit Bids on Document 00 4113 (Bid Form) in accordance with the provisions of Document 00 4113. Bidders must complete all Bid items and supply all information required by Bid documents and specifications.
B. Document 00 4313 (Bond Accompanying Bid). Bidders must submit Document 00 4313 (Bond Accompanying Bid) accompanied by a cashier’s check, certified check (certified without qualification and drawn on a solvent bank of the State of California or a National Bank doing business in the State of California) or completed form of Document 00 4313 of not less than 10% of the base Bid, payable to Owner and completed in accordance with the provisions of Document 00 4313.
C. Document 00 4314 (Bidder Registration Form). Bidders must submit Document 00 4314 (Bidder Registration and Experience Form), completed in accordance with the provisions of Document 00 4314.
D. Document 00 4330 (Subcontractor List). Bidders must submit Document 00 4330 (Subcontractors List) completed in accordance with the provisions of Document 00 4330. The Subcontractors List must include the names of all subcontractors for those subcontractors who will perform any portion of work, including labor, rendering of service, or specially fabricating and installing a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of the total Bid amount. Any violation of this requirement may result in a Bid being deemed non-responsive and not being considered.
E. Document 00 4513 (Statement of Qualifications). Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Document 00 2000 (Instructions to Bidders) and Document 00 4513 (Statement of Qualifications). Failure to complete the questionnaire or inclusion of any false statement(s) shall be ground for immediate disqualification.
F. Document 00 4519 (Non-Collusion Affidavit). Bidders must submit Document 00 4519 (Non-Collusion Affidavit) completed in accordance with the provisions of Document 00 4519.
G. Document 00 4546 (Bidder Certifications). Bidders must submit Document 00 4546 (Bidder Certification) completed in accordance with the provisions of Document 00 4546.

**ARTICLE 3 - BID OPENING AND EVALUATION**

3.01 **Determination of Apparent Low Bidder**
A. Owner will open each Bidders’ Envelope at the time and place indicated in Document 00 1113 (Notice Inviting Bids), initially evaluate them for responsiveness, and determine an Apparent Low Bidder as specified herein.
B. Apparent Low Bid will be determined solely on the total amount of all Bid items based on terms contained in Document 00 1113 (Notice Inviting Bids) and Document 00 4113 (Bid Form). All Bidders are required to submit Bids on all Bid items (including any alternates).
C. If Apparent Low Bidder is determined to be non-responsive or non-responsible, then Owner may proceed to the next Apparent Low Bidder’s Bid pursuant to any procedures determined in its reasonable discretion, and proceed for all purposes as if this Apparent Low Bidder were the original Apparent Low Bidder.
3.02 Evaluation of Bids
A. Bids must be full, complete, clearly written and using the required forms. Bidders shall make any change in the Bid by crossing out the original entry, entering and initialing the new entry. Bidder’s failure to submit all required documents strictly as required entitles Owner to reject the Bid as non-responsive. All Bidders must submit Bids containing each of the fully executed documents supplied in this Project Manual.
B. In evaluating Bids, Owner will consider Bidders’ qualifications, whether or not the Bids comply with the prescribed requirements, unit prices, and other data, as may be requested in Document 00 4113 (Bid Form) or prior to the Notice of Award.
C. Owner may conduct reasonable investigations and reference checks of Bidder and other persons and organizations as Owner deems necessary to assist in the evaluation of any Bid and to establish Bidder’s responsibility, qualifications, financial ability and ability to perform the Work in accordance with the Contract Documents to Owner’s satisfaction within the prescribed time. Submission of a Bid constitutes Bidder’s consent to the foregoing.
D. Owner shall have the right to consider information provided by sources other than Bidder. Owner shall also have the right to communicate directly with Bidder’s surety regarding Bidder’s bonds.
E. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between written words and figures will be resolved in favor of the words.
F. Bids shall be deemed to include the written responses of the Bidder to any questions or requests for information of Owner made as part of Bid evaluation process after submission of Bid.

3.03 Reservation of Rights
A. Owner reserves the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional Bids, and to reject the Bid of any Bidder as non-responsive as a result of any error or omission in the Bid, or if Owner believes that it would not be in the best interest of Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. For purposes of this paragraph, an "unbalanced Bid" is one having nominal prices for some Bid items and enhanced prices for other Bid items.
B. Owner may retain Bid securities and Bid bonds of other than the Apparent Low Bidder for a period of 90 Days after award or full execution of the Contract, whichever first occurs.
C. Owner may reject any or all Bids and waive any informalities or minor irregularities in the Bids. Owner also reserves the right, in its discretion, to reject any or all Bids and to re-Bid the Project.

ARTICLE 4 - MANDATORY BID PROTEST PROCEDURES:

4.01 Submission of Written Bid Protest
A. Any Bid protest in connection with the construction contract or work described in general in Document 00 1113 (Notice Inviting Bids) must be submitted in writing to Purchasing Department address listed below, before 2:00 P.M. of the fifth Business Day following opening of the Bidders’ envelopes.

Peralta Community College District
Purchasing Department
Attn: John Hiebert
501 5th Avenue
Oakland, CA 94606
(510) 466-7217
B. The initial protest document must contain a complete statement of the basis for the protest.

C. The protest must refer to the specific portion of the document that forms the basis for the protest.

D. The protest must include the name, address, and telephone number of the person representing the protesting party.

E. Only Bidders who the Owner otherwise determines are responsive and responsible are eligible to protest a Bid; protests from any other Bidder will not be considered. In order to determine whether a protesting Bidder is responsive and responsible, Owner may evaluate all information contained in any protesting Bidder’s Bid, and conduct the same investigation and evaluation as Owner is entitled to take regarding an Apparent Low Bidder.

F. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

4.02 Exclusive Remedy

A. The procedure and time limits set forth in this paragraph are mandatory and are Bidder’s sole and exclusive remedy in the event of Bid protest. Bidder’s failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings. A Bidder may not rely on a protest submitted by another Bidder, but must timely pursue its own protest.

ARTICLE 5 - AWARD AND EXECUTION OF CONTRACT

5.01 Notice of Award and Submittal of Executed Contract Documents

A. If Contract is to be awarded, it will be awarded to the lowest responsible responsive Bidder. Owner will issue Document 00 5100 Notice of Award. Such Award, if made, will be made within sixty (60) days after the opening of the Bid Proposals.

B. Successful Bidder must execute and submit to Owner the “Required Contract Documents and Proof of Insurance” set forth below, by 5:00 p.m. of the 20th Day following the Notice of Award.

5.02 Required Contract Documents and Proof of Insurance

A. Document 00 5200 (Agreement), fully executed by successful Bidder. Submit four originals, each bearing an original signature and initials on each page.

B. Document 00 6113.13 (Construction Performance Bond), fully executed by successful Bidder and surety, in the amount set forth in Document 00 6113.13. Submit three originals.

C. Document 00 6113.16 (Construction Labor and Material Payment Bond), fully executed by successful Bidder and surety, in the amount set forth in Document 00 6113.16. Submit three originals.

D. Document 00 6536 (Guaranty), fully executed by successful Bidder.

E. Insurance certificates and endorsements required by Document 00 7316 (Supplementary Conditions—Insurance): Submit one original set.
5.03 Failure to Execute and Deliver Documents:

A. If Bidder to whom Contract is awarded, within the period described in this Document 00 2113, fails or neglects to execute and deliver all required Contract Documents and file all required bonds, insurance certificates, and other documents, Owner may, in its sole discretion, rescind the award, recover on Bidder’s surety bond, or deposit Bidder’s cashier’s check or certified check for collection, and retain the proceeds thereof as liquidated damages for Bidder’s failure to enter into the Contract Documents. Bidder agrees that calculating the damages Owner may suffer as a result of Bidder’s failure to execute and deliver all required Contract Documents would be extremely difficult and impractical and that the amount of Bidder’s required Bid security shall be the agreed and presumed amount of Owner’s damages.

B. Upon such failure to timely deliver all required Contract Documents as set forth herein, Owner may determine the next Apparent Low Bidder and proceed accordingly. Such Award, if made, will be made within sixty (60) days after the opening of the Bid Proposals.

ARTICLE 6 - GENERAL CONDITIONS AND REQUIREMENTS

6.01 Modification of Commencement of Work:

A. Owner expressly reserves the right to modify the date for the Commencement of Work under the Contract and to independently perform and complete work related to Project. Owner accepts no responsibility to Contractor for any delays attributed to its need to complete independent work at the Site.

B. Owner shall have the right to communicate directly with Apparent Low Bidder’s proposed performance bond surety, to confirm the performance bond. Owner may elect to extend the time to receive faithful performance and labor and material payment bonds.

6.02 Conformed Project Manual:

A. Following Award of Contract, Owner may prepare a conformed Project Manual reflecting Addenda issued during bidding, which will, failing objection, constitute the approved Project Manual.

6.03 Payment Bond:

A. If the Project described in Document 00 1113 (Notice Inviting Bids) involves an expenditure in excess of twenty-five thousand dollars ($25,000), the successful Bidder must file a payment bond with and approved by Owner prior to entering upon the performance of the Work, in accordance with Civil Code § 3247.

6.04 Wage Rates:

A. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations.

6.05 Withdrawal of Bids:

A. Bidders may withdraw their Bids at any time prior to the Bid opening time fixed in this Document 00 2113, only by written request for the withdrawal of Bid filed with Owner at Purchasing Department address listed below; Bidder or its duly authorized representative shall execute request to withdraw Bid.

Peralta Community College District
Purchasing Department
Attn: John Hiebert
501 5th Avenue
Oakland, CA 94606
(510) 466-7217
6.06 **Ineligible Contractors and Subcontractors:**

A. Owner shall not accept a Bid from a Bidder who is ineligible to bid or work on, or be awarded, a public works project pursuant to California Labor Code section 1777.1 or 1777.7. Bidders and the Contractor who is awarded the project contract shall not utilize, or allow work by, any subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to California Labor Code Section 1777.1 or 1777.7. (See California Public Contract Code Section 6109.) The California Division of Labor Standards Enforcement publishes a list of debarred contractors and subcontractors on the Internet at www.dir.ca.gov/DLSE/debar.html.

6.07 **Substitutions:**

A. Bidders must base their Bids on products and systems specified in Contract Documents or listed by name in Addenda. Owner will consider substitution requests only for “or equal items.” Bidders wanting to use “or equal” item(s) may submit Document 00 6325 (Substitution Request Form) no later than 35 Days after Notice of Award. As a limitation on Bidder's privilege to request substitution of “or equal” items, Owner has found that certain items are designated as Owner standards and certain items are designated to match existing items in use on a particular public improvement either completed or in the course of completion or are available from one source. As to such items, Owner will not permit substitution. Such items are described in the Bidding Documents.

6.08 **Definitions:**

A. All abbreviations and definitions of terms used in this Document 00 2113 are set forth in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions).

**END OF DOCUMENT**
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 4113

BID FORM

TO THE BOARD OF TRUSTEES OF THE PERALTA COMMUNITY COLLEGE DISTRICT

THIS BID IS SUBMITTED BY:

____________________________________________________________________________________

(Firm/Company Name)

Re: Laney College Child Care Remodel at 900 Fallon Street, Oakland, CA 94607, Project No. 6206, Bid No. 13-14/29

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with THE PERALTA COMMUNITY COLLEGE DISTRICT in the form included in the Contract Documents, Document 00 5200 (Agreement), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.

2. Bidder accepts all of the terms and conditions of the Contract Documents, Document 00 1113 (Notice Inviting Bids), and Document 00 2113 (Instructions to Bidders), including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for 60 Days after the day of Bid opening, unless there is a bid protest, then 90 days after the day of bid opening.

3. In submitting this Bid, Bidder represents that Bidder has examined all of the Contract Documents, performed all necessary Pre-Bid investigations, received the Pre-Bid conference minutes (if any), and received the following Addenda:

<table>
<thead>
<tr>
<th>Addendum Number</th>
<th>ADDENDUM DATE</th>
<th>Signature of Bidder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Bid Prices:
Bid Price

Bid items are described in Section 01 1100 (Summary of Work).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>ESTIMATED QUANTITY</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Allowance</td>
<td></td>
<td>---</td>
<td>--- $5,000.00</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Additive Alternate #1</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>$</td>
</tr>
<tr>
<td>3.</td>
<td>Additive Alternate #2</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>$</td>
</tr>
<tr>
<td>4.</td>
<td>Additive Alternate #3</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>$</td>
</tr>
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<td>5.</td>
<td>Additive Alternate #4</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>$</td>
</tr>
<tr>
<td>6.</td>
<td>All Work of Contract Documents other than Work separately provided for under other Bid items</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>TOTAL BID PRICE</td>
<td></td>
<td></td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

Total Bid Price:

(Insert Total Bid Price in Words)

5. Subcontractors for work included in all Bid items are listed on Document 00 4330 (Subcontractors List) submitted herewith.

6. The undersigned Bidder understands that Owner reserves the right to reject this Bid.

7. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in Paragraph 2 of this Document 00 4113 or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute and deliver the documents required by Document 00 2113 (Instructions to Bidders) within the times specified therein.

8. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.

9. The undersigned Bidder herewith encloses cash, a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in Document 00 2113 (Instructions to Bidders), in the amount of ten percent (10%) of the Total Bid Price and made payable to THE PERALTA COMMUNITY COLLEGE DISTRICT.

10. The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in Document 00 7200 (General Conditions) and to complete all Work within the time specified in Document 00 5200 (Agreement).

11. The undersigned Bidder agrees that, in accordance with Document 00 7200 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified in Document 00 5200 (Agreement) shall be as set forth in Document 00 5200.
12. The names of all persons interested in the foregoing Bid as principals are:

**IMPORTANT NOTICE:** If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.

**NAME OF BIDDER:** ___________________________________________________________________

licensed in accordance with an act for the registration of Contractors, and with license number:_____________________________ Expiration: ________________.

_____________________________________________ (Principal)

_____________________________________________ (Principal)

_____________________________________________ (Principal)

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

___________________________________________ (Signature of Bidder)

**NOTE:** If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address: ________________________________________________

__________________________________________

__________________________________________

Contractor’s Representative(s): ____________________________________

__________________________________________ (Name/Title)

__________________________________________ (Name/Title)

__________________________________________ (Name/Title)
Officers Authorized to Sign Contracts

__________________________________________
(Name/Title)

__________________________________________
(Name/Title)

__________________________________________
(Name/Title)

Telephone Number(s):

__________________________________________
(Area Code)  (Number)

__________________________________________
(Area Code)  (Number)

Fax Number(s):

__________________________________________
(Area Code)  (Number)

__________________________________________
(Area Code)  (Number)

Date of Bid:

__________________________________________

END OF DOCUMENT
KNOW ALL BY THESE PRESENTS:

That the undersigned

______________________________

(Name of Contractor)

as Principal and the undersigned as Surety are held and firmly bound unto Owner, the Peralta
Community College District, as obligee, in the penal sum of (Dollar Amount In Words)

$__________________________

lawful money of the United States of America being at least ten percent (10%) of the aggregate amount of
said Principal __________________________ _________________________’s base Bid, for the
payment of which, well and truly to be made, we bind ourselves, our successors, executors,
administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is submitting a Bid for Owner Project No. 6206, Bid No. 13-14/29
Laney College Child Care Remodel

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Bid submitted by the said Principal
be accepted and the Contract be awarded to said Principal and said Principal shall within the required
periods enter into the Contract so awarded and provide the required Construction Performance Bond,
Construction Labor and Material Payment Bond, insurance certificates, Guarantee, and all other
endorsements, forms, and documents required under Document 00 2000 (Instructions to Bidders), then
this obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument this _____
day of ______________________________, 20____.

(Month)

(Corporate Seal) By ________________________________

Principal

(Corporate Seal) By ________________________________

Surety

(Corporate Seal) By ________________________________

Attorney in Fact

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 4314

BIDDER REGISTRATION FORM

INSTRUCTIONS

In order to register to undertake work for Owner, Bidder must:

1) Fill out this registration form completely; do not leave blanks.
2) Provide certificates of insurance or a letter evidencing coverage complying with Document 00 4513 (Statement of Qualifications).

INDEPENDENT CONTRACTOR REGISTRATION

Contractor’s License # ____________________________________________

Date: ___________________ Fed I.D. # ________________________________

Full Corporate Name of Company: _________________________________

Street Address: _________________________________________________

Mailing Address: ________________________________________________

Phone: ___________________ Fax: _________________________________

Name of Principal Contact: ______________________________________

Type of Business: ______ Sole Proprietor ______ Partnership

____ Non-Profit 501(c)(3) ______ Corporation

____ other (please explain:______________________________________)

INSURANCE

Workers’ Compensation:

Carrier: _______________________________________________________

Address: ______________________________________________________

Phone and Fax: ________________________________________________

Policy Number: ________________________________________________

General Liability:

Carrier: _______________________________________________________

Address: ______________________________________________________

Bidder Registration Form

Laney College Child Care Remodel
Phone and Fax: ________________________________________________________________
Policy Number: ________________________________________________________________
Policy Limits: $ ________________________________________________________________
A.M. Best Rating: ______________________________________________________________

**Automobile Liability:**

Carrier: _______________________________________________________________________
Address: _______________________________________________________________________
Phone and Fax: __________________________________________________________________
Policy Number: __________________________________________________________________
Policy Limits: $ __________________________________________________________________
A.M. Best Rating: __________________________________________________________________

**All-risk Course of Construction (if applicable, as required by Document 00 7316 [Supplementary Conditions – Insurance]):**

Carrier: _______________________________________________________________________
Address: _______________________________________________________________________
Phone and Fax: __________________________________________________________________
Policy Number: __________________________________________________________________
Policy Limits: $ __________________________________________________________________
A.M. Best Rating: __________________________________________________________________

**Professional Liability (if applicable, as required by Document 00 7316 [Supplementary Conditions – Insurance]):**

Carrier: _______________________________________________________________________
Address: _______________________________________________________________________
Phone and Fax: __________________________________________________________________
Policy Number: __________________________________________________________________
Policy Limits: $ __________________________________________________________________
A.M. Best Rating: __________________________________________________________________
Pollution Legal Liability Insurance (if applicable, as required by Document 00 7316 [Supplementary Conditions – Insurance]):

Carrier: ____________________________________________________________
Address: ___________________________________________________________
Phone and Fax: _______________________________________________________  
Policy Number: _______________________________________________________  
Policy Limits: $ _______________________________________________________
A.M. Best Rating: ____________________________________________________

BIDDER CERTIFIES, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND AUTHORIZES OWNER, AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

SIGNATURE

________________________________________

DATE

________________________________________
SAFETY EXPERIENCE

The following statements as to the Bidder’s safety experience are submitted with the Bid, as part thereof, and the Bidder guarantees the truthfulness and accuracy of all information.

1. List Bidder’s interstate Experience Modification Rate for the last three years.

   [20_] _____ [20_] _____ [20_] _____

2. Use Bidder’s last year’s Cal/OSHA 200 log to fill in the following number of injuries and illnesses:

   a. Number of lost workday cases   _______________

   b. Number of medical treatment cases   _______________

   c. Number of fatalities   _______________

3. Employee hours worked last year   _______________

4. State the name of Bidder’s safety engineer/manager:

   Attach a resume or outline of this individual’s safety and health qualifications and experience.

   I CERTIFY, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND I AUTHORIZE OWNER, AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

   BIDDER:

   By: ________________________________

   Signature

   Its: ________________________________

   Title

   Date______________________________

END OF DOCUMENT
Bidder submits the following information as to the subcontractors Bidder intends to employ if awarded the Contract.

<table>
<thead>
<tr>
<th>Full Name of Subcontractor and Address of Mill or Shop</th>
<th>Description of Work: Reference to Bid Items</th>
<th>Subcontractor's License No.</th>
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</table>

(Bidder to attach additional sheets if necessary)

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 4513

STATEMENT OF QUALIFICATIONS FOR CONSTRUCTION WORK

ARTICLE 1 – GENERAL INFORMATION

1.01 Minimum Bidder Qualifications.

A. Bidders must be duly licensed in accordance with the California Business & Professions Code and have a history of work performance sufficient to meet the requirements of a responsible bidder in the California Public Contract Code Section 1104.

B. Bidders must have three (3) years experience as a continuously operating entity engaged in the performance of similar work.

C. Bidders must demonstrate successful experience with type of work of this Project, to include, within the past year, completed two (2) projects of a similar nature and complexity with a contract dollar amount of at (i.) least 75% of the amount of Bidder’s Bid or (ii.) 125% of such amount in the aggregate.

1.02 Measurement.

A. Bidder’s compliance with the minimum qualification requirements will be measured by Bidder’s experience as an operating entity and also by the experience of the supervisory personnel who will have responsible charge of the various major components of the Work.

B. If Bidder subcontracts portions of the Work, Owner, in its determination of whether the minimum qualification requirements have been met, may consider the qualifications of the Subcontractor’s supervisory personnel.

ARTICLE 2 – REQUIRED CONTENTS OF SOQ SUBMISSION

2.01 Transmittal Letter.

A. The Transmittal Letter shall name the proposed prime contractor, its legal structure (i.e., corporation, partnership, limited partnership, joint venture). If a joint venture or partnership is proposed, Bidder shall identify partner and/or member of the joint venture and their roles and responsibilities.

2.02 Submittals:

A. Completed Questionnaire. Bidder shall include a completed Statement of Qualification Questionnaire in the form attached to this Document 00 4513 as Attachment “A”.

B. Resumes of Proposed Key Personnel. Bidder shall provide a resume for each named Key Personnel of Bidder, to include as necessary: Years of experience; Education - degrees, schools and years obtained; Professional Registrations; Fluency in English (Yes/No); At least two client references, including contact names, addresses and telephone numbers, and description of projects of a similar nature worked on in the past five years.

C. Audited or Reviewed Financial Statements. Include audited or reviewed financial statements for the three most recently completed fiscal years for Bidder and each member of any proposed consorting or joint venture. Also include audited or reviewed financial statements for the three most recently completed fiscal years for any parent companies) of Bidder and each member of any proposed consortium oriole venture.

D. Surety Letter re: Capability to Provide Required Performance and Payment Bonds. Bidder shall include a letter from a surety duly licensed to do business in the State of California, having a financial rating from A.M. Best Company of A-, VII or better, that the surety has agreed to provide Bidder with the required performance and payment bonds in accordance with the requirements
set forth in Documents 00 6113.13 (Construction Performance Bond) and 00 6113.16
(Construction Labor and material Payment bold), each in the penal sum of the Contractor’s bid
when submitted. Owner shall have the right to verify with the surety that the surety, based upon
the Bid prices, will issue the required bonds under the conditions stated.

E. **Insurer Letter re: Capability to Provide the Required Insurance.** Bidder shall provide a letter from
an insurance underwriter, having a financial rating reasonably acceptable to Owner, confirming
that the insurer will provide Bidder the required coverages and amounts specified in the Contract
Documents.

F. **Description of Human and Physical Resources.** Bidder shall identify, describe, and quantify for
itself, the following technical information for the construction work: Description and location of
manufacturing facilities, naming products and quantifying production capacity and current
demand; Description of field organization(s), naming skills and equipment; Description of safety
program quality control procedures, and safety experience; and

G. **License: Evidence of a valid contractor's license and required licenses of all licensees of persons**
who are Key Personnel necessary to perform the Work.

H. **Litigation History.** Description of litigation history for the past three years, including names of
involved parties, nature of dispute, and disposition.

2.03 **Format.**

A. The SOQ shall be clear and concise to enable management-oriented personnel to make a
thorough evaluation and arrive at a sound determination as to whether the SOQ meet Owner's
requirement. To this end, the SOQ should be so specific, detailed and complete as to
demonstrate clearly and fully that the Bidder has a thorough understanding of and has
demonstrated knowledge of the requirements to perform the Work (or applicable portion thereof).

B. Any explanation requested by a Bidder regarding the meaning or interpretation of this Document
00 4513 must be requested in writing and with sufficient time allowed for a reply to reach Bidder
before the submission of its SOQ. Oral explanations or instructions will not be binding. Any
information provided to any prospective Bidder concerning this Document 00 4513 will be
furnished to all prospective Bidders as an Addendum to the Bidding Documents.

**STATEMENT OF QUALIFICATION QUESTIONNAIRE FOLLOWS ON NEXT PAGE**
ATTACHMENT “A” – Statement of Qualification Questionnaire

Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Document 00 2000 (Instructions to Bidders) and Document 00 4513 (Statement of Qualifications). Failure to complete the questionnaire or inclusion of any false statement(s) shall be ground for immediate disqualification.

CONTACT INFORMATION

Company Name: ____________________________________________

Owner of Company: ____________________________________________

Contact Person: ____________________________________________

Address: ____________________________________________

Phone: __________________ Fax: __________________

PART A: GENERAL INFORMATION

1. Does Bidder possess a valid and current California Contractor's license for the work proposed? Yes ___ No ___

2. Does Bidder have a minimum of $1,000,000 liability insurance coverage? Yes ___ No ___

3. Has Bidder’s License been revoked at any time in the last five years? Yes ___ No ___

4. Has Bidder been “default terminated” by an Owner (other than for convenience), or has a Surety completed a contract for Bidder within the last five years? Yes ___ No ___

5. Has Bidder been convicted more than twice for failure to pay prevailing wages in the last three years? Yes ___ No ___

6. Has Bidder attached copies of its reviewed or audited financial statements and accompanying notes for the last three years? Yes ___ No ___

Bidder may be disqualified if any answer to questions 1, 2, or 6 is No.

Bidder may be disqualified if any answer to questions 3, 4, or 5 is Yes.

PART B: SAFETY, PREVAILING WAGE, DISPUTES AND BONDS

(SAFETY)

1. Has Cal/OHSA, Federal OSHA, the EPA or any Air Quality Management Owner cited Bidder in the past five years? Yes ___ No ___ If yes, attach description of each citation.

2. How often does Bidder require documented safety meetings be held for:
   Field Supervisor Weekly _____ Bi-Weekly _____ Monthly _____ Less Than Monthly _____
   Employees Weekly _____ Bi-Weekly _____ Monthly _____ Less Than Monthly _____
   New Hires Weekly _____ Bi-Weekly _____ Monthly _____ Less Than Monthly _____
   Subcontractors Weekly _____ Bi-Weekly _____ Monthly _____ Less Than Monthly _____

3. How often does Bidder conduct documented safety inspections?
   Quarterly _____ Semi-annually _____ Annually _____ Other _____

4. Does Bidder have home office safety representatives who visit/audit the job site?
   Quarterly _____ Semi-annually _____ Annually _____ Other _____

Statement of Qualifications
Laney College Child Care Remodel

00 4513 - 3
5. What is Bidder’s Interstate Experience Modification Rate? ___________. (A rating in excess of [1] may constitute grounds for disqualification as non-responsible).

(PREVAILING WAGE PROVISIONS)

6. Has Bidder been fined, penalized or otherwise found to have violated any prevailing wage or labor code provision? If yes, attach description of each occurrence.
   Yes _____ No _____

(LICENSE PROVISIONS)

7. Has Bidder changed names or license numbers in the past 5 years? If so, please state reason for change.
   Yes _____ No _____ Reason: ____________________________________________________________

(DISPUTES)

8. Has Bidder had any claims, litigation, or disputes ending in mediation or arbitration, or termination for cause associated with any project in the past 5 years? If yes, attach description of each instance including details of total claim amount, settlement amount, and Owner’s name and phone number.
   Yes _____ No _____

(BONDING)

9. Bonding Capacity – Provide documentation from Bidder’s surety identifying the following:
   Name of bonding company/surety: _______________________________________________________
   Name of Surety Agent: ______________________________________________________________
   Surety Agent address: ______________________________________________________________
   Surety Agent phone number: _________________________________________________________
   Is surety a California-admitted surety? Yes _____ No _____
   Is surety listed in the current edition of the California Department of the Treasury’s Listing of approved sureties? Yes _____ No _____
   List surety’s A.M. Best Rating: ______________________________________________________
   What is Bidder’s total bonding capacity? _____________________________________________
   What percent does Bidder pay for bonds? _____________________________________________
PART C: EXPERIENCE OF PRIME CONTRACTOR

The nature of this Project requires prior similar experience for the firm and the Key Personnel assigned. Summarize similar project experience below and provide the detailed project information requested:

**Prime Contractor.** List three projects of similar size and scope to the Work of the Contract, completed in the past two (2) years, and indicate who were the superintendent, project manager and scheduler. **NOTE:** this listing will be used to assess compliance with the stated minimum qualifications in Paragraph 1.01B.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Construction Cost ($)</th>
<th>Year Completed</th>
<th>Name of Project Superintendent</th>
<th>Name of Project Manager</th>
<th>Name of Project Scheduler</th>
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List Key Personnel that will be assigned to the Work of the current Project and their experience/training with the projects listed above:

- **Project Manager:** ________________________________________________________________
- **Project Superintendent:** ________________________________________________________
- **Project Scheduler:** ____________________________________________________________
Recent Projects.

Provide information about three (3) of its most currently completed projects. Names and references must be current and verifiable. this listing will be used to assess compliance with the stated minimum qualifications in Paragraph 1.01B. If a separate sheet is used, it must contain all of the following information:

1. Project Name: _____________________________________________________________
   Location: __________________________________________________________________
   Owner: _____________________________________________________________________
   Owner Contact (name and phone): _____________________________________________
   Architect/Engineer: __________________________________________________________
   Architect/Engineer Contact (name and phone number): ___________________________
   Const. Mgr. or Project Mgr. (name and phone number): __________________________
   Description of Project, Scope of Work Performed: ________________________________
   Total Construction Cost: _____________________________________________________
   Total Change Order Amount: _________________________________________________
   Did Change Orders exceed 10% of original contract sum? ___________ If yes, please explain on separate sheet.
   Original Scheduled Date of Completion: ________________________________________
   Time Extensions Granted (number of Days): _________________________________
   Actual Date of Completion: _________________________________________________
   Number of Stop Notices filed by Subcontractors or Suppliers: ____________________

2. Project Name: _____________________________________________________________
   Location: __________________________________________________________________
   Owner: _____________________________________________________________________
   Owner Contact (name and phone): _____________________________________________
   Architect/Engineer: __________________________________________________________
   Architect/Engineer Contact (name and phone number): ___________________________
   Const. Mgr. Or Project Mgr. (name and phone number): __________________________
   Description of Project, Scope of Work Performed: ________________________________
   _____________________________________________________________

Statement of Qualifications
Laney College Child Care Remodel
Total Construction Cost: ____________________________________________________________

Total Change Order Amount: ________________________________________________________

Did Change Orders exceed 10% of original contract sum? __________ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____________________________________________

Time Extensions Granted (number of Days): __________________________________________

Actual Date of Completion: ________________________________________________________

Number of Stop Notices filed by Subcontractors or Suppliers: ____________________________

3. Project Name: _____________________________________________________________________

Location: _________________________________________________________________________

Owner: __________________________________________________________________________

Owner Contact (name and phone): ____________________________________________________

Architect/Engineer: _________________________________________________________________

Architect/Engineer Contact (name and phone number): _________________________________

Const. Mgr. Or Project Mgr. (name and phone number): _________________________________

Description of Project, Scope of Work Performed: _________________________________________

________________________________________________________________________________

Total Construction Cost: ____________________________________________________________

Total Change Order Amount: ________________________________________________________

Did Change Orders exceed 10% of original contract sum? __________ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____________________________________________

Time Extensions Granted (number of Days): __________________________________________

Actual Date of Completion: ________________________________________________________

Number of Stop Notices filed by Subcontractors or Suppliers: ____________________________

PART D: FINANCIAL INFORMATION

1. Has Bidder ever reorganized under the protection of bankruptcy laws?  
   Yes _____ No _____ If yes, please state when _________________

2. If Bidder has had the general liability carrier identified in Document 00 4314 (Bidder Registration and Safety Experience Form) for less than 5 years, please provide additional information below for balance of the last 5 years:

   Agency Name: ____________________________________________________________________
   Contact Name: ____________________________________________________________________
   Phone Number ____________________________________________________________________
   Carrier: ___________________________________ A.M. Best Rating: ________________________
   Carrier: ___________________________________ A.M. Best Rating: ________________________
   Carrier: ___________________________________ A.M. Best Rating: ________________________

3. Has Bidder ever had insurance terminated by a carrier? Yes _____ No _____
   If yes, explain on a separate signed sheet marked with correlating cross-reference to this paragraph of the questionnaire.

Bidder hereby declares under penalty of perjury that all the information provided in this questionnaire is true and correct.

________________________________________________  
SIGNATURE

________________________________________________  
TITLE

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 4519

NON-COLLUSION AFFIDAVIT

PUBLIC CONTRACT CODE §7106

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

STATE OF CALIFORNIA  )
COUNTY OF _______________ ) ss.

_________________________________________________________________, being first duly sworn,
(Name of Principal of Bidder)

deposes and says that he or she is _______________________________________________________
(Office of Affiant)

of _________________________________________________________________________, the party
(Name of Bidder)

making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed
person, partnership, company, association, organization, or corporation; that the Bid is genuine and not
collusive or sham; that Bidder has not directly or indirectly induced or solicited any other bidder to put in a
false or sham Bid, and has not directly or indirectly colluded, conspired, connived or agreed with any
bidder or anyone else to put in a sham Bid, or that anyone shall refrain from bidding, and that the Bidder
has not in any manner, directly or indirectly, sought by agreement, communication or conference with
anyone to fix the Bid price of Bidder or any other bidder, or to fix any overhead, profit or cost element of
the Bid price, or of that of any other bidder, or to secure any advantage against Owner, or anyone
interested in the proposed contract; that all statements contained in the Bid are true; and further, that
Bidder has not, directly or indirectly, submitted its Bid price or any breakdown thereof, or the contents
thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any
corporation, partnership, company association, organization, Bid depository, or to any member or agent
thereof to effectuate a collusive or sham Bid.

Executed under penalty of perjury under the laws of the State of California:

(Name of Bidder)

(Signature of Principal)
Subscribed and sworn before me ________________________________

This _____________ day of ____________________________, 201__

Notary Public of the State of ________________________________

In and for the County of ________________________________

My Commission expires ________________________________  (Seal)

NOTE: If Bidder is a partnership or a joint venture, this affidavit must be signed and sworn to by every member of the partnership or venture.

NOTE: If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this affidavit must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer.

NOTE: If Bidder’s affidavit on this form is made outside the State of California, the official position of the person taking such affidavit shall be certified according to law.

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 4546

BIDDER CERTIFICATIONS

TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID

The undersigned Bidder certifies to Owner as set forth in sections 1 through 5 below.

1. STATEMENT OF CONVICTIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, unappealable finding of contempt of court by a Federal Court has been issued against Bidder within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

2. CERTIFICATION OF WORKER’S COMPENSATION INSURANCE

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker’s 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.

3. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the California Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with California Labor Code §1776, regarding wage records, and with California Labor Code §1777.5, regarding the employment and training of apprentices. It is the Contractor’s responsibility to ensure compliance by any and all subcontractors performing work under this Contract.

4. CERTIFICATION OF COMPLIANCE WITH PUBLIC WORKS CHAPTER OF LABOR CODE

By my signature hereunder, as the Contractor, I certify that I am aware of Sections 1777.1 and 1777.7 of the California Labor Code and Contractor and Subcontractors and am eligible to bid and work on public works projects.

5. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code Section 2810(a), I certify that, if awarded the Contract based on the undersigned’s Bid, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided. I understand that the County will be relying on this certification if it awards the Contract to the undersigned.

BIDDER:

__________________________________________

(Name of Bidder)

Date: ____________________, [201 ]

By:____________________________________

(Signature)

Name:____________________________________

(Print Name)

Its:____________________________________

(Title)

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 5100

NOTICE OF AWARD

Dated ______________________________

TO: ______________________________

ADDRESS: ______________________________

CONTRACT NO.: ______________________________

CONTRACT FOR: Peralta Community College District,
Laney College Child Care Remodel
900 Fallon Street, Oakland, CA 94607

The Contract Sum of your contract is ______________________________________________________

_______________________________________________________Dollars ($____________________).

1. Five copies of the proposed Contract Documents listed below accompany this Notice of Award.

2. You must comply with the following conditions precedent by [5:00 p.m.] of the [20th Day]
following the date of this Notice of Award, that is, by [Day of the Week, Month Day, 201____].

   a. Deliver to Owner [four] fully executed counterparts of Document 00 5200 (Agreement).
   Each copy of Document 00 5200 (Agreement) must bear your original signature on the
   signature page and your initials on each page.

   b. Deliver to Owner three originals of Document 00 6113.13 (Construction Performance
   Bond), executed by you and your surety.

   c. Deliver to Owner three originals of Document 00 6113.16 (Construction Labor and
   Material Payment Bond), executed by you and your surety.

   d. Deliver to Owner original set of the insurance certificates with endorsements required
   under Document 00 7316 (Supplementary Conditions – Insurance).

   e. Deliver to Owner four original copies of Document 00 6536 (Guaranty), each executed by
   you.

3. Failure to comply with these conditions within the time specified will entitle Owner to consider
your Bid abandoned, to annul this Notice of Award, and to declare your Bid security forfeited.

4. Within [21 Days] after you comply with the conditions in Paragraph 2 of this Document 00 5100,
Owner will return to you one fully signed counterpart of Document 00 5200 (Agreement) with 4 copies
of the Project Manual (including Specifications and Drawings) and 4 sets of full-size Drawings.

5. Before you may start any Work at the Site, you must attend a preconstruction conference. The
preconstruction conference may be arranged through Johnnie Fudge, (510) 466-7213. Questions
regarding bonds and insurance may be directed to Johnnie Fudge.
6. Upon commencement of the Work, you and each of your Subcontractors shall certify and provide Owner copies of payroll records on forms provided by the Division of Labor Standards Enforcement, in accordance with California Labor Code §1776.

OWNER

BY: ________________________________
    (Title)

______________________________
    (Print Name)

ATTEST: ________________________________
    Secretary

______________________________
    (Print Name)

AUTHORIZED BY [CITY / COUNTY / DISTRICT] RESOLUTION:

NO: ________________________________

ADOPTED: ________________________________, [201__]

[Copy of Resolution Attached]

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 5200

AGREEMENT

THIS AGREEMENT, dated this [date] day of [Month], [201____], by and between [Name of Contractor] whose place of business is located at [Address of Contractor] ("Contractor"), and Peralta Community College District acting under and by virtue of the authority vested in Owner by the laws of the State of California.

WHEREAS, Owner, by its Resolution No. [insert number] adopted on the [date] day of [Month, Year] awarded to Contractor the following Contract:

Project No. 6206, Bid No. 13-14/29

Laney College Child Care Remodel
at
900 Fallon Street, Oakland, CA 94607

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and Owner agree as follows:

ARTICLE 1 - SCOPE OF WORK OF THE CONTRACT

1.01 Work of the Contract
   A. Contractor shall complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents.

1.02 Price for Completion of the Work
   A. Owner shall pay Contractor the following Contract Sum (Contract Sum) for completion of Work in accordance with Contract Documents as set forth in Contractor’s Bid, attached hereto.
   B. The Contract Sum includes all allowances (if any).

ARTICLE 2 - COMMENCEMENT AND COMPLETION OF WORK

2.01 Commencement of Work
   A. Contractor shall commence Work on the date established in the Notice to Proceed.
   B. Owner reserves the right to modify or alter the Commencement Date.

2.02 Completion of Work
   A. Contractor shall achieve Substantial Completion of the entire Work within 90 Days from the Commencement Date.
   B. Contractor shall achieve Final Completion of the entire Work 100 Days from the Commencement Date.

ARTICLE 3 - PROJECT REPRESENTATIVES

3.01 Owner’s Project Manager
   The Chancellor (or his/her designee) shall act as Owner’s Representative in all matters relating to the Contract Documents.

3.02 Owner’s Chancellor on behalf of its Board of Trustees, and in accordance with District Board Policies and Administrative Procedures, shall have final authority over all matters pertaining to the Contract Documents and shall have sole authority to modify the Contract Documents on behalf of
Owner, to accept work, and to make decisions or actions binding on Owner, and shall have sole signature authority on behalf of Owner. The Chancellor, at his/her discretion, may delegate some portion of Chancellor’s authority to Owner’s Vice Chancellor of General Services or other representative.

3.03 Contractor’s Project Manager
A. Contractor has designated [_______ or other] as its Project Manager to act as Contractor’s Representative in all matters relating to the Contract Documents.

3.04 Architect/Engineer
A. Gale Associates furnished the Plans and Specifications and shall have the rights assigned to Architect/Engineer in the Contract Documents.
B. Architect/Engineer has designated __________________ as its project manager, to act as its representative for receiving and making communications authorized under the Contract Documents.

ARTICLE 4 - LIQUIDATED DAMAGES FOR DELAY IN COMPLETION OF WORK
4.01 Liquidated Damage Amounts
A. As liquidated damages for delay Contractor shall pay Owner one thousand dollars ($1,000.00) for each Day that expires after the time specified herein for Contractor to achieve Substantial Completion of the entire Work, until achieved.
B. As liquidated damages for delay Contractor shall pay Owner One Thousand Hundred dollars ($1,000.00) for each Day that expires after the time specified herein for Contractor to achieve Final Completion of the entire Work, until achieved.

4.02 Scope of Liquidated Damages
A. Measures of liquidated damages shall apply cumulatively.
B. Limitations and stipulations regarding liquidated damages are set forth in Document 00 7200 (General Conditions).

ARTICLE 5 - CONTRACT DOCUMENTS
5.01 Contract Documents consist of the following documents, including all changes, Addenda, and Modifications thereto:

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BIDDING REQUIREMENTS

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<td>Notice Inviting Bids</td>
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<td>21 13</td>
<td>Instructions to Bidders</td>
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BID FORMS AND BID SUBMITTALS

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<td>43 13</td>
<td>Bond Accompanying Bid</td>
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<td>Bidder Registration Form</td>
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<td>Statement of Qualifications</td>
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<td>45 19</td>
<td>Non-Collusion Affidavit</td>
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<td>45 46</td>
<td>Bidder Certifications</td>
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CONTRACT FORMS

- 00 51 00 Notice of Award
- 00 52 00 Agreement
- 00 61 13.13 Construction Performance Bond
- 00 61 13.16 Construction Labor and Material Payment Bond
- 00 62 90 Escrow Agreement for Security Deposits in Lieu of Retention
- 00 63 25 Substitution Request Form
- 00 65 00 Release of Claims
- 00 65 36 Guaranty

CONDITIONS OF THE CONTRACT

- 00 72 00 General Conditions
- 00 73 00 Labor Compliance Program
- 00 7316 Supplementary Conditions
- 00 73 39 Small Local Business Enterprise
- 00 73 80 Apprenticeship Program
- 00 91 13 Addenda

DIVISION 01 - GENERAL REQUIREMENTS

- 01 11 00 Summary of the Work
- 01 20 00 Measurement and Payment
- 01 26 00 Modification Procedures
- 01 31 19 Project Meetings
- 01 32 30 Progress Schedules and Submittals
- 01 33 00 Submittals
- 01 41 00 Regulatory Requirements
- 01 42 00 References and Definitions
- 01 50 00 Temp Facilities and Controls
- 01 57 02 Storm Water Pollution Prevention – **no SWPPP required**
- 01 77 00 Commissioning and Contract Closeout
- 01 81 13 Environmentally Sustainable Procurement Construction

DIVISION 02 – SITE WORK

- 02070 Selective Demolition
- 02220 Excavation and Backfill
- 02520 Detectable Warning Pavers
- 02570 Portland Cement Concrete Paving
- 02790 Rubber Tile Play Surface
- 02810 Landscape Irrigation
- 02820 Steel Ornamental Fence
- 02821 Wind Screen
- 02825 Curved Fence
- 02880 Playground Equipment
- 02885 Engineered Wood Fiber Surface
- 02923 Landscape Soil Preparation and Materials
- 02950 Planting and Plant Materials
DIVISION 03 - CONCRETE

03300  Pour-in-Place Concrete

DIVISION 04 - MASONRY – Not used

DIVISION 05 - METALS

05500  Metal Fabrication

DIVISION 06 – WOOD AND PLASTICS

06100  Rough Carpentry
06200  Finish Carpentry
06400  Architectural Woodwork

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07200  Building Insulation
07460  Fiber-Cement Panels
07550  Modified Bitumen Roof – Patching

DIVISION 08 – DOORS AND WINDOWS

08110  Hollow Metal Frames
08160  Interior Aluminum Sliding Doors
08211  Wood Doors
08410  Aluminum Storefront
08510  Aluminum Sliding Window
08630  Unit Skylight
08710  Finish Hardware

DIVISION 09 – FINISHES

09250  Gypsum Board
09310  Ceramic Tile
09510  Suspended Acoustical Ceiling
09665  Resilient Flooring
09690  Carpet Tile
09900  Painting

DIVISION 10 – SPECIALTIES

10155  Toilet Partitions
10442  Signage
10800  Toilet Room Accessories

DIVISION 11 – EQUIPMENT – Not used

DIVISION 12 – FURNISHINGS

12490  Window Shades

DIVISION 13-16 - MECHANICAL, PLUMBING AND ELECTRICAL – Not Used

Note: see drawings for specified plumbing and light fixture.
LIST OF DRAWINGS

A0.00  TITLE SHEET
C1.00  SURVEY
A1.01  SITE PLAN
A1.02  ENLARGED SITE PLANS
A1.03  SITE DETAILS
A1.04  ENLARGED SITE PLAN - WEST YARD
A2.00  FLOOR PLAN
A2.01  ENLARGED PLANS AND ELEVATIONS
A3.00  EXTERIOR ELEVATIONS
A5.00  REFLECTED CEILING PLAN
A7.00  DOOR, FINISH, WINDOW & PLUMBING SCHEDULES
A7.02  PAINT PLANS AND ELEVATIONS
A7.03  FLOORING PLAN
A9.00  ACCESSIBILITY & SIGNAGE DETAILS
A9.01  CASEWORK DETAILS
A9.02  DOOR AND WINDOW DETAILS

5.02 There are no Contract Documents other than those listed above. The Contract Documents may only be amended, modified or supplemented as provided in Document 00 7200 (General Conditions).

ARTICLE 6 - MISCELLANEOUS

6.01 Terms and abbreviations used in this Agreement are defined in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions) and will have the meaning indicated therein.

6.02 It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of Owner or acting as an employee, agent, or representative of Owner, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of Owner is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.

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

6.04 Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and on file at Owner’s Office, and shall be made available to any interested party on request. Pursuant to California Labor Code §§ 1860 and 1861, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. Contractor represents that it is 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 Contractor shall
comply with such provisions before commencing the performance of the Work of the Contract Documents.

6.05 This Agreement and the Contract Documents shall be deemed to have been entered into in the County of [____], State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of [____].

IN WITNESS WHEREOF the parties have executed this Agreement in quadruplicate the day and year first above written.

CONTRACTOR: [CONTRACTOR'S NAME]

By: ______________________________  By: ______________________________
    (Signature)                    (Signature)

Its: _______________________________  Its: ________________________________
Title (If Corporation: Chairman, President or Vice President)  Title (If Corporation: Secretary, Chief Financial Officer or Assistant Treasurer)

OWNER: Peralta Community College District

By: ______________________________
    (Signature)

______________________________
(Print Name)

______________________________
(Title)
Attest: ______________________________
Secretary

______________________________
(Print Name)

APPROVED AS TO FORM AND LEGALITY
THIS ____ DAY OF ________, 20_____

By: ______________________________
    Attorney for Owner

______________________________
(Print Name)

RESOLUTION NO. _____________________

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 6113.13

CONSTRUCTION PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, The Peralta Community College District ("Owner"), a public agency of the State of California, has awarded to (Name of Contractor) as Principal Contract Number ____________ dated the ____________ day of ____________, 20____ (the "Contract"), titled THE ______________________ PROJECT in the amount of $ ________________________, which Contract is by this reference made a part hereof, for the work of the following Contract:

(Describe Contract Work)

1.02 AND WHEREAS, Principal is required to furnish a bond in connection with the Contract, guaranteeing the faithful performance thereof;

1.03 NOW, THEREFORE, we, the undersigned Principal and (Name of Surety) as Surety are held and firmly bound unto Owner in the sum of 100% OF THE CONTRACT PRICE to be paid to Owner or its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

1.04 THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by Owner, shall promptly and faithfully perform the covenants, conditions, and agreements of the Contract during the original term and any extensions thereof as may be granted by Owner, with or without notice to Surety, and during the period of any guarantees or warranties required under the Contract, and shall also promptly and faithfully perform all the covenants, conditions, and agreements of any alteration of the Contract made as therein provided, notice of which alterations to Surety being hereby waived, on Principal's part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify, defend, protect, and hold harmless Owner as stipulated in the Contract, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect.

1.05 No extension of time, change, alteration, modification, or addition to the Contract, or of the work required thereunder, or work or actions by Owner to mitigate the damages resulting from any breach in performance by Contractor, shall release or exonerate Surety on this bond or in any way affect the obligation of this bond; and Surety does hereby waive notice of any such extension of time, change, alteration, modification, or addition.

1.06 Whenever Principal shall be and declared by Owner in default under the Contract, Surety shall promptly remedy the default, or shall promptly, and in no event later than thirty (30) days from notice:

A. Undertake through its agents or independent contractors (but having qualifications and experience reasonably acceptable to Owner), to complete the Contract in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract,
including without limitation, all obligations with respect to warranties, guarantees, indemnities, and the payment of liquidated damages; or

B. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and, upon determination by Owner of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Sum, and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages; but, in any event, Surety’s total obligations hereunder shall not exceed the amount set forth in the third paragraph hereof. The term “balance of the Contract Sum,” as used in this paragraph, shall mean the total amount payable by Owner to the Principal under the Contract and any amendments thereto, less the amount paid by Owner to Principal.

1.07 Surety’s obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner’s rights against the others.

1.08 Surety may not use Contractor to complete the Contract absent Owner’s Consent. Owner shall have the right in its sole discretion to continue the work of the Contract, as necessary following a default and/or termination, as necessary to prevent risks of personal injury, property damage or delay to the Project.

1.09 No right of action shall accrue on this bond to or for the use of any person or corporation other than Owner or its successors or assigns.

1.10 Surety shall join in any proceedings brought under the Contract upon Owner’s demand, and shall be bound by any judgment.

1.11 Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this ________ day of ____________, 20____.

CONTRACTOR AS PRINCIPAL

Company:  (Corp. Seal)
Signature:__________________________
Name and Title:____________________
Address:_________________________

SURETY

Company:  (Corp. Seal)
Signature:__________________________
Name and Title:____________________
Address:_________________________

END OF DOCUMENT
KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, The Peralta Community College District ("Owner") has awarded to (Name of Contractor) as Principal Contract Number _____ dated the _____ day of ______________, 20__ (the "Contract"), titled THE _______ PROJECT in the amount of $_____, which Contract is by this reference made a part hereof, for the work of the following Contract:

Laney College Child Care Remodel

A. AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;

B. NOW, THEREFORE, we, the undersigned Principal and (Name of Surety) _______, as Surety, are held and firmly bound unto Owner in the sum of 100% OF THE CONTRACT PRICE ($_____), for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

C. THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its executors, administrators, successors, or assigns approved by Owner, or its subcontractors shall fail to pay any of the persons named in California Civil Code §3181, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, plus reasonable attorneys’ fees, otherwise the above obligation shall become and be null and void.

D. This bond shall inure to the benefit of any of the persons named in California Civil Code §3181, as to give a right of action to such persons or their assigns in any suit brought upon this bond. The intent of this bond is to comply with the California Mechanic’s Lien Law.

E. Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.

F. Surety’s obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner’s rights against the other.

G. Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.
IN WITNESS WHEREOF, we have hereunto set our hands this ____ day of ____________, 20___.

<table>
<thead>
<tr>
<th>CONTRACTOR AS PRINCIPAL</th>
<th>SURETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company:</td>
<td>Company:</td>
</tr>
<tr>
<td>(Corp. Seal)</td>
<td>(Corp. Seal)</td>
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<tr>
<td>Signature</td>
<td>Signature</td>
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<tr>
<td>Name</td>
<td>Name</td>
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<tr>
<td>Title</td>
<td>Title</td>
</tr>
<tr>
<td>Street Address</td>
<td>Street Address</td>
</tr>
<tr>
<td>City, State, Zip Code</td>
<td>City, State, Zip Code</td>
</tr>
</tbody>
</table>

END OF DOCUMENT
THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into this ___ day of ____, 201__, by and between the Peralta Community College District, ("Owner"), whose address is 333 East 8th Street, Oakland, CA 94606, (Name of Contractor) and [ ] Owner, as escrow agent (Name of Bank), a state or federally chartered bank in the State of California, whose place of business is located at [ ] (Name of Bank's Address), and [ ] Owner, as escrow agent OR [ ] (Name of Bank) (Name of Bank) (the "Escrow Agent").

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

1. Pursuant to California Public Contract Code §22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to Contract Number ______ entered into between Owner and Contractor for located at Laney College Child Care Remodel at 900 Fallon Street, Oakland, CA 94607 in the amount of $______ dated ____, 201__ (the "Contract"). Alternatively, on written request of Contractor, Owner shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify Owner within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between Owner and Contractor. Securities shall be held in name of ________________________, and shall designate Contractor as the beneficial owner.

2. Owner shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in Paragraph 1 of this Document 00 6290.

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

4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of Owner. Such expenses and payment terms shall be determined by Owner, Contractor, and Escrow Agent.

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

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

7. Owner shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from Owner of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by Owner.
8. Upon receipt of written notification from Owner certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. Escrow Agent shall rely on written notifications from Owner and Contractor pursuant to Paragraphs 5 through 8, inclusive, of this Document 00 6290 and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent’s release and disbursement of securities and interest as set forth.

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

ON BEHALF OF OWNER:

Title
Name
Signature
Address
City/State/Zip Code

ON BEHALF OF CONTRACTOR:

Title
Name
Signature
Address
City/State/Zip Code

ON BEHALF OF ESCROW AGENT:

Title
Name
Signature
Address
City/State/Zip Code

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

OWNER

________________________________
Title
_______________________________
Name

________________________________
Title
_______________________________
Name

CONTRACTOR

________________________________
Title
_______________________________
Name

________________________________
Title
_______________________________
Name
At the time the Escrow Account is opened, Owner and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 00 6290.

END OF DOCUMENT
To: The Peralta Community College District, Owner

PROJECT:  
Contractor:  
Owner Project No:  

Substitution Request By:  
Firm:  

<table>
<thead>
<tr>
<th>Transmittal Record</th>
<th>Attn:</th>
<th>Firm:</th>
<th>Date Sent:</th>
<th>Date Rec’d:</th>
<th>Date Due:</th>
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</thead>
<tbody>
<tr>
<td>Contractor to Owner</td>
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<tr>
<td>Contractor to Architect</td>
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<tr>
<td>Owner / Architect to Consultant</td>
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<td>Architect to Owner Representative</td>
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<tr>
<td>Owner Representative to Contractor</td>
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</tbody>
</table>

We hereby submit for your consideration the following product instead of the specified item for the Project:

<table>
<thead>
<tr>
<th>Section / Drawing</th>
<th>Article</th>
<th>Specified Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Proposed Substitution:

We have (a) attached manufacturer’s literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Contract Documents that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:
Contractor to complete questions that follow and certifies to the accuracy of all answers:

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Does the substitution affect dimensions shown on Drawings? Yes ___ / No ___. If No, please explain proposed mitigation and why substitution is equivalent to originally specified item:</td>
</tr>
<tr>
<td>B</td>
<td>Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes ___ / No ___. If No, please state reasons explain why substitution is equivalent to originally specified item:</td>
</tr>
<tr>
<td>C</td>
<td>What effect does the substitution have on other trades? No effect: ___ / Some effect ___. If substitution will affect other trades, please explain the effect and why substitution is equivalent to originally specified item:</td>
</tr>
<tr>
<td>D</td>
<td>Will substitution cause change to Project Schedule, or to critical delivery dates? Add? Shorten? If the substitution will add to schedule dates or affect critical activities, please explain why substitution is equivalent to originally specified item:</td>
</tr>
<tr>
<td>E</td>
<td>Please describe differences between proposed substitution and specified item? Please explain and identify any and all differences, and please explain why substitution is equivalent to originally specified item:</td>
</tr>
<tr>
<td>F</td>
<td>What is the Cost Differential to Contractor in original specified item and proposed substitution including all mark-ups? [If substitution requested during bid period, skip this question.]</td>
</tr>
<tr>
<td>G</td>
<td>Are Manufacturer’s guarantees for the proposed item the same as for item specified? Yes <strong><strong>; No</strong></strong>_. If No, please explain why substitution is equivalent to originally specified item:</td>
</tr>
</tbody>
</table>
H. Contractor accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution? Yes __ / No __. If No, please state reasons and explain why substitution is equivalent to originally specified item:

I. Contractor states that the function, appearance and quality are equivalent or superior to the specified item? Yes __ / No __. If No, please explain why substitution is equivalent to originally specified item:

We certify that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item, except as we may specifically state otherwise in this request.

Submitted by:_________________________  Signature:____________________________
Firm:_____________________________  Date:____________________________
Address:_____________________________  Phone/ Fax:____________________________
Remarks:_____________________________

<table>
<thead>
<tr>
<th>Consultant Response:</th>
<th>Owner Representative Response:</th>
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<tbody>
<tr>
<td>o Accepted</td>
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<td>o Accepted As Noted</td>
<td>o Accepted As Noted</td>
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<td>o Received Too Late</td>
<td>o Received Too Late</td>
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</tbody>
</table>

Remarks:________________________

Remarks:________________________

By:________________________  By:________________________

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 6500

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS ("Agreement and Release"), made and entered into this [date] day of [Month], [20__], by and between the Peralta Community College District ("District"), and [Name of Contractor] ("Contractor"), whose place of business is at [Address of Contractor].

RECITALS

A. District and Contractor entered into Contract Number [insert number] (the "Contract") for construction of the Peralta Community College District [Project Name] at [School Name] located at [School Street Address], [City], California.

B. The Work under the Contract has been completed.

AGREEMENT

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

1. Contractor will not be assessed liquidated damages except as detailed below:
   
   Original Contract Sum $ ______________________________
   
   Modified Contract Sum $ ______________________________
   
   Payment to Date $ ______________________________
   
   Liquidated Damages $ ______________________________
   
   Payment Due Contractor $ ______________________________

2. Subject to the provisions of this Agreement and Release, District will forthwith pay to Contractor the sum of [__________________________________________ Dollars and __________________ Cents ($____________________)] under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with District as of the date of such payment.

3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the Contract, except for the claims described in Paragraph 4 of this Document 00650. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District, and all if its agents, employees, consultants, inspectors, representatives, assignees and transferees, except for the Disputed Claims set forth in Paragraph 4 of this Document 00650. Nothing in this Agreement and Release shall limit or modify Contractor’s continuing obligations described in Paragraph 6 of this Document 00650.
4. The following claims submitted under Document 00700 (General Conditions), Article 12, are disputed (hereinafter, the “Disputed Claims”) and are specifically excluded from the operation of this Agreement and Release.

[Insert information in Chart below, affix attachment if necessary]

<table>
<thead>
<tr>
<th>CLAIM NO..</th>
<th>DATE SUBMITTED</th>
<th>DESCRIPTION OF CLAIM</th>
<th>AMOUNT OF CLAIM</th>
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<tbody>
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5. Consistent with California Public Contract Code §7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 2 of this Document 006500, Contractor hereby releases and forever discharges District, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.

6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.

7. Contractor shall immediately defend, indemnify and hold harmless District, any of the District’s Representatives, Project Manager, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor’s suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in Paragraph 4 of this Document 00650.

8. Contractor hereby waives the provisions of California Civil Code §1542, which provide as follows:

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

9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.

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

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

PERALTA COMMUNITY COLLEGE DISTRICT

By: ___________________________________________________
    Signature

Name: ___________________________________________________
    Print

Its: ___________________________________________________
    Title

ATTEST:

____________________________________________________
    Secretary

____________________________________________________
    Print

[CONTRACTOR]

By: ___________________________________________________
    Signature

Name: ___________________________________________________
    Print

Its: ___________________________________________________
    Title

[CONTRACTOR]
TO:  The Peralta Community College District ("Owner"), for construction of the Laney College Child Care Remodel at 900 Fallon Street, Oakland, CA 94607.

The undersigned guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein.

Contractor hereby grants to Owner for a period of one year following the date of Final Acceptance of the Work completed, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

Neither final payment nor use nor occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with this Guaranty or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting therefrom, which shall appear within one year, or longer if specified, from the date of Final Acceptance of the Work completed.

If within one year after the date of Final Acceptance of the Work completed, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner’s written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

Inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be Defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

All abbreviations and definitions of terms used in this Agreement shall have the meanings set forth in the Contract Documents.

The foregoing Guaranty is in addition to any other warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor’s duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Guaranty and any warranty or obligation of the Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of the Contractor.

Date: ____________________________, 20___

Contractor’s name

Guaranty
Laney College Child Care Remodel
By: _________________________________

Signature

____________________________________

Print Name

____________________________________

Title

____________________________________

Street Address

____________________________________

City, State, Zip code

END OF DOCUMENT
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**DOCUMENT 00 7200**

**GENERAL CONDITIONS**

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<td>Owner's Right To Direct Changed Work</td>
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<td>Required Documentation For Changed Work</td>
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<td>Excusable Delay And Inexcusable Delay Defined</td>
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<td>13.02</td>
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<td>Concealed Or Unknown Conditions</td>
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<td>Notice Of Hazardous Waste Or Materials Conditions</td>
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<td>Laws And Regulations</td>
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<td>Communications And Information Distribution</td>
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ARTICLE 1 - INTERPRETATION OF CONTRACT DOCUMENTS

1.01 Interpretation Of Documents
   A. Contract Documents are complementary; what is called for by one is as binding as if called for by all.
   B. Individual Contract Documents subdivide at first level into Articles, and then into paragraphs.

1.02 Order Of Precedence Of Documents
   A. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:
      1. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
      2. Agreement Forms (Document 00 5200), and terms and conditions referenced therein;
      3. Supplementary General Conditions (Document 00 7201 et seq), if included;
      4. General Conditions (Document 00 7200);
      5. Division 1 Specifications, if included;
      6. Drawings and Technical Specifications (Division 2 and above);
      7. Written numbers over figures, unless obviously incorrect;
      8. Figured dimensions over scaled dimensions;
      9. Large-scale Drawings over small-scale Drawings.
   B. Any conflict between Drawings and Technical Specifications (Division 2 and above) will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.
   C. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.
   D. All Technical Specifications included in the Project manual shall be included within the Contract Documents unless identified otherwise.

ARTICLE 2 - PRE-BID INVESTIGATIONS

2.01 Pre-Bid Investigations Required
   A. Prior to and as a condition of submitting a Bid and executing Document 00 5200 (Agreement), Contractor shall make reasonable efforts to investigate fully the Work of the Contract. Contractor shall visit the Site, examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions.
   B. Contractor’s investigation shall include, without limitation, requesting and thoroughly examining of all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, product specification(s) or reports, made available by Owner for contracting purposes or during Contractor’s pre-bid investigations, of existing above ground and (to the extent applicable) below ground conditions (together, “Existing Conditions Data”), including, as applicable, Underground Facilities, geotechnical data, as-built data, utility surveys, record documents of all types, hazardous materials surveys, or similar materials which may appear or be referenced in the Project Manual or the in the Contract Documents, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.
   C. Contractor’s investigations shall consider fully the fact that Existing Conditions Data is in many cases based on information furnished to Owner by others (e.g., the prior owner or builders), and that due to their age or their chain of custody since preparation, may not meet current industry
standards for accuracy. Contractor shall also: (i.) provide Owner with prompt written notice of all conflicts, errors, ambiguities, or discrepancies of any type, that it discovered in or among the Contract Documents and the Existing Conditions Data, and (ii.) subject to Owner's approval, conduct any such additional or supplementary examinations, investigations, explorations, tests, studies and data compilations, concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which Contractor may deem necessary in order to perform and furnish the Work in accordance with the terms and conditions of Contract Documents.

D. During performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing these pre-bid investigations and other obligations, and shall not be entitled to Change Orders (time or compensation) due to any information, error, inconsistency, omission, or conditions that Contractor should have known as a part of this Work. Contractor shall be responsible for the resultant losses, including, without limitation, the cost of correcting Defective Work.

2.02 Limited Reliance Permitted On Owner's Existing Conditions Data

A. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied by Owner, such information has been compiled in good faith, however, Owner does not expressly or impliedly warrant or represent that such information is correctly shown or indicated, or otherwise complete for construction purposes. Contractor must independently verify such information as part of its pre-bid investigations, and where conditions are not reasonably verifiable or discrepancies are indentified, bring such matters to Owner's attention through written question issued during the bid period. In executing Document 00 5200 (Agreement), Contractor shall rely on the results of its own independent investigation and shall not rely on Owner-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.

B. Regarding subsurface conditions other than Underground Facilities shown on the Contract Documents or otherwise supplied by Owner, Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. Owner is not responsible for the completeness of any subsurface condition information, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, Owner is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

2.03 Pre-Bid Investigation Requirements For Excavation And Utilities Relocation Projects

A. As part of its pre-bid investigations for Projects involving excavation and/or relocation of existing utilities, Contractor shall make reasonable efforts to verify information regarding Underground Facilities, including but not limited to, requesting additional information or verification of information as necessary.

B. Because of the nature and location of Owner and the Project, the existence of Underground Facilities is deemed inherent in the Work of the Contract, as is the fact that Underground Facilities are not always accurately shown or completely shown on as-built records, both as to their depth and location. Contractor shall, therefore, take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site). Contractor shall also consider local underground conditions and typical practices for Underground Facilities, either through its own
direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.

ARTICLE 3 - SUBCONTRACTORS

3.01 Subcontractor Listing Law
A. Contractor shall comply with the Subcontractor Listing law, California Public Contract Code §§4101 et seq. Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Bid except as may be allowed by law.
B. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without Owner’s written approval. At Owner’s request, Contractor shall provide Owner with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.

3.02 Subcontracts
A. Subcontract agreements shall preserve and protect the rights of Owner under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor’s written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward Owner under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
B. Contractor shall provide for the assignment to Owner of all rights any Subcontractor (of any tier) may have against any manufacturer, supplier, or distributor for breach of warranties and guarantees relating to the Work performed by the Subcontractor under the Contract Documents. Subcontracts shall provide and acknowledge Owner as an intended third-party beneficiary of each subcontract and supply contract (of any tier).

ARTICLE 4 - DRAWINGS AND SPECIFICATIONS

4.01 Intent Of Drawings And Specifications
A. Contractor shall interpret words or phrases used to describe Work (including services), materials, or equipment that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings’ intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.
B. As part of the “Work,” Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, Shop Drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.
C. Contractor shall perform reasonably implied parts of Work as “incidental work” although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents. Contractor shall perform incidental work without extra cost to Owner. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price Bid and Contract Sum.
4.02 Checking Of Drawings And Specifications

A. Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report to Owner, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from Owner before proceeding with any Work affected thereby. Contractor shall provide Owner with a follow-up correspondence every ten Days until it receives a satisfactory interpretation or clarification.

4.03 Interpretation Of Drawings And Specifications

A. A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by Owner. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

B. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to Owner, in writing, with a copy to the Architect/Engineer. Owner will issue with reasonable promptness written responses, clarifications or interpretations as Owner may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give Owner prompt written notice. If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with Owner’s response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article 12.

C. The following general specifications shall apply wherever in the Specifications, or in any directions given by Owner in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do Work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work shall conform to the usual standards or codes, such as those cited herein, for first class work of the kind required. Contractor shall specify in writing to Owner the materials to be used or Work to be performed under this Paragraph ten Business Days prior to furnishing such materials or performing such Work.

4.04 Use Of Drawings And Specifications

A. Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Owner. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

ARTICLE 5 - COMMENCEMENT OF THE WORK

5.01 Submission Of Required Schedules

A. Contractor shall submit to Owner in draft for review and discussion at the Preconstruction Conference, and in final prior to the first payment application, the following schedules:
1. Schedule of Values
2. Progress Schedule, and

B. No progress payment shall be due or owing to Contractor until such schedules are submitted to and acceptable to Owner and/or Architect/Engineer as meeting the requirements of the Contract Documents. In Owner’s sole discretion, Owner may elect to instead withhold a portion of any progress payment for unacceptable compliance with contract requirements for such schedules.

C. Owner’s acceptance of Contractor’s schedules will not create any duty of care or impose on Owner any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor’s full responsibility therefore.

5.02 Commencement Date Of Contract Time

A. The Contract Time will commence to run on the 60th Day after the issuance of the Notice of Award or, if a Notice to Proceed is given, on the date indicated in the Notice to Proceed.

B. Owner may give a Notice to Proceed at any time within 60 Days after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.

ARTICLE 6 - CONTRACTOR’S ORGANIZATION AND EQUIPMENT

6.01 Contractor’s Legal Address

A. Address and facsimile number given in Contractor’s Bid are hereby designated as Contractor’s legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to Owner, which in conspicuous language advises Owner of a change in legal address or facsimile number, and which Owner accepts in writing. Delivery to Contractor’s legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor’s designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

6.02 Contractor’s Superintendents Or Forepersons

A. Contractor shall at all times be represented on Site by one or more superintendents or forepersons authorized and competent to receive and carry out any instructions that Owner may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

6.03 Proficiency In English

A. Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

6.04 Contractor’s And Subcontractors’ Employees

A. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If Owner notifies Contractor that any of its employees, or any of its Subcontractors’ employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing Owner, or violates sanitary rules, or is otherwise unsatisfactory, and if Owner requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such
person from Work and the discharged person shall not be re-employed on the Work except with consent of Owner.

6.05 **Contractor’s Use Of The Site**

A. Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between Owner and any Owner, former Owner or tenant of such land, structure or buildings. Contractor may not occupy Owner-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior approval from Owner.

6.06 **Contractor’s Site Office**

A. Unless expressly provided otherwise in the Contract Documents, Contractor shall provide a site office staffed by a resident project manager or job superintendent.

**ARTICLE 7 - OWNER’S ADMINISTRATION OF WORK**

7.01 **Owner’s Representative(s)**

A. Owner’s Representative(s) will have limited authority to act on behalf of Owner as set forth in the Contract Documents.

B. Except as otherwise provided in these Contract Documents or subsequently identified in writing by Owner, Owner will issue all communications to Contractor through Owner’s Representative, and Contractor shall issue all communications to Owner through Owner’s Representative in a written document delivered to Owner.

C. Should any direct communications between Contractor and Owner’s consultants, architects or engineers not identified in Article 2 of Document 00 5200 (Agreement) occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to Owner.

7.02 **Owner’s Observation Of The Work**

A. Work shall be performed under Owner’s general observation and administration. Contractor shall comply with Owner’s directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. Owner’s failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.

B. Subject to those rights specifically reserved in the Contract Documents, Owner will not supervise, or direct, or have control over, or be responsible for, Contractor’s means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor’s failure to comply with laws and regulations applicable to the furnishing or performance of Work. Owner will not be responsible for Contractor’s failure to perform or furnish the Work in accordance with Contract Documents.

7.03 **Architect/Engineer’s Observation Of Work**

A. Owner may engage an Architect/Engineer, an independent consultant or Project Manager (collectively for purposes of this Paragraph, “Project Manager/Architect”) to assist in administering the Work. If so engaged, Project Manager/Architect will advise and consult with Owner, but will have authority to act on behalf of Owner only to extent provided in the Contract Documents or as set forth in writing by Owner. Project Manager/Architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Project Manager/Architect will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
B. Project Manager/Architect may review Contractor’s Submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.

C. Project Manager/Architect may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Project Manager/Architect may recommend to Owner that it disapproves or rejects Work that Project Manager/Architect believes to be Defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. Owner will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.

D. Project Manager/Architect may conduct inspections to recommend to Owner the dates that Contractor has achieved Substantial Completion and Final Acceptance, and will receive and forward to Owner for review written warranties and related documents required by Contract Documents.

7.04 Owner’s And Architect/Engineer’s Exercise Of Contract Responsibilities

A. Owner, Project Manager, Architect/Engineer and all Owner’s representatives, in performing their duties and responsibilities under the Contract Documents, accept no duties, responsibilities or duty of care, nor may the same be implied or inferred, towards Contractor, any Subcontractor, sub-Subcontractor or supplier, except those set forth expressly in the Contract Documents.

7.05 Owner’s Right Of Access To The Work

A. During performance of Work, Owner and its agents, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as Owner’s interests may require. Other contractors performing work for Owner may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.

7.06 Owner’s Right Of Separate Construction

A. Owner may perform with its own forces, construction or operations related to the Project, or the Site during Contractor's operations. Owner may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility Owners perform other work.

B. Contractor shall adjust its schedule and fully coordinate with and shall afford all other contractors, utility districts and Owner (if Owner is performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others’ work, do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, and shall cooperate with them to facilitate the progress of the Work.

C. To the extent that any part of Contractor’s Work is to interface with work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to Owner in writing any defect in in-place work that will impede or increase the cost of Contractor’s interface unless corrected.

ARTICLE 8 - CONTRACTOR’S PROSECUTION AND PROGRESS OF THE WORK
8.01 Contractor To Supervise The Work

A. Subject to those rights specifically reserved in the Contract Documents, Contractor shall supervise, direct, have control over, and be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, safety precautions and programs incident thereto, and compliance with laws and regulations applicable to the furnishing or performance of Work.

B. Contractor shall keep on the Site at all times during Work progress a competent resident Superintendent, who shall not be replaced without Owner's express written consent. The Superintendent shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent shall be as binding as if given to or by Contractor.

C. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.

D. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.

E. Contractor shall conduct monthly Contractor Safety Committee meetings, and weekly toolbox safety talks.

8.02 Contractor To Maintain Cost Data

A. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide Owner with monthly summaries of this information. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Bid estimates or budgets, Contractor shall provide Owner with a copy of such report upon Owner's request.

B. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide Owner with copies for each Day Contractor works on the Project, to be delivered to Owner either the same Day or the following morning before starting work at the Site. Contractor shall take pre-construction and monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.

C. Owner shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, Owner shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. Owner and any other applicable governmental entity shall have the right to inspect all information and documents maintained hereunder at any time during the Project and for a period of five years following Final Completion, in accordance with the provisions of Section 8546.7 of the California Government Code. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law.
either independently or in conjunction with enforcement of any other rights in the Contract Documents.

8.03 Contractor To Supply Sufficient Workers And Materials

A. Unless otherwise required by Owner under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

B. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then Owner may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as Owner may consider necessary, at no cost to Owner. If Contractor does not comply with the notice within three Business Days of date of service thereof, Owner shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as Owner may elect. Owner may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate work elements during the time period that Owner exercises this right. Owner will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. Owner will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of Owner from claims of others.

C. Exercise by Owner of the rights conferred upon Owner in this subparagraph is entirely discretionary on the part of Owner. Owner shall have no duty or obligation to exercise the rights referred to in this subparagraph and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of Owner’s right to exercise such rights in other concurrent or future similar circumstances. (The rights conferred upon Owner under this subparagraph are, like all other such rights, cumulative to Owner’s other rights under any provision of the Contract Documents.)

8.04 Contractor To Maintain Project Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all as-built changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to Owner for reference. Upon completion of the Work, Contractor shall deliver to Owner, the Project Record Documents, Samples and Shop Drawings and as-built drawings.

B. Throughout Contractor’s performance of the Work of the Project, Contractor shall maintain construction records to include: shop drawings; product data/material data sheets; samples; submittal; purchases; materials; equipment; inspections; applicable handbooks; applicable codes and standards; maintenance and operating manuals and instructions; RFI Log; Submittal Log; other related documents and revisions which arise out of the Construction Contracts. Contractor shall maintain records of principal building layout lines, elevations for the bottom of footings, floor levels, and key site elevations (certified by a qualified surveyor or professional engineer). Contractor shall make all records available to Owner. At the completion of the Project, Contractor shall deliver all such records to the Owner to have a complete set of record as-built drawings.

8.05 Contractor To Not Disrupt Owner Operation

A. Contractor shall schedule and execute all Work in a manner that does not interfere with or disrupt Owner operations, including but not limited to, parking, utilities (electricity, gas, water), noise, access by employees and administration, access by vendors, physicians, patients and any other person or entity using Owner facilities or doing business with Owner. Contractor shall produce
and supply coordination plans and requests to Owner, following Owner procedures, for all necessary interference of construction with Owner, which Owner will reasonably cooperate with.

8.06 **Contractor To Provide Temporary Facilities And Controls**

A. Unless expressly provided otherwise in the Contract Documents, Contractor shall provide all temporary utilities (including without limitation electricity, water, natural gas), lighting, heating, cooling and ventilating devices, telephone, sanitary facilities, barriers, fences and enclosures, tree and plant protection, fire protection, pollution, erosion, Storm Water Pollution Prevention controls, noise and traffic control, and any other necessary services required for construction, testing or completion of the Work.

**ARTICLE 9 - WARRANTY, GUARANTY, AND INSPECTION OF WORK**

9.01 **Warranty And Guaranty**

A. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work and to complete Work in accordance with the terms of Contract Documents. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, engineering, materials, construction and workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.

B. Extended Guarantees: Any guarantee exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply Owner with all warranty and guarantee documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.

C. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this Paragraph are effective continuously during Contractor’s Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to Owner that:

1. To Contractor’s knowledge after due inquiry, no lead or Asbestos-containing materials were installed or discovered in the Project at any time during Contractor’s construction thereof. If any lead or Asbestos-containing materials were discovered, Contractor made immediate written disclosure to Owner.

2. To Contractor’s knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor’s construction thereof.

3. To Contractor’s knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor’s construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to Owner.

4. Contractor’s operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any Work, repairs, construction, alteration, or installation on or in connection with the Project in order to
comply with any such laws, ordinances, codes, or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide Owner with copies thereof.

9.02 Inspection Of Work

A. Work and materials, and manufacture and preparation of materials, from beginning of construction until Final Completion and acceptance of Work, shall be subject to inspection and rejection by Owner, its agents, representatives or independent contractors retained by Owner to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor’s Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, Owner shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.

B. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, Samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare Samples or test specimens at its expense and furnish them to Owner. Contractor shall submit all Samples in ample time to enable Owner to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work.

C. Contractor shall give Owner timely notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

D. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish Owner with the required certificates of inspection, or approval. Owner will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor’s purchase thereof for incorporation in the Work.

E. If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of Owner, Contractor shall uncover the Work at Owner’s request. Contractor shall bear the expense of uncovering Work and replacing Work. In any case where Contractor covers Work contrary to Owner’s request, Contractor shall uncover Work for Owner’s observation or inspection at Owner’s request. Contractor shall bear the cost of uncovering Work.

F. Whenever required by Owner, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making inspection and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, Owner, in manner herein prescribed for paying for alterations, Modifications, and extra Work, except as otherwise herein specified, will pay for examination.

G. Inspection of the Work by or on behalf of Owner, or Owner’s failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Contractor shall have an absolute duty, in the absence of a written Change Order signed by Owner, to perform Work in conformance with the Contract Documents and to immediately correct Defective Work immediately upon Contractor’s knowledge.

H. Any inspection, evaluation, or test performed by or on behalf of Owner relating to the Work is solely for the benefit of Owner, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations,
or tests performed by Owner, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

9.03 Correction Of Defective Work

A. Owner may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not Defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from monies due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, it may make a claim as provided in Article 12 of this Document 00 7200. Owner's rights under this Paragraph shall be in addition to any other rights it may have under the Contract Documents or by law.

B. If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, Owner may order Contractor to replace any such Defective Work, or stop any portion of Work to permit Owner (at Contractor's expense) to replace such Defective Work. These Owner rights are entirely discretionary on the part of Owner, and shall not give rise to any duty on the part of Owner to exercise the rights for the benefit of Contractor or any other party.

9.04 Acceptance And Correction Of Defective Work By Owner

A. Owner may in its sole discretion elect to accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such Defective Work. If Owner accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from monies due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article 12 of this Document 00 7200. If Owner accepts any Defective Work after final payment, Contractor shall pay to Owner, an appropriate amount as determined by Owner.

B. Owner may correct and remedy deficiency if, after five Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work; or provide a plan for correction of Defective Work acceptable to Owner; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, Owner may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, its representatives, agents, employees, and other contractors and Project Manager/Architect's consultants' access to the Site to enable Owner to exercise the rights and remedies under this Paragraph. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by Owner in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from monies due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article 12.
9.05 Rights Upon Inspection, Correction Or Acceptance

A. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by Owner of its rights and remedies under this Article. Where Owner exercises its rights under this Article, it retains and may still exercise all other rights it has by law or under the Contract Documents including, but not limited to, the right to terminate Contractor’s right to proceed with the Work under the Contract Documents for cause and/or make a claim or back charge where a Change Order cannot be agreed upon.

B. Inspection by Owner or its authorized agents or representatives shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments, final payment or otherwise shall not operate to waive Owner’s right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of any defective Work paid therefor. Contractor’s obligation to complete the Work in accordance with Contract Documents shall be absolute, unless Owner agrees otherwise in writing.


A. In order that Owner may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to Owner properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

B. Before commencing any portion of Work, Contractor shall inform Owner in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to Owner a reasonable time in advance of time at which Contractor proposes to begin Work, so that Owner may complete necessary preliminary work without inconvenience or delay to Contractor.

9.07 Correction Period And Project Warranty Period:

A. If within one year after the date of Final Acceptance, or such longer period of time as may be prescribed by laws, regulations or by the terms of Contract Documents or any extended warranty or guaranty, any Work (completed or incomplete) is found to be Defective, Contractor shall promptly without cost to Owner and in accordance with Owner’s written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

B. In special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order.

C. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been corrected, removed, or replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

9.08 No Waiver
A. Neither recordation of Final Acceptance nor final certificate for payment nor provision of the Contract nor partial or entire use or occupancy of premises by Owner shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.

B. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to Owner, Owner shall have right to operate and use materials or equipment until said materials and equipment can, without damage to Owner, be taken out of service for correction or replacement. Period of use of Defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.

C. Nothing in the Contract Documents shall be construed to limit, relieve, or release Contractor’s, Subcontractors’, and equipment suppliers’ liability to Owner for damages sustained as result of latent defects in materials or equipment caused by negligence of Contractor, its agents, suppliers, employees, or Subcontractors.

ARTICLE 10 - MODIFICATIONS OF CONTRACT DOCUMENTS

10.01 Owner’s Right To Direct Changed Work.

A. Owner may, without notice to the sureties and without invalidating the Contract, make changes in the Work (“Changed Work”), including without limitation: alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, reduce or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, Owner reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such Owner-furnished labor, materials, and equipment.

B. If Changed Work is of such a nature as to increase or decrease the time or cost of any part of Work, price fixed in Contract shall be increased or decreased by amount as the Contractor and Owner may agree upon as reasonable and proper allowance for increase or decrease in cost of Work using the cost guidelines set forth in this Article, and absent such agreement, then as Owner may direct (with Contractor retaining its rights under Article 12 herein).

10.02 Required Documentation For Changed Work

A. Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order or Change Directive that shall specify:
   1. The Work performed in connection with the change to be made;
   2. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
   3. The extent of the adjustment in the Contract Time, if any.

B. A Change Order or Change Directive will become effective when signed by Owner, notwithstanding that Contractor has not signed it. A Change Order will become effective without Contractor’s signature, provided Owner indicates same thereon (by indicating it as a “unilateral change order”).

C. All changes in any plans and specifications approved by any authority with jurisdiction may also require addenda or change orders approved by that authority.

D. Where Owner requests, a performance bond rider covering the changed Work must be executed and delivered to Owner before proceeding with the changed Work or shortly in time thereafter.

10.03 Procedures And Pricing Of Changed Work

A. Procedures for changed work and pricing of changed work, claims and all forms of extra compensation, are set forth in Section 01 2600 (Modification Procedures).
ARTICLE 11 - TIME ALLOWANCES

11.01 Time Allowances

A. Time is of the essence. Contract Time may only be changed by Change Order, and all time limits stated in the Contract Documents are to mean that time is of the essence.

11.02 Excusable Delay And Inexcusable Delay Defined.

A. **Excusable Delay.** Subject to the provisions on Notice of Delay below, Contract Time may be adjusted in an amount equal to the time lost due to:
   1. Changes in the Work ordered by Owner ("Changes");
   2. Acts or neglect by Owner, Architect, any Owner Representative, utility owners or other contractors performing other work, not permitted or provided for in the Contract Documents, provided that Contractor has performed its responsibilities under the Contract Documents (including but not limited to pre-bid investigations) ("Acts or Neglect"); or
   3. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this Article, earthquakes, civil or labor disturbances, or acts of God (together, “force majeure events”), provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents ("Force Majeure").

B. **Inexcusable Delay.** Contract Time shall not be extended for any period of time where Contractor (and/or any Subcontractor) is delayed or prevented from completing any part of the Work due to a cause that is within Contractor's risk or responsibility under the Contract Documents. Delays attributable to or within the control of a Subcontractor, or its subcontractors, or supplier, are deemed delays within the control of Contractor.

C. **Float.** Float shall be treated as a Project resource. Contractor shall not be entitled to a time extension for impacts that consume float, but do not impact the critical path.

11.03 Notice Of Delay

A. Within seven Days of the beginning of any delay (excepting adverse weather delays), Contractor shall notify Owner in writing, by submitting a notice of delay that shall describe the anticipated delays resulting from the delay event in question. If Contractor requests an extension of time, Contractor shall submit a TIE within ten days of the notice of delay. Owner will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this subparagraph. In cases of substantial compliance with the seven-day notice requirement here (but not to exceed twenty-one days from the beginning of the delay event), Owner may in its sole discretion recognize a claim for delay accompanied with the proper TIE, provided Contractor also shows good faith and a manifest lack of prejudice to Owner from the late notice.

11.04 Compensable Time Extensions

A. Subject to other applicable provisions of the Contract Documents, Contractor may be entitled to adjustment in Contract Sum in addition to Contract Time for:
   1. Excusable delay caused solely by Changes in the Work ordered by Owner, as provided above, and/or
   2. Excusable delay caused solely by Acts or Neglect by Owner or other person, as provided above.

11.05 Non-Compensable Time Extensions

A. Subject to other applicable provisions of the Contract Documents, Contractor may be entitled to adjustment in Contract Time only, without adjustment in Contract Sum, for
   1. Periods of excusable delay caused solely by weather or Force Majeure events as provided above in this Article, or
2. Periods of concurrent delay, where delay results from two or more causes, one of which is compensable (resulting from Changes or Acts or Neglect as set forth above in this Article), and the other of which is non-compensable or unexcusable, such as: acts or neglect of Contractor, Subcontractors or others for whom Contractor is responsible; other acts, omissions and conditions which would not entitle Contractor to adjustment in Contract Time; adverse weather; and/or actions of Force Majeure as provided above in this Article.

11.06 Adverse Weather

A. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds the parameters listed or referenced immediately below in this subparagraph and Contractor proves that adverse weather actually caused delays to work on the critical path. Contractor shall give written notice of intent to claim an adverse weather day within one Day of the adverse weather day occurring.

B. Claims for extension of time for rain delay will not be granted unless the number of days work is prevented by rain exceeds 110% of the average number of rain days expected for the period of the Contract Time, based on the records of the National Oceanic & Atmospheric Administration (NOAA) weather station closest to the Project Site, as measured and reported by NOAA. (For example, for California, Oregon and Washington, these figures are contained in the “>=0.10 inch” column at the applicable weather station’s “General Climate Summary Table” for “Precipitation” at http://www.wrcc.dri.edu/Climsum.html), pro-rated in the individual month Contractor starts and finishes Work. Delays due to adverse weather conditions will not be allowed for weather conditions that fall within these parameters.

C. In order to qualify as an adverse weather delay with respect to the foregoing parameters, (i.) daily rainfall must exceed .1 inch, and/or (ii.) daily snowfall must exceed 1.0 inch or more, at the NOAA station located closest to the Project site, as measured and reported by NOAA. Notwithstanding these allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue, Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, lime treatment, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for Owner to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

D. Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify Owner and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float available to either Owner or Contractor.

E. Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor’s progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to Owner’s satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.

F. During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall employ best practices to protect the Work, manage the construction site and rainwater during inclement weather. Persons performing the Work shall examine surfaces to receive their Work and shall report in writing to Contractor, with copy to Owner representative and the Architect conditions detrimental to the Work. Failure to examine and report discrepancies makes the Contractor responsible, at no increase in Contract Sum, for corrections Owner may require. Commencement of Work constitutes acceptance of surface.

11.07 Liquidated Damages

A. Time is of the essence. Execution of Contract Documents by Contractor shall constitute its acknowledgement that Owner will actually sustain damages in the form of Contract administration
expenses (such as Project management and consultant expenses) in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion plus extensions of time allowed pursuant to provisions hereof.

B. Contractor and Owner agree that because of the nature of the Project, it would be impractical or extremely difficult to fix the amount of such actual damages incurred by Owner because of a delay in completion of all or any part of the Work. Contractor and Owner agree that specified measures of liquidated damages shall be presumed to be the amount of such damages actually sustained by Owner, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.

C. Liquidated damages for delay shall cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by Owner as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from Owner (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof. Owner may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages.

ARTICLE 12 - CLAIMS BY CONTRACTOR

12.01 Obligation to File Claims for Disputed Work

A. Should it appear to Contractor that the Work to be performed or any of the matters relative to the Contract Documents are not satisfactorily detailed or explained therein, or should any questions arise as to the meaning or intent of the Contract Documents, or should any dispute arise regarding the true value of any work performed, work omitted, extra work that the Contractor may be required to perform, time extensions, payment to the Contractor during performance of this Contract, performance of the Contract, and/or compliance with Contract procedures, or should Contractor otherwise seek extra time or compensation FOR ANY REASON WHATSOEVER, then Contractor shall first follow procedures set forth in the Contract (including but not limited to other Articles of this Document and Section 01 2600.) If a dispute remains, then Contractor shall give written notice to Owner that expressly invokes this Article 12. Owner shall decide the issue in writing within 15 days; and Owner’s written decision shall be final and conclusive. If Contractor disagrees with Owner’s decision, or if Contractor contends that Owner failed to provide a decision timely, then Contractor’s SOLE AND EXCLUSIVE REMEDY is to promptly file a written claim setting forth Contractor’s position as required herein.

12.02 Form And Contents Of Claim

A. Contractor’s written claim must identify itself as a “Claim” under this Article 12 and must include the following: (1) a narrative of pertinent events; (2) citation to contract provisions; (3) theory of entitlement; (4) complete pricing of all cost impacts; (5) a time impact analysis of all time delays that shows actual time impact on the critical path; (6) documentation supporting items 1 through 5; a verification under penalty of perjury of the claim’s accuracy. The Claim shall be submitted to Owner within thirty (30) calendar days of receiving Owner’s written decision, or the date Contractor contends such decision was due, and shall be priced like a change order according to Section 01 2600, and must be updated monthly as to cost and entitlement if a continuing claim. Routine contract materials, for example, correspondence, RFI, Change Order requests, or payment requests shall not constitute a claim. Contractor shall bear all costs incurred in the preparation and submission of a claim.

12.03 Administration During/After Claim Submission

A. Owner may render a final determination based on the Claim or may in its discretion conduct an administrative hearing on Contractor’s claim, in which case Contractor shall appear, participate,
answer questions and inquiries, and present any further evidence or analysis requested by
Owner prior to rendering a final determination. Should Owner take no action on the Claim within
45 days of submission, it shall be deemed denied.

B. Notwithstanding and pending the resolution of any claim or dispute, Contractor shall diligently
prosecute the disputed work to final completion in accordance with Owner’s determination.

C. After their submission, claims less than $375,000 shall also be subject to the Local Agency
Disputes Act.

12.04 Compliance

A. The provisions of this Article 12 constitute a non-judicial claim settlement procedure that,
pursuant to Section 930.2 of the California Government Code, shall constitute a condition
precedent to submission of a valid Government Code Claim under the California Government
Code. Contractor shall bear all costs incurred in the preparation, submission and administration
of a claim. Any claims presented in accordance with the Government Code must affirmatively
indicate Contractor’s prior compliance with the claims procedure herein and the previous
dispositions under Paragraph 12.3 above of the claims asserted. Pursuant to Government Code
Section 930.2, the one-year period in Government Code section 911.2 shall be reduced to 150
days from either accrual of the cause of action, substantial completion or termination of the
contract, whichever occurs first; in all other respects, the Government Code shall apply
unchanged.

B. Failure to submit and administer claims as required in Article 12 shall waive Contractor’s right to
claim on any specific issues not included in a timely submitted claim. Claim(s) or issue(s) not
raised in a timely protest and timely claim submitted under this Article 12 may not be asserted in
any subsequent litigation, Government Code Claim, or legal action.

C. Owner shall not be deemed to waive any provision under this Article 12, if at Owner’s sole
discretion, a claim is administered in a manner not in accord with this Article 12. Waivers or
modifications of this Article 12 may only be made with signed change order approved as to form
by legal counsel for both Owner and Contractor; oral or implied modifications shall be ineffective.

ARTICLE 13 - UNDERGROUND CONDITIONS

13.01 Contractor To Locate Underground Facilities.

A. During construction, Contractor shall comply with Government Code Sections 4216 to 4216.9,
and in particular Section 4216.2 which provides, in part: “Except in an emergency, every person
planning to conduct any excavation shall contact the appropriate regional notification center at
least two working days, but no more than 14 calendar days, prior to commencing that excavation,
if the excavation will be conducted in an area which is known, or reasonably should be known, to
contain subsurface installations other than the underground facilities owned or operated by the
excavator, and, if practical, the excavator shall delineate with white paint or other suitable
markings the area to be excavated. The regional notification center shall provide an inquiry
identification number to the person who contacts the center and shall notify any member, if
known, who has a subsurface installation in the area of the proposed excavation.”

B. Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify
its members and, if necessary, for any member to field locate and mark its facilities. Contractor is
charged with knowledge of all subsurface conditions reflected in USA records. Prior to
commencing excavation or trenching work, Contractor shall provide Owner with copies of all USA
records secured by Contractor. Contractor shall advise Owner of any conflict between
information provided in Document 00 3000 (Geotechnical Data and Existing Conditions), the
Drawings and that provided by USA records. Contractor’s excavation shall be subject to and
comply with the Contract Documents.

C. Contractor shall also investigate the existence of existing service laterals, appurtenances or other
types of utilities, indicated by the presence of an underground transmission main or other visible
facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site,
even if not shown or indicated in Document 00 3000 (Geotechnical Data and Existing Conditions),
the Drawings or that provided by USA records. Contractor shall immediately secure all such available information and notify Owner and the utility owner, in writing, of its discovery.

13.02 Contractor To Protect Underground Facilities.

A. At all times during construction, all operating Underground Facilities shall remain in operation, unless the Contract Documents expressly indicate otherwise. Contractor shall maintain such Underground Facilities in service where appropriate; shall repair any damage to them caused by the Work; and shall incorporate them into the Work, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor’s operations.

B. Prior to performing Work at the Site, Contractor shall lay out the locations of Underground Facilities that are to remain in service and other significant known underground installations indicated by the Underground Facilities Data. Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, all such utilities or installations that are to remain and that are subject to damage. If additional utilities whose locations are unknown are discovered, Contractor shall immediately report to Owner for disposition of the same. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor’s attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 00 7200.

C. If during construction, an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by Owner for bidding or in information on file at USA or otherwise reasonably available to Contractor, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency), identify the owner of such Underground Facility and give written notice to that owner and to Owner. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, information made available for bidding and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

E. Consistent with California Government Code §4215, as between Owner and Contractor, Owner will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or information made available for bidding. Owner will compensate for the cost of locating and repairing damage not due to Contractor’s failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or information made available for bidding with reasonable accuracy, and equipment on the Project necessarily idled during such Work. Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of Owner or the utility to provide for removal or relocation of such utility facilities.

13.03 Concealed Or Unknown Conditions

A. If either of the following conditions is encountered at Site when digging trenches or other excavations that extend deeper than four feet below the surface, Contractor shall give a written Notice of Differing Site Conditions to Owner promptly before conditions are disturbed, except in an emergency as set forth in this Document 00 7200, and in no event later than seven Days after first observance of:
1. Subsurface or Latent physical conditions which differ materially from those indicated in the Contract Documents; or

2. Unknown physical conditions of an unusual nature or which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

B. In response to Contractor’s Notice of Differing Site Conditions under this Paragraph, Owner will investigate the identified conditions, and if they differ materially and cause increase or decrease in Contractor’s cost of, or time required for, performance of any part of the Work, Owner will negotiate the appropriate change order following the procedures set forth in the Contract Documents. If Owner determines that physical conditions at the Site are not Latent or are not materially different from those indicated in Contract Documents or that no change in terms of the Contract Documents is justified, Owner will so notify Contractor in writing, stating reasons (with Contractor retaining its rights under Article 12 of this Document 00 7200.)

C. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed Latent or materially different Site conditions (whether above or below grade) if Contractor knew or should have known of the existence of such conditions at the time Contractor submitted its Bid, failed to give proper notice, or relied upon information, conclusions, opinions or deductions of the kind that the Contract Documents preclude reliance upon.

D. Regarding Underground Facilities, Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that is owned and was built by Owner only where the Underground Facility:

1. Was not shown or indicated in the Contract Documents or in the information supplied for bidding purposes or in information on file at USA; and
2. Contractor did not know of it; and
3. Contractor could not reasonably have been expected to be aware of it or to have anticipated it from the information available. (For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, then an increase in the Contract Sum or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated in the Contract Documents, in the information supplied to Contractor for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor.)

E. Contractor shall bear the risk that Underground Facilities not owned or built by Owner may differ in nature or locations shown in information made available by Owner for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor. Underground Facilities are inherent in construction involving digging of trenches or other excavations on Owner’s Project, and Contractor is to apply its skill and industry to verify the information available.

F. Contractor’s compensation for claimed Latent or materially different Site conditions shall be limited to the actual, reasonable, incremental increase in cost of that portion of the Work, resulting from the claimed Latent or materially different Site conditions. Such calculation shall take into account the estimated value of that portion of the Work and the actual value of that portion of the Work, using for guidance Contractor’s or its subcontractor’s bid amount and actual amounts incurred for that portion of the Work and the reasonable expectation (if any) of differing or difficult site conditions in the Work area based on the available records and locale of the Work. For example, if Contractor excavates in an area unexpected, then such costs would be recoverable entirely; while if Contractor extends an existing excavation, then such costs would be recoverable if the resulting excavation costs in that work area exceeded the reasonable expectations therefore.

13.04 Notice Of Hazardous Waste Or Materials Conditions

A. Contractor shall give a written Notice of Hazardous Materials Condition to Owner promptly, before any of the following conditions are disturbed (except in an emergency as set forth in this Document 00 7200), and in no event later than 24 hours after first observance of any:
1. Material that Contractor believes may be hazardous waste or hazardous material, as defined in Section 25117 of the Health and Safety Code (including, without limitation, Asbestos, lead, PCBs, petroleum and related hydrocarbons, and radioactive material) that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law ("hazardous material"); or
2. Other material that may present an imminent substantial danger to persons or property exposed thereto in connection with Work at the Site ("other materials").

B. Except as otherwise provided in the Contract Documents or as provided by applicable law, Contractor shall not be required to give any notice for the disturbance or observation of any such hazardous materials or other materials where such matter is disturbed or observed as part of the scope of Work under the Contract Documents (such as hazardous waste or hazardous material investigation, remediation or disposal activities which are identified as the subject of Work under the Contract Documents), where Contractor complies with all requirements in the Contract Documents and applicable law respecting such materials.

C. Contractor’s Notice of Hazardous Materials Condition shall indicate whether the hazardous materials or other materials were shown or indicated in the Contract Documents to be within the scope of Work, and whether the hazardous materials or other materials were brought to the Site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible.

D. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials if:
   1. Contractor knew of the existence of such hazardous materials or other materials at the time Contractor submitted its Bid; or
   2. Contractor should have known of the existence of such hazardous material or other materials as a result of its having the responsibility to obtain additional or supplementary examinations, investigation, explorations, tests, studies, and data concerning the conditions at or contiguous to the Site prior to submitting its Bid; or
   3. Contractor failed to give the written notice within the required timeframe set forth below.

E. If Owner determines that conditions involve hazardous materials or other materials and that a change in Contract Document terms is justified, Owner will issue either a Request for Proposal or Construction Change Directive under the procedures described in the Contract Documents. If Owner determines that conditions do not involve hazardous materials or other materials or that no change in Contract Document terms is justified, Owner will notify Contractor in writing, stating the reasons for its determination.

F. In addition to the parties’ other rights under this Document 00 7200, if Contractor does not agree to resume Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, Owner may order the disputed portion of Work deleted from the Work, or performed by others, or Owner may invoke its right to terminate Contractor’s right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant.

G. If Contractor does not agree with any Owner determination of any adjustment in the Contract Sum or Contract Time under this Article, Contractor may make a claim as provided in Article 12 of this Document 00 7200.

ARTICLE 14 - LEGAL AND MISCELLANEOUS

14.01 Laws And Regulations

A. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall protect and indemnify Owner and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.
14.02 Permits And Taxes
A. Contractor shall procure all permits and licenses applicable to the Work (including environmental matters to the extent applicable); pay all charges and fees, including fees for street opening permits; comply with, implement and acknowledge effectiveness of all permits; initiate and cooperate in securing all required notifications or approvals therefore; and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. Owner will pay applicable building permits, sanitation and water fees for the completed construction, except as otherwise provided in the Contract Documents. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where Owner may have already obtained permits for the Work.

14.03 Communications And Information Distribution
A. All communications recognized under the Contract Documents shall be in writing, in the form of a serialized document, by type of communication. For example, RFI’s shall be serialized beginning with RFI No. 1; payment applications shall be serialized beginning with Payment Application No. 1, submittals shall be serialized per specification section and transmitted with transmittal sheets beginning with Transmittal No. 1; and correspondence shall be serialized beginning with letter No. 1. Contractor may propose other record management and identification systems or protocols, intended to facilitate orderly transmittal of project information, storage and retrieval of such information, which Owner will review consistent with these stated objectives, and accept or reject in its sole discretion.
B. Documents Requiring Signatures. All documents requiring signatures for approval prior to implementing action, as stipulated in other portions of Contract Documents, shall require a manually signed, serialized letter delivered to the other party at its address for notice otherwise specified in the Contract Documents, either personally or by mail.
C. Electronic data transfer of such correspondence will serve to expedite preliminary concurrence of information, only. Receipt of “hard copy” signature on forms is required prior to implementing action or work as the conditions may require. For example, change orders and authorizations for extra cost, require signatures. A party may acknowledge receipt of PDF copies of required correspondence by e-mail, but in the absence of such acknowledgment, mail or personal delivery is required.
D. All emails shall be copied to Owner’s and Contractor’s Project Representative. Owner reserves the right to preclude e-mail communication, in whole or in part, as Project needs may require. Communication between Owner and Contractor shall not be via Twitter, Facebook, or other types of instant text message systems. Any such communications shall be inadmissible for any purpose related to this Contract.

14.04 Suspension Of Work
A. Owner may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as Owner may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Section 01 2600 (Modification Procedures). No adjustment shall be made to extent that performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible.

14.05 Termination Of Contract For Cause
A. The Contractor shall be in default of the Contract Documents and Owner may terminate the Contractor's right to proceed under the Contract Documents, for cause, in whole or in part, should the Contractor commit a material breach of the Contract Documents and not cure such breach.
within ten (10) calendar days of the date of notice from Owner to the Contractor demanding such
cure; or, if such breach is curable but not curable within such ten (10) day period, within such
period of time as is reasonably necessary to accomplish such cure. (In order for the Contractor to
avail itself of a time period in excess of 10 calendar days, the Contractor must provide Owner
within the ten (10) day period with a written plan acceptable to Owner that demonstrates actual
resources, personnel and a schedule to promptly to cure said breach, and then diligently
commence and continue such cure according to the written plan).

B. In the event of termination by Owner for cause as provided herein, the Contractor shall deliver to
Owner possession of the Work in its then condition, including but not limited to, all designs,
engineering, Project records, cost data of all types, plans and specifications and contracts with
vendors and subcontractors, all other documentation associated with the Project, and all
construction supplies and aids dedicated solely to performing the Work which, in the normal
course of construction, would be consumed or only have salvage value at the end of the
construction period. The Contractor shall remain fully liable for the failure of any Work completed
and materials and equipment provided through the date of such termination to comply with the
provisions of the Contract Documents. The provisions of this Section shall not be interpreted to
diminish any right which Owner may have to claim and recover damages for any breach of the
Contract Documents or otherwise, but rather, the Contractor shall compensate Owner for all loss,
cost, damage, expense, and/or liability suffered by Owner as a result of such termination and/or
failure to comply with the Contract Documents.

C. In the event a termination for cause is later determined to have been made wrongfully or without
cause, then the termination shall be treated as a termination for convenience, and the Contractor
shall have no greater rights than it would have had following a termination for convenience. Any
Contractor claim arising out of a termination for cause shall be made in accord with Article 12
herein. No other loss, cost, damage, expense or liability may be claimed, requested or recovered
by the Contractor.

14.06 Termination Of Contract For Convenience

A. Owner may terminate performance of the Work under the Contract Documents in accordance
with this clause in whole, or from time to time in part, whenever Owner shall determine that
termination is in Owner's best interest. Termination shall be effected by Owner delivering to the
Contractor notice of termination specifying the extent to which performance of the Work under the
Contract Documents is terminated, and the effective date of the termination.

B. Contractor shall comply strictly with Owner's direction regarding the effective date of the
termination, the extent of the termination, and shall stop work on the date and to the extent
specified.

C. Contractor shall be entitled to a total payment on account of the Contract work so terminated
measured by (i.) the actual cost to Contractor of Work actually performed, up to the date of the
termination, with profit and overhead limited to twelve percent (12%) of actual cost of work
performed, up to but not exceeding the actual contract value of the work completed as measured
by the Schedule of Values and Progress Schedule, (ii.) offset by payments made and other
contract credits. In connection with any such calculation, however, Owner shall retain all rights
under the Contract Documents, including but not limited to claims, indemnities, or setoffs.

D. Under no circumstances may Contractor recover legal costs of any nature, nor may Contract
recover costs incurred after the date of the termination.

14.07 Contingent Assignment Of Subcontracts

A. Contractor hereby assigns to Owner each Subcontract for a portion of the Work, provided that:

1. The assignment is effective only after Owner's termination of Contractor's right to proceed
   under the Contract Documents (or portion thereof relating to that Subcontract) as set forth
   herein.

2. The assignment is effective only for the Subcontracts which Owner expressly accepts by
   notifying the Subcontractor in writing;
3. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 6113.13 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;

4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense (except as otherwise provided in this Document 00 7200), sign all instruments and take all actions reasonably requested by Owner to evidence and confirm the effectiveness of the assignment in Owner; and

5. Nothing in this Paragraph shall modify or limit any of Contractor's obligations to Owner arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

14.08 Remedies And Contract Integration

A. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter claims, disputes and other matters in question between Owner and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the State and County where the Project is located. All Owner remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances Owner shall have any and all other equitable and legal rights and remedies which it would have according to law.

B. The Contract Documents, any Contract Modifications and Change Orders, shall represent the entire and integrated agreement between Owner and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written Modifications. Owner and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written Modification in sole reliance upon the information set forth or referenced in the Contract Documents or Contract Modifications; the parties are not and will not rely on any other information, which shall be inadmissible in any proceeding to enforce these documents.

C. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

D. Neither acceptance of the whole or any part of Work by Owner nor any verbal statements on behalf of Owner or its authorized agents or representatives shall operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to Owner herein nor any right to damages provided in the Contract Documents.

14.09 Interpretation.

A. Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable, all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if...
such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).

B. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Project Manager or any Owner’s representative and Contractor; (2) Owner and/or its Representatives and a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (3) between any persons or entities other than Owner and Contractor.

14.10 Patents

A. Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. Contractor shall defend, indemnify and hold harmless Owner and each of its officers, employees, consultants and agents, including, but not limited to, the Board and each Owner’s Representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney’s fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

14.11 Substitution For Patented And Specified Articles

A. Except as noted specifically in the instructions to Bidders or in Contract Documents, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words “or Approved Equal” and Contractor may offer any substitute material or process that Contractor considers “equal” in every respect to that so designated and if material or process offered by Contractor is, in opinion of Owner, Equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 6325 (Substitution Request Form) as provided in Document 00 2000 (Instructions to Bidders). A substitution will be approved only if it is a true “or equal” item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

14.12 Interest Of Public Officers

A. No representative, officer, or employee of Owner no member of the governing body of the locality in which the Project is situated, no member of the locality in which Owner was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

14.13 Limit Of Liability

A. OWNER, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO, PROJECT MANAGER AND EACH OTHER OWNER REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

ARTICLE 15 - WORKING CONDITIONS AND PREVAILING WAGES

15.01 Use Of Site/Sanitary Rules

General Conditions 00 7200 - 25
Laney College Child Care Remodel
A. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor’s and Subcontractors’ employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to Owner’s approval.

B. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by Owner, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to Owner or occupant thereof resulting from the performance of Work.

C. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall clean the site, remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by Owner at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.

D. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

15.02 Protection Of Work, Persons, And Property

A. Contractor shall be responsible for initiating, maintaining and supervising all safety and site security precautions and programs in connection with Work, and shall develop and implement a site security and safety plan throughout construction. Contractor shall comply with all safety requirements specified in any safety program established by Owner, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all theft or damage to Work, property or structures, and all injuries to persons, either on the Site or constituting the Work (e.g., materials in transit), arising from the performance of Work of the Contract Documents from a cause.

B. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owners of adjacent property and of Underground Facilities and utility Owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.

C. Contractor shall remedy all damage, injury or loss to any property referred to above in this Article, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor’s duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. Owner and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor’s Work.

D. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
E. Owner may, at its option, retain such moneys due under the Contract Documents as Owner
deems necessary until any and all suits or claims against Contractor for injury to persons or
property shall be settled and Owner receives satisfactory evidence to that effect.
F. Work within the right-of-way lines of the city and/or Owner and/or State shall be done in
accordance with the standards and specifications of the controlling agency. Permit for such work
shall be obtained and paid for by the Contractor before executing the work within such right-of-
ways.

15.03 Responsibility For Safety And Health
A. Contractor shall ensure that its and each tier of Subcontractors’ employees, agents and invitees
comply with applicable health and safety laws while at the Site. These laws include the
Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto,
and Owner’s safety regulations as amended from time to time. Contractor shall comply with all
Owner directions regarding protective clothing and gear.
B. Contractor shall be fully responsible for the safety of its and its Subcontractors’ employees,
agents and invitees on the Site. Contractor shall notify Owner, in writing, of the existence of
hazardous conditions, property or equipment at the Site that are not under Contractor’s control.
Contractor shall be responsible for taking all the necessary precautions against injury to persons
or damage to the property of Contractor, Subcontractors or persons from recognized hazards
until the responsible party corrects the hazard.
C. Contractor shall confine all persons acting on its or its Subcontractors’ behalf to that portion of the
Site where Work under the Contract Documents is to be performed, Owner-designated routes for
ingress and egress thereto, and any other Owner-designated area. Except those routes for
 ingress and egress over which Contractor has no right of control, within such areas, Contractor
shall provide safe means of access to all places at which persons may at any time have occasion
to be present.

15.04 Emergencies
A. In emergencies affecting the safety or protection of persons or Work or property at the Site or
adjacent thereto, Contractor, without special instruction or authorization from Owner, is obligated
to act to prevent threat and damage, injury or loss, until directed otherwise by Owner. Contractor
shall give Owner prompt written notice if Contractor believes that any significant changes in Work
or variations from Contract Documents have been caused thereby. If Owner determines that a
change in the Contract Documents is required because of the action taken by Contractor in
response to such an emergency, a Change Order or Construction Change Directive will be issued
to document the consequences of such action.

15.05 Use Of Roadways And Walkways
A. Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for
vehicular or pedestrian traffic. Before beginning any interference and only with Owner’s prior
concurrency, Contractor may provide detour or temporary bridge for traffic to pass around or over
the interference, which Contractor shall maintain in satisfactory condition as long as interference
continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost
of these temporary facilities.

15.06 Nondiscrimination
A. No person or entity shall discriminate in the employment of persons upon public works because
of race, religious creed, color, national origin, ancestry, physical disability, mental disability,
medical condition, marital status, sexual preference, or gender of such persons, except as
provided in Section 12940 of the California Government Code. Every contractor for public works
violating the provisions of Section 1735 of the California Labor Code is subject to all the penalties
imposed for a violation of Chapter 1, Part 7, Division 2 of the California Labor Code.

15.07 Prevailing Wages And Working Hours
A. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and Owner to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.

B. Contractor shall forfeit, as a penalty to Owner, Fifty Dollars ($50.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any Work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this Paragraph and the terms of the California Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 00 7200 and the California Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by Owner. The Labor Commissioner pursuant to California Labor Code §1775 shall determine the final amount of forfeiture.

C. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the California Labor Code.

D. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation, California Labor Code §§ 1776 and 1810-1815. Failure to so comply shall constitute a default under this Contract.

E. Contractor and its Subcontractors shall be responsible for compliance with Labor Code §§ 1810-1815.

1. Eight hours of labor performed in execution of the Contract constitutes a legal day’s work. The time of service of any workman employed on the Project is limited and restricted to 8 hours during any one calendar day, and 40 hours during any one calendar week.

2. Contractor and its Subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him or her in connection with the Project. The record shall be kept open at all reasonable hours to the inspection Owner and to the Division of Labor Standards Enforcement.

3. Contractor or its Subcontractors shall, as a penalty to Owner, forfeit twenty-five dollars ($25) for each worker employed in the execution of the Contract Documents by the respective Contractor or Subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Labor Code §§ 1810-1815.

4. Work performed on the Project by employees of Contractor or its Subcontractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.

F. Contractor and its Subcontractors shall be responsible for compliance with Labor Code Section 1776.

1. Contractor and Subcontractors must keep accurate payroll records, 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 him or her in connection with the Work of the Contract Documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code Section 1776.

2. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor as required by Labor Code Section 1776.
   a. Contractor shall inform Owner of the location of records enumerated above, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
   b. Contractor or Subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that the Contractor or Subcontractor fails to comply with the ten-day period, he or she shall, as a penalty to Owner on whose behalf the contract is made or awarded, forfeit $25.00 for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this Paragraph due to the failure of a Subcontractor to comply with this Paragraph.

3. Contractor shall also deliver certified payrolls to Owner with each Application for Payment as set forth above in this Document 00 7200 (General Conditions).

15.08 Environmental Controls
   A. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any Work performed under the Contract Documents including, without limitation, any toxic, water, stormwater management and soil pollution controls and air pollution controls specified in California Government Code §11017. Contractor shall be responsible for insuring that Contractor’s Employees, Subcontractors, and the public are protected from exposure to airborne hazards or contaminated water, soil, or other toxic materials used during or generated by activities on the Site or associated with the Project.

15.09 Shoring Safety Plan
   A. Any conflict between this Paragraph and Division 2 of the Specifications shall be resolved in favor of the most stringent requirement.
   B. At least five Days in advance of any excavation five feet or more in depth, Contractor shall submit to Owner a detailed plan showing the shoring, bracing and sloping design (including calculations) and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by California Labor Code §6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
   C. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. Owner’s acceptance of any drawings showing the shoring or bracing design or Work schedule shall not relieve Contractor of its responsibilities under this Paragraph.
   D. Appoint a qualified supervisory employee who shall be responsible to determine the sloping or shoring system to be used depending on local soil type, water table, stratification, depth, etc.
Contractor and Subcontractors are responsible for complying with each and every applicable prevailing wage law and the Owner’s Labor Compliance Program.

ARTICLE 1 - LABOR COMPLIANCE PROGRAM

1.01 In accordance with California Labor Code §1771.7, Owner has established a Labor Compliance Program. This Labor Compliance Program is applicable to construction projects using funds from the Kindergarten-University Public Education Facilities Bond Acts of 2002, 2004 or 2006.

1.02 Owner received initial approval for its Labor Compliance Program from the California Department of Industrial Relations on September 1, 2011.

1.03 All Contractors and Subcontractors providing workers or performing work on the Project shall comply with the Labor Compliance Program.

1.04 All Contractors and Subcontractors providing workers or performing work on the Project shall comply with all applicable wage and hour laws.

ARTICLE 2 - CONTACT INFORMATION

2.01 Owner’s Labor Compliance Program is administered by Padilla & Associates Inc., located at 1050 Marina Village Parkway, Suite 101-A, Alameda, CA 94501. (Compliance Administrator) The telephone number for the Compliance Administrator is Alex Dobrin, (310) 279-8830. All inquiries, questions or requests for assistance with regard to Owner’s Labor Compliance Program should be directed to the Compliance Administrator unless Owner directs otherwise.

ARTICLE 3 - WAGE RATES

3.01 Contractor shall post the applicable prevailing wage rates at each Project construction site.

ARTICLE 4 - NO DUTY TO CONTRACTOR OR SUBCONTRACTOR

4.01 The duty of Owner to carry out its Labor Compliance Program runs solely to the Director of the California Department of Industrial Relations and not to any worker, contractor, subcontractor or other party.

ARTICLE 5 - MANDATORY PRE-BID CONFERENCE

5.01 Owner shall conduct a Pre-Bid Conference at 10am on May 27, 2014 at the Department of General Services, Peralta Community College District, 333 East 8th Street, Oakland, CA 94606 to discuss federal and state labor law requirements applicable to the Project.

5.02 All Contractors must attend this Mandatory Pre-Job Conference and sign an attendance roster as a condition to participating in the Project.

ARTICLE 6 - PAYMENT OF PREVAILING WAGE RATES

6.01 Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and Owner to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract.
6.02 Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the California Labor Code.

6.03 The Contractor is responsible for ascertaining and complying with all current general prevailing wage rates for each craft, classification, or type of worker needed to execute the Contract including any rate changes that take effect during the term of the Contract.

6.04 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall ascertain and comply with all current general prevailing wage rates for each craft, classification, or type of worker needed to perform the Work, including any rate changes that take effect during the term of such contract.

6.05 The limited exemption from paying prevailing wage rates pursuant to California Labor Code §1771.5 shall be applied to this Contract if the exemption criteria set forth therein are met.

ARTICLE 7 - LABOR CODE COMPLIANT PAYROLL RECORDS

7.01 Contractor must maintain accurate payroll records showing the name, address, social security number and work classification of each employee and owner performing Work on the Project. Contractor’s payroll records shall also set forth the straight time and overtime hours worked each day and each week, the fringe benefits and the actual per diem wage paid to each owner, journeyperson, apprentice worker or other employee employed in connection with the Project.

7.02 Each of Contractor's payroll record shall be verified by a written declaration that it is made under penalty of perjury and stating that the information contained in the payroll record is true and correct and that the Contractor has complied with the requirements of California Labor Code §§1771, 1811 and 1815 for any Work performed by the Contractor's employees on the Project.

7.03 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall maintain accurate payroll records showing the name, address, social security number and work classification of each employee and owner performing Work on the Project. Subcontractor’s payroll records shall also set forth the straight time and overtime hours worked each day and each week, the fringe benefits and the actual per diem wage paid to each owner, journeyperson, apprentice worker or other employee employed in connection with the Project.

7.04 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall verified by a written declaration that it is made under penalty of perjury and stating that the information contained in the payroll record is true and correct and that the Subcontractor has complied with the requirements of California Labor Code §§1771, 1811 and 1815 for any Work performed by the Subcontractor's employees on the Project.

ARTICLE 8 - PAYROLL RECORD AVAILABILITY

8.01 The Contractor shall make available for inspection at all reasonable hours at the principal office of the Contractor, or shall furnish a certified copy, of all Contractor's payroll records for its employees employed in connection with the Work upon request by an employee, employee representative, Owner, the Compliance Administrator or any other Owner representative, The Division of Labor Standards.

8.02 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall make available for inspection at all reasonable hours at the principal office of the Subcontractor, or shall furnish a certified copy of all Subcontractor's payroll records.
for its employees employed in connection with the Work upon request by an employee, employee representative, Owner, the Compliance Administrator or any other Owner representative, The Division of Labor Standards.

8.03 If the principal office of the Contractor or Subcontractor is more than twenty-five miles from the Project site, upon request from Owner, the Compliance Administrator or any other Owner representative or a worker employee, Contractor or Subcontractor shall make a certified copy of all Contractor’s or Subcontractor’s payroll records for its employees employed in connection with the Work available for inspection at Owner’s office located at [address].

ARTICLE 9 - SUBMISSION OF WEEKLY PAYROLL RECORDS

9.01 Contractor shall submit to the Compliance Administrator a certified copy of all the Contractor’s payroll records for its employees employed in connection with the Work on a weekly basis. The certified payroll records for the preceding week shall be submitted on the Wednesday of the following week. In the event that a legal holiday falls on Wednesday, the certified payroll records shall be submitted on the next business day.

A. If there was no work performed during a given week, Contractor’s certified payroll record shall be annotated: “no work” for that week.

B. Contractor shall mark “final” on its last submitted payroll for the Project.

9.02 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall submit to the Compliance Administrator a certified copy of all the Subcontractor’s payroll records for its employees employed in connection with the Work on a weekly basis. The certified payroll records for the preceding week shall be submitted on the Wednesday of the following week. In the event that a legal holiday falls on Wednesday, the certified payroll records shall be submitted on the next business day.

A. If there was no work performed during a given week, Subcontractor’s certified payroll record shall be annotated: “no work” for that week.

B. Subcontractor shall mark “final” on its last submitted payroll for the Project.

ARTICLE 10 - AUDIT AND INVESTIGATION OF COMPLIANCE

10.01 Owner may conduct reasonable investigation of Contractor’s and/or Subcontractor’s compliance with the requirements of California Labor Code §§1771, 1775, 1777.5, 1811, 1813 and 1815 and any other applicable state or federal labor law. Not more than ten days after a written or oral request from Owner, Compliance Administrator or any other Owner representative, Contractor and/or Subcontractor shall provide legible copies of time cards, personnel sign in sheets, daily logs payroll registers, paycheck stubs, cancelled paychecks or any other document requested to authenticate or corroborate compliance with prevailing wage rate laws. Contractor and/or Subcontractor shall make the originals of the requested documents available for inspection upon request by Owner, the Compliance Administrator or any other Owner representative at all reasonable hours at the principal office of the Contractor or Subcontractor or if the principal office of the Contractor or Subcontractor is more than 25 miles from the Project site, at Owner’s office located at Department of General Services, 333 East 8th Street, Oakland, CA 94606.

10.02 Contractor and/or Subcontractor shall assist Owner, the Compliance Administrator or any other Owner representative with any investigation or audit of Contractor and/or Subcontractor regarding compliance with the prevailing wage rate laws.

10.03 Contractor and/or Subcontractor shall make its employees available for interviews by Owner, the Compliance Administrator or any other Owner representative.

10.04 Neither Contractor nor Subcontractor shall take retaliatory measures against any worker on the Project for informing Owner or Compliance Administrator or Owner representative of, or responding to, any monitoring, investigation or audit of any violation or suspected violation of the prevailing wage rate laws.
Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, the same terms as set forth in this Document 00 7300 Paragraphs 10 and each subpart thereto.

ARTICLE 11 - INADEQUATE OR DELINQUENT PAYROLL RECORDS

11.01 Payment under this Contract shall not be made when Contractor or Subcontractor payroll records are delinquent or inadequate.

11.02 Payroll records shall be considered delinquent if they are not submitted in compliance with Paragraph 9 of this Document 00 7300.

11.03 Payroll records shall also be considered delinquent if they are not submitted within ten days of any written request by Owner or Compliance Administrator or other Owner representative.

11.04 Payroll records shall be considered inadequate if one or more of the following conditions exists:

A. The record lacks the information required by California Labor Code §1776; or
B. The record contains the information required by California Labor Code §1776 but is not certified, or is certified by someone that is not an agent of the Contractor; or
C. A nonconforming record remains uncorrected for one payroll period after Owner or its designee has given Contractor notice of inaccuracies detected by Owner or its designee.

ARTICLE 12 - NAME AND ADDRESS OF BONDING COMPANY

12.01 Contractor shall provide Owner with the name and address of any bonding company issuing a bond that secures the payment of wages by the Contractor. If the name or address of any such bonding company changes over the term of this Contract, Contractor shall provide the new name and/or address of the bonding company to Owner in writing within ten days of such change. The writing shall be clearly identified as “Notice of Change in Bonding Company For Payment of Wages.”

12.02 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall provide Owner with the name and address of any bonding company issuing a bond that secures the payment of wages by the Subcontractor. If the name or address of any such bonding company changes over the term of the Project, Subcontractor shall provide the new name and/or address of the bonding company to Owner in writing within ten days of such change. The writing shall be clearly identified as “Notice of Change in Bonding Company For Payment of Wages.”

ARTICLE 13 - NOTICE TO BONDING COMPANY

13.01 Contractor acknowledges and agrees that in the event that Owner or its Compliance Administrator or any other Owner representative, provides notice of withholding contract payment to the Contractor or Subcontractor, a copy of the notice may also be served on any of Contractor’s or Subcontractor’s bonding companies that issued a bond to securing payment of wages.

13.02 The Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, a provision that each Subcontractor shall acknowledges and agrees that in the event that Owner or its Compliance Administrator or any other Owner representative, provides notice of withholding contract payment to the Contractor or Subcontractor, a copy of the notice may also be served on any of Contractor’s or Subcontractor’s bonding companies that issued a bond to securing payment of wages.

ARTICLE 14 - NOTICE OF WITHHOLDING

14.01 Owner shall provide Contractor with notice of withholding contract payments.
ARTICLE 15 - REQUEST FOR REVIEW

15.01 The exclusive and only means for Contractor or Subcontractor to receive review of a decision by Owner to withhold payment for violations of the prevailing wage requirements is through the procedure set forth herein.

15.02 Contractor or Subcontractor may contest a finding that it has violated the prevailing wage requirement laws by submitted a writing clearly identified as “Request for Review” to Owner’s Labor Compliance Program personnel as identified in Paragraph 2 of this Document 00 7300 within sixty (60) days after service of the Notice to Withhold of Contract Payments.

15.03 The Request for Review must clearly identify the Notice of Withholding Contract Payments from which review is sought, including the date of the Notice of Withholding Contract Payments or it shall include a copy of the Notice of Withholding Contract Payments as an attachment.

15.04 The Request for Review must contain a complete statement of the basis for the protest.

15.05 The Request for Review must refer to the specific portion of the Notice to Withhold that forms the basis for the protest.

15.06 The Request for Review must include the name, address, and telephone number of the person representing the protesting party.

15.07 Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, the same terms as set forth in this Document 00 7300 Paragraphs 15, 16 and 17 and each subpart thereto.

ARTICLE 16 - FAILURE TO REQUEST REVIEW SHALL RESULT IN FINAL JUDGMENT

16.01 Failure by the Contractor to submit a timely Request for Review may result in a final order which shall be binding on the Contractor, and which shall also be binding, with respect to the amount due, on the bonding company issuing a bond that secures the payment of wages by the Contractor and a surety on the bond.

16.02 Failure by the Subcontractor to submit a timely Request for Review may result in a final order which shall be binding on the Subcontractor, and which shall also be binding, with respect to the amount due, on the bonding company issuing a bond that secures the payment of wages by the Subcontractor and a surety on the bond.

ARTICLE 17 - NO INTERIM PAYMENT OF WITHHELD CONTRACT PAYMENTS

17.01 Pending a final order, or the expiration of the time period for seeking review of the Notice of Withholding of Contract Payments, Owner shall not disburse any Contract payments that have been withheld.

ARTICLE 18 - FAILURE TO COMPLY WITH LABOR LAWS MAY RESULT IN PENALTIES

18.01 Failure by Contractor or Subcontractor to pay every employee performing Work prevailing wages may result in the Contractor and/or Subcontractor being prohibited from bidding on public works projects for up to three years.

18.02 Failure by Contractor or Subcontractor to pay every employee performing Work prevailing wages may result in the Contractor and/or Subcontractor being prohibited from being awarded public works projects for up to three years.

18.03 Failure by Contractor or Subcontractor to pay every employee performing Work prevailing wages may result in a forfeiture of the unpaid wages by the Contractor or Subcontractor.

18.04 Failure by Contractor or Subcontractor to pay every employee performing Work prevailing wages may result in a forfeiture of up to $50.00 per each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates.
18.05 Failure by Contractor or Subcontractor to submit certified copies of payroll records within ten days of a written request from Owner, the Compliance Administrator or any other Owner representative may result in a forfeiture of up to $25.00 per each calendar day, or portion thereof, for each worker until strict compliance is effectuated.

18.06 Failure by Subcontractor to pay every employee performing Work prevailing wages may result in withholdings, penalties and forfeitures being assessed against Contractor.

ARTICLE 19 - CONTRACTOR MUST MONITOR SUBCONTRACTOR COMPLIANCE

19.01 Contractor shall monitor the payment of the specified general prevailing rate of per diem wages to employees by each Subcontractor by periodically reviewing the certified payroll records of each Subcontractor.

ARTICLE 20 - CORRECTIVE ACTION BY CONTRACTOR REGARDING SUBCONTRACTOR

20.01 Once the Contractor is aware that any Subcontractor has failed to pay its workers the specified prevailing rate of wages, the Contractor shall diligently take corrective action to halt or rectify the failure, including but not limited to, retaining sufficient funds due the Subcontractor for Work performed on the Project.

ARTICLE 21 - AFFIDAVIT PRIOR TO FINAL PAYMENT TO SUBCONTRACTOR

21.01 Prior to making final payment to any Subcontractor for Work performed on the Project, Contractor shall obtain an affidavit signed under penalty of perjury from each Subcontractor that each Subcontractor has paid the specified general prevailing rate of per diem wages to its employees on the Project and any amounts due under California Labor Code §1813.

ARTICLE 22 - NOTICE OF PRIOR VIOLATIONS OF THE PREVAILING WAGE RATES

22.01 Contractor shall promptly notify Owner if Contractor has been barred from bidding for or working on public works projects for any reason.

22.02 Contractor shall promptly notify Owner if Contractor or a firm, corporation, partnership, or association in which the contractor has any interest has been found to have willfully violated the prevailing wage rate laws.

22.03 Contractor shall promptly notify Owner if Contractor or a firm, corporation, partnership, or association in which the contractor or has any interest has been found to have violated the public works chapter of the California Labor Code with an intent to defraud.

22.04 The term "any interest" shall have the meaning set forth in California Labor Code §1777.1(f) or any amendment thereto.

22.05 Notice shall be given by the Contractor to Owner before bidding closes or if Contractor is unaware until after bidding has closed, before the Contract is awarded or if the Contractor is unaware until after the Contract has been awarded then before it is executed and if the Contractor is unaware until after the Contract has been executed then not more than five calendar days after Contractor has notice of any kind that it has been found to have willfully violated the prevailing wage rate laws or found to have violated the public works chapter of the California Labor Code with an intent to defraud.

ARTICLE 23 - DEFINITIONS

23.01 All abbreviations and definitions of terms used in this Document 00 7300 are set forth in this Document 00 7300 or in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions).

END OF DOCUMENT
1. **SUMMARY**

   A. This document includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions).

2. **SUPPLEMENTS**

   A. Add new Article 16 - “Insurance Requirements”:

      1. At or before the date specified in Document 00200 (Instructions to Bidders), Contractor shall furnish to District satisfactory proof that Contractor has taken out for the entire period covered by the Contract the following classes of insurance in the form and with limits and deductibles specified below:

         1. Comprehensive General Liability Insurance covering claims for personal injury, bodily injury and property damage arising out of the Work and in a form providing coverage not less than that of a Standard Commercial General Liability Insurance policy (“Occurrence Form”). Such insurance shall provide for all operations and include independent contractors, products liability, completed operations for one year after Final Completion and acceptance of the final payment for the Work, contractual liability, and coverage for explosion, collapse, and underground hazards. The limits of such insurance shall not be coverage of less than [Insert Amount e.g. $1,000,000] each occurrence, [Insert Amount e.g. $2,000,000] general aggregate limit, and [Insert Amount e.g. $2,000,000] aggregate for products and completed operations. The policies shall be endorsed to provide Broad Form Property Damage Coverage.

         2. Comprehensive Automobile Liability Insurance covering all owned, non-owned, and hired vehicles. Such insurance shall provide coverage not less than the standard Comprehensive Automobile Liability policy with limits not less than [Insert Amount e.g. $1,000,000] each person Bodily Injury, [Insert Amount e.g. $1,000,000] each occurrence Bodily Injury, and [Insert Amount e.g. $1,000,000] each occurrence Property Damage.

         3. All-Risk Course of Construction Insurance including damage to property owned by District, Contractor or third parties caused by fire. Insurance shall be in the amount of 100 percent of the completed value of the Work to be performed under this Contract. Deductible shall not exceed [Insert Amount e.g. $10,000]. Each loss shall be borne by Contractor.

         4. Workers’ Compensation Insurance for all persons whom the Contractor may employ in carrying out Work contemplated under Contract Documents, in accordance with the Act of Legislature of State of California, known as “Workers’ Compensation Insurance and Safety Act,” approved May 26, 1913, and all acts amendatory or supplemental thereto, in the statutory amount.

         5. [Option] Environmental Impairment Liability Insurance covering bodily injury and property damage utilizing an occurrence policy form, in an amount no less
than [Insert Amount *e.g.* $1,000,000] combined single limit for each occurrence.

2. All policies of insurance shall be placed with insurers acceptable to District. The insurance underwriter(s) for all insurance policies except Workers’ Compensation shall have an A. M. Best Company rating of [Insert rating *e.g.* A-, VIII ] or better. Required minimum amounts of insurance may be increased should conditions of Work, in opinion of District, warrant such increase. Contractor shall increase required insurance amounts upon direction by District.

3. Required Endorsements: The policies required under paragraphs 4.2.A.1 and 4.2.A.2 [Option: and 4.2.A.5] of this Document 00700 shall be endorsed as follows:

1. Name District, its Board of Directors, and their employees, representatives, consultants, and agents, and Project Manager as additional insureds, but only with respect to liability arising out of the activities of the named insured.

2. Each such policy shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limit of the insurance company’s liability required under paragraphs 4.2.A.1 and 4.2.A.2 [Option: and 4.2.A.5] of this Document 00700.

3. Insurance shall be primary to District and no other insurance or self-insured retention carried or held by District shall be called upon to contribute to a loss covered by insurance for the named insured.

4. [Option] Additional Endorsement: The policy required under paragraph 4.2.A.1 of this Document 00700 shall be endorsed as follows:

1. Name the State of California, its officers, agents, employees, and servants as additional insured, but only with respect to liability arising out of the activities of the named insured.

5. Certificates of insurance and endorsements shall have clearly typed thereon District Contract Number and title of Contract Documents. Written notice of cancellation, non-renewal, or reduction in coverage of any policy shall be mailed to District (Attention: Contract Administration/Inspection) at the address listed in Document 00520 (Agreement), 60 Days in advance of the effective date of the cancellation, non-renewal, or reduction in coverage. Written notice of cancellation for non-payment shall be mailed within 10 Days of cancellation. Contractor shall maintain insurance in full force and effect during entire period of performance of Contract Documents. Contractor shall keep insurance in force during warranty and guarantee periods, except that Contractor may discontinue All-Risk Course of Construction Insurance after Final Payment. At time of making application for extension of time, and during all periods exceeding the Contract Time resulting from any cause, Contractor shall submit evidence that insurance policies will be in effect during requested additional period of time. Upon District’s request, Contractor shall submit to District, within 30 Days, copies of the actual insurance policies or renewals or replacements.

6. Contractor shall pay all insurance premiums, including any charges for required waivers of subrogation or the endorsement of additional insureds. If Contractor fails to maintain insurance, District may take out comparable insurance, and deduct and retain amount of premium from any sums due Contractor under Contract Documents.
7. If injury occurs to any employee of Contractor, Subcontractor or sub-subcontractor for which the employee, or the employee’s dependents in the event of employee’s death, is entitled to compensation from District under provisions of the Workers’ Compensation Insurance and Safety Act, as amended, or for which compensation is claimed from District, District may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If District is compelled to pay compensation, District may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse District.

8. Nothing in paragraph 4.2 of this Document 00700 shall be construed as limiting in any way the extent to which Contractor or any Subcontractor may be held responsible for payment of damages resulting from their operations.

9. Except for [insert exceptions, if applicable], all Subcontractors shall maintain the same insurance required to be maintained by Contractor with respect to their portions of the Work, and Contractor shall cause the Subcontractors to furnish proof thereof to District within ten Days of District’s request.

10. The following provisions apply to any licensed professional engaged by Contractor to perform portions of the Work (“Professional”).

   1. Each Professional shall maintain the following insurance:

      a. Professional Liability Insurance, insuring against professional errors and omissions arising from Professional’s Work on the Project, in an amount not less than [Insert Amount e.g. $1,000,000] combined single limit for each occurrence. If Professional cannot provide an occurrence policy, Professional shall provide insurance covering claims made as a result of performance of Work on this Project and shall maintain such insurance in effect for not less than two years following Final Completion of the Project.

      b. All insurance required by paragraphs 4.2.A.1, 4.2.A.2, and 4.2.A.4 of this Document 00700. Professional shall satisfy all other provisions of paragraph 4.2 of this Document 00700 relating to that insurance, including without limitation providing required insurance certificates (containing the required endorsements) before commencing its Work on the Project.

END OF DOCUMENT
SMALL LOCAL BUSINESS ENTERPRISE and
SMALL EMERGING LOCAL BUSINESS ENTERPRISE PROGRAM

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

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

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

Definitions:

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

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

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

Geographic Location Requirements:

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

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

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

**Subcontractors:**

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

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

2. The Subcontractors must provide a Commercially Useful Function.

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

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

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

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

SLBE/ SELBE SELF CERTIFICATION AFFIDAVIT

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

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

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

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

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

Bid Number: ____________________  Bid Name: _____________________________________

__________________________________________  Date

Printed or typed name  Title

__________________________________________  Fax

Name of Company  Telephone

Small Local Business Enterprise  00 7339 – 3
Laney College Child Care Remodel
ARTICLE 1 - COMPLIANCE REQUIRED

1.01 Contractor and Subcontractors shall comply with the requirements of California Labor Code §§1776, 1777.5, and 1777.6 concerning the employment of apprentices by Contractor or Subcontractors. Willful failure to comply may result in penalties, including loss of the right to Bid on or receive public works contracts.

ARTICLE 2 - CERTIFICATION OF APPROVAL

2.01 California Labor Code §1777.5, as amended, requires a Contractor or Subcontractor employing tradespersons in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of a public works project and which administers the apprenticeship program in that trade for a certification of approval. The certificate shall also fix the ratio of apprentices to journeypersons that will be used in performance of the Contract. The ratio of work performed by apprentices to journeypersons in such cases shall not be less than one hour of apprentices work for every five hours of labor performed by journeypersons (the minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeypersons), except:

A. When unemployment for the previous three month period in the area exceeds an average of 15 percent;
B. When the number of apprentices in training in the area exceeds a ratio of one to five;
C. When a trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis state-wide or locally; or
D. Assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyperson.

ARTICLE 3 - FUND CONTRIBUTIONS

3.01 Contractor is required to make contributions to funds established for administration of apprenticeship programs if Contractor employs registered apprentices or journeypersons in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.

ARTICLE 4 - APPRENTICESHIP STANDARDS

4.01 Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of the California Department of Industrial Relations, or from the Division of Apprenticeship Standards and its branch offices.
LANEY COLLEGE CHILD CARE REMODEL

DOCUMENT 00 9113

ADDENDA

PROJECT NO. 5105, BID NO. 13-14/24

Peralta Community College District

LANEY COLLEGE CHILD CARE REMODEL

900 Fallon Street, Oakland, CA 94607

[DOCUMENT TO BE COMPLETED AS ADDENDA DURING BID PERIOD]

END OF DOCUMENT
LANEY COLLEGE CHILD CARE REMODEL

SECTION 01 1100

SUMMARY OF WORK

1.01 SUMMARY

A. Section includes Summary of Work and Work Restrictions including:

1. List of Sections
2. Work Covered By Contract Documents
3. Bid Item, Allowances and Alternates
4. Work Days and Hours
5. Contractor Use of Site

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work comprises of the construction of Owner’s Laney College Child Care Remodel located at 900 Fallon Street, Oakland, CA 94607. The Work includes, without limitation, renovation that generally includes ADA upgrades, window and exterior door replacement, cabinets, flooring, replacement of ceiling tiles, replacement of plumbing fixtures, exterior and interior painting, siding repair, signage, movable wall replacement, regrading of play yards, play structures, play surface replacement, concrete and asphalt paving, landscaping and irrigation, fire alarm system in accordance with the Construction Documents prepared by Gelfand Partners Architects.

B. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, or otherwise required by the Contract Documents. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices Bid and no direct or additional payment will be made therefore.

C. For all Bid items, furnish and install all Work, including connections to existing systems, indicated and described in Specifications and all other Contract Documents. Work and requirements applicable to each individual Bid item, or unit of Work, shall be deemed incorporated into the description of each Bid item (whether Lump Sum or Unit Price). Any Bid item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Bid items or prices therefore.

D. Allowance Work shall be done as Change Orders and as specified in Section 01 2600 (Modification Procedures). Identify Allowance Items (See Document 00 40 00 [Bid Form]) work on the Progress Schedules and on Applications for Payment. The Amount given on Document 00 4000 (Bid Form) under each Allowance Item is the sum of money set aside for each Allowance Item. These amounts shall be included in the Contract Sum on the Bid Form. If the cost of Work done under any Allowance Item is less than the amount given on the Bid Form under that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given in the Bid Form and the cost of Work actually done.

1.03 BID ITEMS, ALLOWANCES AND ALTERNATES

A. Descriptions of Lump Sum Items (listed by Bid item numbers):

Bid Item 6 - Renovation that includes ADA upgrades, window and exterior door replacement, cabinets, flooring, 10% replacement of ceiling tiles, replacement of plumbing fixtures, exterior and interior painting, signage, movable wall replacement, regrading of play yards, play structures, play surface replacement, concrete and asphalt paving, landscaping and irrigation.
B. Bid Alternates (listed by Bid item numbers):

- **Bid Item 2** - Additive Alternate #1. Replace all the suspended ceiling tiles. Repaint existing grid.
- **Bid Item 3** - Additive Alternate #2. Install redwood soffits at the north and south covered areas per plans and specifications. Replace light fixtures in the north covered area. If this alternate is not included in the contract the corresponding soffit area shall be painted.
- **Bid Item 4** - Additive Alternate #3. Remove existing chain link fence at column line 7. Install curved fence and gate per plans and specifications.
- **Bid Item 5** – Additive Alternate #4. Install Play Structure Bridge per plans and specifications. If this alternate is not included in the contract the demolished concrete walkway shall be replaced in kind with concrete paving per typical drawings and specification.

C. Bid Allowances (listed by Bid item numbers):

- **Bid Item 1** - Exterior trim and siding repair.

1.04 WORK DAYS AND HOURS

A. Work Days and hours: Monday-Friday inclusive, **[7:00 a.m.-5:00 p.m.]** local time.

B. Work at the Site on weekends or holidays is not permitted, unless Contractor requests otherwise from Owner in writing at least 48 hours in advance and Owner approves in its sole discretion.

1.5 CONTRACTOR USE OF SITE

A. Confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws. Do not unreasonably encumber Site with materials or equipment.

B. Assume full responsibility for protection and safekeeping of products stored on premises. Move any stored products that interfere with operations of Owner or other contractor.

C. Coordinate parking, storage, staging, and Work areas with Owner. Owner will provide a storage area for Contractor's equipment and materials. Do not store construction materials in the dripline of any tree.

D. Prior to commencement of Work or excavation, Contractor and Owner shall jointly survey the area adjacent to the Project area making permanent note and record of such existing damage such as cracks, sags or other similar damage. This record shall serve as a basis for determination of subsequent damage to structures, conditions or other existing improvements due to Contractor's operations. All parties making the survey shall sign the official record of existing damage. Cracks, sags or damage of any nature to the adjacent Project area, not noted in the original survey but subsequently noted, shall be reported immediately to Owner.

E. The Contractor shall follow all city ordinances in force during the duration of this Contract.

F. It is essential that the Contractor perform the Work with as little interference and disturbance as possible to the surrounding neighborhood.

G. When suspect materials, outside the scope of Work, are encountered during the Work or restoration process, the Contractor shall immediately contact the Project Manager for evaluation and approval of the methods for dealing with the material.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION
LANEY COLLEGE CHILD CARE REMODEL

SECTION 01 2000

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes description of requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

1.02 REFERENCES

A. California Public Contract Code
B. Code of Civil Procedures
C. Government Code

1.03 COMPOSITION AND SCOPE OF CONTRACT SUM

A. Scope of Contract Sum

1. The Contract Sum for performance of the Work under Contract Documents, or under any Bid item, allowance, or Alternate, shall include full compensation for all Work required under the Contract Documents, including without limitation, all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of the Work, whether or not expressly specified or indicated, incidental work and unexpected expenses, and all terms, conditions, requirements and limitations set forth in the Contract Documents.

2. Contract Sum may be expressed as lump sum, unit price, GMP, allowance, or combination thereof.

B. Unit Price Items

1. Quantity of Work to be paid for under any item for which a unit price is fixed in Contract Documents shall be determined by Owner based on, so far as practicable, actual number of units satisfactorily completed, as determined by Owner and certified by Contractor, within prescribed or ordered limits, and no payment will be made for Work unsatisfactorily performed or done outside of limits.

2. Unit Prices shall apply to Work covered by unit prices so long as actual quantities performed on the Project are not less than 75 percent or greater than 125 percent of the estimated quantities bid or otherwise stated in the Contract Documents. If actual quantities exceed these parameters, then the unit price shall be adjusted by an amount to reflect the Contractor’s incremental cost differential resulting from increased or decreased economies of scale.

C. Lump Sum Items

1. When estimated quantity for specific portion of Work is not indicated and/or Work is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.

2. Payment for lump sum Work, or items of Work subject to a lump sum (e.g. without limitation, change order work), shall be made on the basis of satisfactory completion of such Work or work item, earned in progressive stages in accordance with the Contract Documents, up to but not exceeding the Contractor’s percentage completion of the Work or item.

3. Lump sum items shall be paid based upon the approved Schedule of Values, which shall be used to measure progressive payments based upon satisfactory progress towards completion of the item.
D. Allowance Items

1. Allowance Work will be authorized by Owner in writing, following change order procedures to determine cost, supporting documentation and authorization to proceed. Unused allowance amounts at Contract completion shall reduce the Contract price accordingly.

1.04 PAYMENT PROCEDURES

A. Schedule of Values:

1. Within ten Days from issuance of Notice of Award and prior to the Contractor’s first Application for Payment, Contractor shall submit a detailed breakdown of its Bid by scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities. Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Contractor shall furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum equals the total Contract Sum. This breakdown shall be referred to as the Schedule of Values.

2. Contractor’s overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid item) and/or other financing, as well as “general conditions costs,” (e.g., Site cleanup and maintenance, temporary roads and access, off-Site access roads, temporary power and lighting, security, and the like), shall be prorated through all activities so that the sum of all the Schedule of Values line items equals Contractor’s total Contract Sum, less any allowances designated by Owner. Scheduling, record documents and quality assurance control shall be separate line items.

3. Owner will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, reasonable cost allocations for the Work items listed. Upon favorable review by Owner, Owner will accept this Schedule of Values for use. Owner shall be the sole judge of fair market cost allocations.

4. Owner will reject any attempt to increase the cost of early activities, i.e., “front loading,” resulting in a complete reallocation of moneys until such “front loading” is corrected. Repeated attempts at “front loading” may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to Owner.

B. Contractor’s Requests for Progress Payments

1. If requested by Contractor, progress payments will be made monthly, under the following conditions:

2. On or before the 25th Day of each month, Contractor shall submit to Owner five copies of an Application for Payment for the cost of the Work put in place during the period from the last Day of the previous month to the end of the current month, along with one copy of an updated Progress Schedule. Such Applications for Payment shall be for the expected total value of activities completed or partially completed, based upon Schedule of Values prices (or Bid item prices if unit price) of all labor and materials incorporated in the Work up until midnight of the last Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as separate item in payment summary. Owner and Contractor will reconcile any differences in the field, based on the reconciled monthly report sheets. If Contractor is late submitting its Application for Payment, that Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor’s Application for Payment being delayed for more than a Day for Day basis.

3. Except as otherwise provided in a labor compliance program applicable to the Work (if any) or as otherwise required by Owner, concurrently with each Application for Payment, Contractor shall submit to the Owner the Contractor’s and its Subcontractors’ certified payroll records required to be maintained pursuant to Labor Code Section 1776 for all labor performed during pay periods ending during the period covered by the Application for
4. No progress payment will be processed prior to Owner receiving all requested, acceptable schedule update information and certified payrolls, and in Owner’s sole and absolute discretion, Owner may deny the entire Application for Payment for noncompliance.

5. Each Application for Payment shall list each Change Order and Construction Change Directive (“CCD”) executed prior to date of submission, including the Change Order/CCD Number, and a description of the Work activities, consistent with the descriptions of original Work activities. Contractor shall submit a monthly Change Order/CCD status log to Owner.

6. If Owner requires substantiating data, Contractor shall submit information requested by Owner, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Contractor shall submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.

7. If Contractor fails or refuses to participate in monthly Work reconciliations or other construction progress evaluation with Owner, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to Owner.

C. **Owner's Review of Progress Payment Applications**

1. Owner will review Contractor’s Application for Payment following receipt and during the Progress Schedule and Billing Meeting. If adjustments need to be made to percent of completion of each activity, Owner will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.

2. If Owner determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then Owner may approve the other portions of the Application for Payment, and in the case of disputed items or Defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.

3. Pursuant to California Public Contract Code §20104.50, if Owner fails to make any progress payment within 30 Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, Owner shall pay interest to the Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the California Code of Civil Procedure. The 30-Day period shall be reduced by the number of Days by which Owner exceeds the seven-Day return requirement set forth herein.

4. As soon as practicable after approval of each Application for Payment for progress payments, Owner will pay to Contractor in manner provided by law, an amount equal to 90 percent of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in Contract Documents, provided that payments may at any time be withheld if, in judgment of Owner, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected. In Owner’s sole discretion, if Contractor has failed to comply with either its Progress Schedule update or project record documents requirements, Owner may retain an additional 5% of any earned amounts until such requirements are satisfied.

5. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. This also includes copies of certified payroll from contractor and subcontractors for the current payment period.

D. **Payment for Material and Equipment Not Yet Incorporated Into the Work**

1. No payment shall be made for materials or equipment not yet incorporated into the Work,
except as specified elsewhere in the Contract Documents or as may be agreed to by Owner in its sole discretion. Where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, Contractor must satisfy the following conditions:

2. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded and insured warehouse.

3. Full title to the materials and/or equipment shall vest in Owner at the time of delivery to the Site, warehouse or other storage location. Obtain a negotiable warehouse receipt, endorsed over to Owner for materials and/or equipment stored in an off-site warehouse. No payment will be made until such endorsed receipts are delivered to Owner.

4. Stockpiled materials and/or equipment shall be available for Owner inspection, but Owner shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents.

5. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor’s expense.

6. At Contractor’s expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents.

7. Contractor’s Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner interest therein, all of which must be satisfactory to Owner. This documentation shall include, but not be limited to, conditional releases of mechanics’ liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.

1.05 FINAL PAYMENT

A. Final Payment

1. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punchlist, testing, record documents and Contractor maintenance after Final Acceptance, Contractor shall submit its Application for Final Payment.

2. Provided Contractor has met all conditions required for Final payment, Owner will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including, without limitation, retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.

B. Final Accounting

1. Prior progress payments and change orders shall be subject to audit and correction in the final payment.

2. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to final payment, Document 00 6530 (Agreement and Release of Claims).
1.06 SUBSTITUTION OF SECURITIES

A. Public Contract Code Section 22300. In accordance with the provisions of Public Contract Code Section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:

1. At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and Owner which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such moneys to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.

2. Alternatively, Contractor may request and Owner shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for securities deposited by Contractor. Upon satisfactory completion of the work of the Contract Documents, Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from Owner. Contractor shall then pay to each Subcontractor, not later than 20 Days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of Contractor.

3. Contractor shall be beneficial owner of securities substituted for moneys withheld and shall receive any interest thereon.

4. Contractor may enter into an escrow agreement, form included in Contract Documents, as authorized under Public Contract Code Section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.

5. Public Contract Code Section 22300, in effect on Bid Day, is hereby incorporated in full by this reference and shall supersede anything inconsistent therewith.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION
PART 1 – GENERAL

1.01 SUMMARY

A. Section includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions).

B. Description of procedures for modifying the Contract Documents and determining costs for changes in contract amounts.

1.02 PROCEDURES FOR CONTRACTOR INITIATED CHANGE ORDER

A. Contractor-Initiated Change Proposal Request (CPR) and Procedures:

1. Contractor may initiate changes by submitting a Change Proposal Request (“CPR”).

2. Whenever Contractor elects or is entitled to submit a CPR, Contractor shall prepare and submit to Owner for consideration a CPR using the form included in this Project Manual. All CPRs must contain a complete breakdown of costs of credits, deducts and extras; itemizing materials, labor, taxes, Markup and any requested changes to Contract Time. All Subcontractor Work shall be so indicated. Individual entries on the CPR form shall include applicable Schedule of Values code, with all amounts determined as provided herein. After receipt of a CPR with a detailed breakdown, Owner will act promptly thereon.

3. If Owner accepts a CPR, Owner will prepare a Change Order for Owner and Contractor signatures.

4. If CPR is not acceptable to Owner because it does not agree with Contractor’s proposed cost and/or time, Owner will provide comments thereto. Contractor will then, within seven (7) Days (except as otherwise provided herein), submit a revised CPR.

5. When necessity to proceed with a change does not allow Owner sufficient time to conduct a proper check of a CPR (or revised CPR), Owner may issue a Change Directive (CD) as provided below.

B. Contractor-Initiated Request for Information (RFI) Procedures, Requirements and Limitations:

1. Contractor may submit RFI’s for clarifications in Owner-prepared Contract Documents, which may result in the Contractor submitting a CPR.

2. Whenever Contractor requires information regarding the Project or Owner-prepared Contract Documents, or receives a request for such information from a Subcontractor, Contractor may prepare and deliver an RFI to Owner. Contractor shall use RFI format provided on approval by Owner. Contractor shall not issue an RFI to Owner solely to clarify Contractor-prepared Construction Documents. Contractor must submit time critical RFIs at least 30 days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor’s failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor’s waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.

3. Contractor shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, Contractor shall not be entitled to additional compensation for the effort required to submit the RFIs. Contractor shall be responsible for Owner’s administrative costs for answering RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by
Owner; at Owner discretion, such costs may be deducted from progress payments or final payment.

4. Owner will respond within ten (10) days from receipt of RFI with a written response to Contractor. Contractor shall distribute response to all appropriate Subcontractors.

5. If Contractor is satisfied with the response and does not request a change in Contract Sum or Contract Time, then the response shall be executed without a change.

6. If Contractor believes the response is incomplete, Contractor shall issue another RFI (with the same RFI number with the letter “A” indicating it is a follow-up RFI) to Owner clarifying original RFI. Additionally, Owner may return RFI requesting additional information should original RFI be inadequate in describing condition.

C. Time Requirements:

1. If Contractor believes that an Owner response to an RFI, submittal or other Owner direction, results in change in Contract Sum or Contract Time, Contractor shall notify Owner with the issuance of a preliminary CPR within ten Days after receiving Owner’s response or direction, and in no event after starting the disputed work or later than the time allowed under Article 12 of Document 00 7200 (General Conditions). If Contractor also requests a time extension, or has issued a notice of delay or otherwise requests a time extension with a CPR, then Contractor shall submit the TIE required herein concurrently with the CPR and in no event later than ten Days after providing the notice of delay.

2. If Contractor requires more time to accurately identify the required changes to the Contract Sum or Contract Time, Contractor may submit an updated and final CPR and TIE within 14 days of submitting the preliminary CPR.

3. If Owner agrees with Contractor’s CPR and/or TIE, then Owner will prepare a Change Order for Owner and Contractor signatures. If Owner disagrees with Contractor, then Contractor may give notice of potential claim as provided in Article 12 of Document 00 7200 (General Conditions), and proceed thereunder.

4. Contractor must submit CPRs, notices of potential claim or Claims within the required time periods. Any failure to do so waives Contractor’s right to submit a CPR or file a Claim.

D. Cost Estimate Information:

1. Contractor and subcontractors shall, upon Owner’s request, permit inspection of the original unaltered cost estimates, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with its CPR or Claims arising from changes in the Work.

1.03 PROCEDURES FOR OWNER INITIATED CHANGE ORDERS

A. Owner Initiated Change Directives (CD):

1. Owner may, by Change Directive (“CD”) or initially by Instruction Bulletin or by following the procedures for disputed work herein, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with or without adjustment to Contract Sum or Contract Time.

2. If at any time Owner believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, or at any other time, Owner may issue a CD with its recommended cost and/or time adjustment (if any). Upon receipt of CD, Contractor shall promptly proceed with the change of Work involved and respond to Owner within ten (10) Days.

3. Contractor’s response must be any one of following:

   a. Return CD signed, thereby accepting Owner response, including adjustment to time and cost (if any).

   b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if Owner so requests.

   c. Give notice of intent to submit a claim as described in Article 12 of Document 00 7200 (General Conditions), and submit its claim as provided therein.
4. If CPR or the CD provides for an adjustment to any Contract Sum, the adjustment shall be based on one of the following methods:
   a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
   b. Contractor to proceed on cost reimbursable (force account) basis while negotiating towards a firm price.
   c. Cost to be determined in a manner agreed.

5. Change Directive signed by Contractor indicates the agreement of Contractor therewith, including adjustment in Contract Sum or the method for determining them. Such agreement shall be effective immediately and shall be finalized as a Change Order. Where Owner authorizes CD work on a time and materials basis up to a maximum amount, then Contractor shall promptly advise Owner upon reaching 75% of such maximum amount, otherwise Contractor shall accept fully the risk of completing the CD work without exceeding such maximum amount.

6. If Contractor does not respond promptly or disagrees with the method for adjustment (or non-adjustment) in the Contract Sum, the method and the adjustment shall be determined by Owner on the basis of the Contract Documents and the reasonable expenditures and savings of those performing the Work attributable to the change. If the parties still do not agree on the proper adjustment due to a Change Directive, Contractor may file a Claim per Article 12 of Document 00 7200 (General Conditions) and/or Owner may direct the changed work through a unilateral change order. Contractor shall keep and present an itemized accounting in a manner consistent with the SOV, together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided herein.

7. Pending final determination of cost to Owner, Contractor may include amounts not in dispute in its Applications for Payment. The amount of credit to be allowed by Contractor to Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by Owner. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for Markup shall be figured on the basis of net increase, if any, with respect to that change.

B. Owner Initiated Change Order (CO) or Request for Proposal (RFP):

1. Owner may initiate changes in the Work or Contract Time by issuing a Request for Proposal ("RFP") or Change Order ("CO") to Contractor.
2. Owner may issue an RFP to Contractor. Any RFP will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.
3. In response to an RFP, Contractor shall furnish a Change Proposal Request (CPR) within twenty-one (21) Business Days of Owner's RFP. Upon approval of CPR, Owner may issue a Change Directive directing Contractor to proceed with extra Work.
4. If the parties agree on price and time for the work, the Owner will issue a Contact Change Order. If the parties do not agree on the price or time for a CPR, Owner may either issue a CD or decide the issue per Article 12 of Document 00 7200 (General Conditions). Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.

1.04 PROCEDURES THAT APPLY TO CONTRACTOR- AND OWNER-INITIATED CHANGE ORDERS

A. Adjustment of Schedules to Reflect Change Orders or CDs:

1. Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order or CD as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
2. Contractor shall revise the Progress Schedules prior to the next monthly pay period, to reflect CO or CD.
3. Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.

B. **Required Documentation for Adjustments to Contract Amounts:**

1. For all changes and cost adjustments requested, Contractor shall provide documentation of change in Contract Amounts asserted, with sufficient data to allow evaluation of the proposal.

2. In all requests for compensation, cost proposals, estimates, claims and any other calculation of costs made under the Contract Documents, Contractor shall breakout and quantify costs of labor, equipment and materials identified herein, for Contractor and subcontractors of any tier.

3. Contractor shall, on request, provide additional data to support computations for:
   a. Quantities of products, materials, labor and equipment.
   b. Taxes, insurance, and bonds.
   c. Justification for any change in Contract Time and new Progress Schedule showing revision due, if any.
   d. Credit for deletions from Contract, similarly documented.

4. Contractor shall support each claim or computation for additional cost, with additional information including:
   a. Origin and date of claim or request for additional compensation.
   b. Dates and times Work was performed and by whom.
   c. Time records and wage rates paid.
   d. Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.
   e. Credit for deletions from Contract, similarly documented.

C. **Responses and Disputes:**

1. For all responses for which the Contract Documents do not provide a specific time period, recipients shall respond within a reasonable time.

2. For all disputes arising from the procedures herein, Contractor shall follow Article 12 of Document 00 7200 (General Conditions).

### 1.05 COST DETERMINATION FOR CHANGES IN CONTRACT AMOUNTS

A. **Calculation of Total Cost of Extra Work:**

1. Total cost of changed Work, extra Work or of Work omitted shall be the sum of three components defined immediately below as: Component 1 (Direct Cost(s)); Component 2 (Markup); and, Component 3 (bonds, insurance, taxes)

2. Component 1: Direct Cost(s) of labor, equipment and materials, is calculated based upon actually incurred (or omitted) labor costs, material costs and equipment rental costs, as defined herein;

3. Component 2: Markup on such actually incurred Direct Costs, is applied in the percentages identified below; and

4. Component 3: Actual additional costs for any additionally required insurance, bonds, and/or taxes, defined herein, is calculated without Markup.

### 1.06 MEASUREMENT OF DIRECT COST OF CONSTRUCTION (COST COMPONENT NO. 1)

A. **Composition of Component 1 (Direct Cost of Construction):**

1. Component 1 has four subcomponents, also referred to as "LEMS":
   a. Labor (Component 1A)
   b. Equipment (Component 1B)
   c. Materials (Component 1C)
   d. Subcontractors (Component 1D)
B. **Measurement of Cost of Labor (Component 1A):**

1. Cost of Labor shall be calculated as: Cost of labor for workers (including forepersons when authorized by Owner) used in actual and direct performance of the subject work, whether employer is Contractor, Subcontractor or other forces, in the sum of the following:
   a. **Actual Wages:** Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
   b. **Labor surcharge:** Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined, such as worker's compensation insurance. Such labor surcharge shall not exceed generally accepted standards in the State for labor rates in effect on date upon which extra Work is accomplished.
   c. Cost of labor shall include no other costs, fees or charges.

2. Labor cost for operators of equipment owned and operated by Contractor or any Subcontractor, shall be no more than rates of such labor established by collective bargaining agreements for type of worker and location of Work, whether or not owner-operator (i.e., Contractor or Subcontractor) is actually covered by such an agreement.

3. Cost of labor shall be recorded and documented in certified payroll records, maintained in the form customary and/or required in the State, delivered to Owner weekly.

C. **Measurement of Cost of Equipment (Component 1B):**

1. Measurement of Component 1B (Cost of Equipment). Cost of Equipment shall be calculated as: Cost of Equipment used in actual and direct performance of the subject work, whether by Contractor, Subcontractor or other forces. Cost of Equipment shall be calculated as herein described.

2. For rented equipment, cost will be based on actual rental invoices, appropriate for the use and duration of the work. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by Owner.

3. Equipment rental cost for Contractor or Subcontractor-owned equipment, shall be determined by reference to, and not in excess of, the generally accepted standards in the State for equipment rental rates in effect on date upon which extra Work is accomplished. If there is no applicable rate for an item of equipment, then payment shall be made for Contractor- or Subcontractor-owned equipment at rental rate listed in the most recent edition of the CalTrans Standard Schedules and Specifications, and absent a rental rate therein, then the Association of Equipment Distributors (AED) book.

4. In all cases, rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.

5. Unless otherwise specified, manufacturer’s ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of $100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.

6. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by Owner. The following shall be used in computing rental time of equipment:
   a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.
   b. When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.
c. Rates shall correspond to actual rates paid by Contractor, i.e., if Contractor pays lower weekly or monthly rates, then same shall be charged to Owner.

7. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
   a. Owner will pay for costs of loading and unloading equipment.
   b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
   c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission or appropriate State Dept. of Transportation.
   d. Owner will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
   e. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which Owner directs Contractor to discontinue use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and Owner legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.

8. Employee vehicles are not part of Component 1A, rather, are included within Component 2 (Markup).

9. Equipment costs shall include no other costs, fees or charges.

D. Measurement of Cost of Material (Component 1C):

1. Cost of Material shall be calculated as herein described. Cost of such materials will be cost to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:
   2. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to Owner notwithstanding fact that such discount may not have been taken.
   3. For materials salvaged upon completion of Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
   4. If cost of a material is, in opinion of Owner, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in this Paragraph.

5. Material costs shall include no other costs, fees or charges.

E. Measurement of Cost of Subcontractors (Component 1D):

1. Where reimbursed or calculated per the terms of the Contract Documents, change order or Change Directive, cost of Subcontractors shall be calculated as amounts earned by Subcontractors procured in compliance with the Contract Documents and approved by the Owner, provided such subcontractor earned amounts meet the following requirements:
   a. Such amounts are earned under the terms of the Subcontracts and the Work complies with the terms of the Contract Documents;
   b. Such amounts are properly requested, documented and permitted under the terms of the subcontract(s) and the Contract Documents.
   c. Total cost to Owner of Direct Costs of Construction (labor, equipment, materials), Markup, and costs of bonds, insurance and taxes, conform to contract limitations (i.e., totals paid by Owner do not exceed the 20% Markup limitation.).
1.07 MEASUREMENT AND PAYMENT OF MARK UP (COST COMPONENT 2)

A. Markup Percentages for Changed Work (Component 2):
   1. Markup on Direct Cost of labor and materials for extra Work shall be 15%. Markup on Direct Cost of equipment for extra Work shall be 15%.
   2. When extra Work is performed by Subcontractors, regardless of the number of tiers, total Markup on “Component 1” Direct Costs shall not exceed 20%. Contractor and its Subcontractors shall divide the 20% as they may agree.
   3. Under no circumstances shall the total Markup on any extra Work exceed twenty (20) percent, stated as a percent of the Direct Cost of labor, equipment and materials. This limitation shall apply regardless of the actual number of subcontract tiers.
   4. On proposals covering both increases and decreases in Contract Sum, Markup shall be allowed on the net increase only as determined above. When the net difference is a deletion, no percentage for Markup shall be allowed, but rather an appropriate percentage deduction shall be issued in the amount of the net difference.

B. Measurement and Payment of Mark Up (Component 2):
   1. Mark Up (Component 2) provides complete compensation to Contractor for:
      a. All Contractor profit;
      b. All Contractor home-office overhead;
      c. All Contractor assumption of risk assigned to Contractor under the Contract Documents;
      d. Subject to the qualifications below regarding self-performed work, all General Conditions and General Requirements.
   2. Profit. Compensation for profit included within Component 2 (Mark Up), includes without limitation: Fees of all types, nature and description; and Profit and margins of all types, nature and description.
   3. Home Office Expenses. Compensation for home office expenses included within Component 2 (Mark Up), includes without limitation: Salaries and other compensation of any type of Contractor's personnel (management, administrative and clerical), and all direct and indirect operating, travel, payroll, safety, storage, quality control, maintenance and overhead costs of any nature whatsoever, incurred by Contractor at any location other than the Project specific site office, including without limitation, Contractor's principal or branch offices; insurance premiums other than those for Project specific insurance directed by the Owner in a change order; all hardware, software, supplies and support personnel necessary or convenient for Contractor's capture, documentation and maintenance of its costs and cost accounting data and cost accounting and control systems and work progress reporting.
   4. Assumption of Risk. Compensation for Contractor's assumption of risk under the Contract Documents, included within Component 2 (Mark Up), includes without limitation loss, cost, damage, expense or liability resulting directly or indirectly from any of the following causes (“unallowable costs”), for Contractor and subcontractors of any tier: noncompliance with the Contract Documents, fault or negligence, defective or non-comforming Work, by Contractor or any Subcontractor or Vendor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents; cost overruns of any type; costs in excess of any lump sum, not to exceed amount or GMP; costs resulting from bid or “buy out” errors, unallocated scope, or incomplete transfer of scope or contract terms to subcontractors; any costs incurred by Contractor relating to a Change in the Work without a Change Order or Change Directive in accordance with the Contract Documents; costs for work or materials for which no price is fixed in the Contract Documents, unless it is expressly specified that such work or material is to be paid for as extra work.
   5. General Conditions and Division 1 General Requirements. Compensation for Contractor's General Conditions and General Requirements Costs included within Component 2 (Mark Up), includes compensation to Contractor for: Contractor's direct costs, without overhead
or profit, for salaries and related forms of compensation and employer’s costs for labor and personnel costs, of Contractor’s employees and subconsultant’s employees (if any), while and only to the extent they are performing Work at the Project Site. Personnel and Work compensated by this Component include without limitation: All required Project management responsibilities; all on-site services; monthly reporting and scheduling; routine field inspection of Work; general superintendence; general administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary; salaries of project superintendent, project engineers, project managers, safety manager, other manager, timekeeper, and secretaries; all cost estimates and updates thereto; development, validation and updates to the project schedule; surveying; estimating. Compensation for Contractor’s General Requirements Costs included within Component 2 (Mark Up), compensates Contractor for its “General Requirements” Costs, including without limitation: all scheduling hardware, software, licenses, equipment, materials and supplies; purchase, lease or rental, build out, procurement, supporting equipment and maintenance of temporary on-Site facilities, Project field and office trailers and other temporary facilities, office equipment and supporting utilities; platforms, fencing, cleanup and jobsite security; temporary roads, parking areas, temporary security or safety fencing and barricades, etc.; all Contractor’s motor vehicles used by any Contractor’s personnel, and all costs thereof; all health and safety requirements, required by law or Owner procedures; all surveying; all protection of Work; handling and disposal fees; final cleanup; repair or maintenance; other incidental Work; all items, activities and function similar to any of those described above; all travel, entertainment, lodging, board and the like.

6. Personnel compensated by the Markup Component do not include workers of foreman level or below in the case of self-performed work; rather, such personnel shall be treated as a Direct Cost of Construction. Costs compensated by the Markup component do not include temporary measures specifically required by the changed work, not otherwise required or ongoing in the prosecution of the Work, that commence specifically to support the changed work and conclude with the completion of the changed work. Such costs shall be treated as Direct Costs of Construction. Examples of General Requirements costs that this component may not cover are the following: temporary barricades or fencing of specific areas required specifically for the changed work; cranes required specifically for the changed work.

1.08 MEASUREMENT AND PAYMENT OF BONDS INSURANCE TAXES (COMPONENT 3)

A. Measurement of Bonds, Insurance, Taxes (Component 3):

1. Component 3 (Bonds, Insurance, Taxes) consists of the cost of bonds, insurance and taxes, also referred to as “BIT”. All State sales and use taxes, applicable County and applicable City sales taxes, shall be included. Federal and Excise tax shall not be included.

2. There is no mark up on BIT.

1.09 EFFECT OF PAYMENT

A. Change Order Compensation is All Inclusive.

1. Except as provided expressly below regarding changes that extend the Contract Time, payment of calculated cost of extra work constitutes full and complete compensation for costs or expense arising from the extra Work, and is intended to be all inclusive.

2. Payment for Direct Cost of Construction (Component 1 or LEMS) is intended to be all-inclusive. Any costs or risks not delineated within cost of labor, equipment or materials herein, shall be deemed to be within the costs and risks encompassed by the applicable Markups and unallowable in any separate amount.

3. Payment of Markup (Component 2) is intended to be all-inclusive. Contractor waives claims for any further or different payment of cost and risk items delineated herein, other than the allowable percentage markup on costs set forth in the Contract Documents; such separate, further or different cost or risk items shall be unallowable, waived and liquidated within the allowable percentage markup.
4. Contractor shall recover no other costs or markups on extra work of any type, nature or description.

B. **Exception for Changes Extending the Contract Time.**

1. Where a change in the Work extends the Contract Time, Contractor may request and recover additional, actual direct costs, provided Contractor can demonstrate such additional costs are (i.) actually incurred performing the Work, (ii.) not compensated by the Markup allowed, and (iii) directly result from the extended Contract Time. Contractor shall make such request and provide such documentation following all required procedures, documentation and time requirements in the Contract Documents, and subject to all contract limitations of liability. Contractor may not seek or recover such costs using formulas (e.g., Eichleay).

C. **Limits of Liability / Accord and Satisfaction.**

1. The foregoing limits of compensation apply in all cases of claims for changed Work, whether calculating Change Proposal Requests, Change Orders or CDs, or calculating claims and/or damages of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature.

2. Under no circumstances may Contractor claim or recover special, incidental or consequential damages against Owner, its representatives or agents, whether arising from breach of contract, negligence, strict liability or other tort or legal theory, unless specifically and expressly authorized in the Contract Documents.

3. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as expressly provided for in Contract Documents.

4. Accord and Satisfaction: Every Change Order and accepted CD shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CD, and must also submit a Claim for the reserved disputed items pursuant to Article 12 of Document 00 7200 (General Conditions) no later than thirty (30) days after Contractor’s first written notice of its intent to reserve rights. Execution of any Change Order or CD shall constitute Contractor’s representation of its agreement with this provision.

1.010 **MISCELLANEOUS REQUIREMENTS**

A. **Owner-Furnished Materials.**

1. Owner reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and Markup on such materials.

B. **Records And Certification.**

1. All charges shall be recorded daily and summarized in Change Proposal Request form attached hereto. Contractor or authorized representative shall complete and sign form each day. Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; and a list by size type and identification number of equipment and hours operated.

2. Owner shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor’s claims for modification of Contract, including CD Work. This right shall be specifically enforceable, and any failure of Contractor to voluntarily...
comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to Article 12 of Document 00 7200 (General Conditions).

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

COST PROPOSAL FORM FOLLOWS ON NEXT PAGE
COST PROPOSAL (CP)

Owner [Insert Project Name]  CP Number: ______________________
Contract Number _________  Date: ____________________________

In Response To _________  RFP #, etc.

To: [Insert Name of Owner]
Attention: [______________]
[Insert Owner’s Address]
Phone: (___) ___- _____  Fax: (___) ___-_____

From: [Insert Contractor’s Name/Address]

This Cost Proposal is in response to the above-referenced ________ [insert RFP, etc. as applicable].
Brief description of change(s): ____________________________________________________________________________

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REQUESTED CHANGE IN CONTRACT TIME (DAYS)
(Time Impact Evaluation Enclosed)

By Contractor:     Signature:    Date:
LANEY COLLEGE CHILD CARE REMODEL

SECTION 01 3119

PROJECT MEETINGS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes description of required project meetings.

1.02 PRECONSTRUCTION CONFERENCE

A. Pre-construction Conference. Owner will call for and administer Preconstruction Conference at time and place to be announced (usually the week prior to start of Work at the Site). Contractor, all major Subcontractors, and major suppliers shall attend Preconstruction Conference. Agenda may include, but not be limited to, the following items:

1. Schedules
2. Personnel and vehicle permit procedures
3. Use of premises
4. Location of the Contractor's on-Site facilities
5. Security
6. Housekeeping
7. Submittal and RFI procedures
8. Inspection and testing procedures, on-Site and off-Site
9. Utility shutdown procedures
10. Control and reference point survey procedures
11. Injury and Illness Prevention Program
12. Contractor's Initial Progress Schedule
13. Contractor's Schedule of Values
14. Contractor's Schedule of Submittals
15. Jurisdictional agency requirements
16. Owner will distribute copies of minutes to attendees. Attendees shall have 7 Days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of Preconstruction Conference.

1.03 WEEKLY PROJECT MEETINGS

A. Owner will schedule and administer weekly progress meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by Owner. Meetings shall be held at Owner’s Offices unless otherwise specified in Contract Documents.

1. Owner’s Representative will prepare agenda and distribute it 4 Days in advance of meeting to Contractor.
2. Participants with agenda items shall present them.
3. The Architect/Engineer and other responsible entities shall attend meetings unless otherwise specified in Contract Documents or provided by Owner.
4. Owner shall record and distribute the meeting minutes. Minutes shall be distributed by the Owner to the Contractor within 3 business days after the meeting. Contractor shall distribute the minutes to those affected by decisions made at meeting. Attendees shall have five business days to submit comments or additions to the minutes. Minutes shall constitute final memorialization of results of meeting.
5. Progress meetings shall be attended by Contractor’s job superintendent, major Subcontractors and suppliers, Owner, and others as appropriate to agenda topics for each meeting.
6. Agenda may contain the following items, as appropriate:
a. Review, revise as necessary, and approve previous meeting minutes  
b. Review of Work progress since last meeting  
c. Status of Construction Work Schedule, delivery schedules, adjustments  
d. Submittal, RFI, and Change Order status  
e. Review of the Contractor’s safety program activities and results, including report on all serious injury and/or damage accidents  
f. Other items affecting progress of Work

1.04 PROGRESS SCHEDULE AND BILLING MEETINGS

A. A meeting will be held on approximately the 20th of each month to review the schedule update submittal and progress payment application.

B. At this meeting, at a minimum, the following items will be reviewed:
   1. Percent complete of each activity;  
   2. Time impact evaluations for Change Orders and Time Extension Request;  
   3. Actual and anticipated activity sequence changes;  
   4. Actual and anticipated duration changes; and  
   5. Actual and anticipated Contractor delays.

C. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, Contractor’s General Superintendent and Scheduler shall attend these meetings.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION
LANEY COLLEGE CHILD CARE REMODEL

SECTION 01 3230

PROGRESS SCHEDULES AND SUBMITTALS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes description of requirements and procedures for submitting progress schedules and submittals.

1.02 CONTRACTOR TO SUBMIT PROGRESS SCHEDULES

A. Contractor shall submit original (baseline) progress schedule two weeks prior to the first Application for Payment.

B. Baseline Progress Schedule shall show Contractor’s construction and procurement activities, including but not limited to, equipment procurement and delivery (Contractor and Owner supplied), activities with Subcontractors and suppliers, major submittal reviews, commissioning of systems, use of major equipment on site, and necessary interface with Owner and third parties required to complete the Work in a timely manner and in accordance with Contract Time.

1.03 SCHEDULE REQUIREMENTS.

A. Unless Owner agrees in writing otherwise, progress schedule shall be on Microsoft Project, Primavera P6, Suretrack, or equivalent software, as Owner may specify, which Contractor shall prepare and supply to Owner, with all datapoint entries completed for start dates, necessary work activities, durations (not longer than 21 calendar days) and logic ties.

B. Contractor's progress schedule may be in the form of a CPM (arrow) diagram or, if Owner agrees in writing, a bar chart. The hard copies of the schedule supplied to Owner shall indicate the critical path of the Work (in red) and shall show a logical progression of the Work through completion within Contract Time.

C. Unless Owner agrees in writing otherwise, progress schedule shall also show early and late start and finish dates and total available float (float to the successor activity’s late start date) for each activity. Owner has no obligation to accept an early completion schedule.

1.04 MONTHLY UPDATES

A. Contractor’s progress schedule shall be updated monthly to reflect actual progress. The schedule shall be subject to Owner’s review and acceptance for use in monitoring Contractor’s Work and evaluating Applications for Payment.

B. Contractor shall supply Owner with an electronic copy of the updated progress schedule with each monthly payment application. Contractor shall provide Owner with three-week lookahead schedules weekly, showing in detail and activities and resources scheduled for the immediate two week period.

1.05 RECOVERY SCHEDULE

A. Owner may request a recovery schedule should Contractor fall 21 or more Days behind any schedule Milestone, which schedule shall show Contractor’s plan and resources committed to retain Contract completion dates.

B. The recovery schedule shall show the intended critical path. If Owner requests, Contractor shall also:
   1. Secure and demonstrate appropriate Subcontractor and supplier consent to the recovery Schedule.
   2. Submit a narrative explaining trade flow and construction flow changes and man-hour loading assumptions for major Work activities and/or Subcontractors.
1.06 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, TIME EXTENSIONS AND DELAYS:

A. When Contractor requests a time extension for any reason, Contractor shall submit a TIE that includes both a written narrative and a schedule diagram depicting how the changed Work or other impact affects other schedule activities. The schedule diagram shall show how Contractor proposes to incorporate the changed Work or other impact in the schedule and how it impacts the current Schedule update critical path or otherwise. Contractor is also responsible for requesting time extensions based on the TIE’s impact on the critical path. The diagram shall be tied to the main sequence of scheduled activities to enable Owner to evaluate the impact of changed Work to the scheduled critical path.

B. Contractor is responsible for all costs associated with the preparation of TIE’s, and the process of incorporating TIE’s into the current schedule update. Provide Owner with four copies of each TIE.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION
LANEY COLLEGE CHILD CARE REMODEL

SECTION 01 3300

SUBMITTALS

PART 1 – PART 1 GENERAL

1.01 SUMMARY

A. Section includes description of requirements and procedures for submittals.

1.02 SCHEDULE OF SUBMITTALS

A. Contractor shall prepare for Owner’s review and acceptance prior to commencement of work on the Site, for purposes of contract administration, a schedule of submittals (also referred to as a submittal register) required to complete the Work, prepared by Contractor and accepted by Owner for contract administration. Schedule of submittals shall include, for each submittal: the specification or drawing reference requiring the submittal, if applicable; the material, item, or process for which the submittal is required; the submittal number and identifying title of the submittal; the Contractor’s anticipated submission date and the approval need date.

B. Contractor shall update monthly the schedule of submittals to reflect actual submission and acceptance dates for submittals. Review by Owner of schedule of submittals does not excuse Contractor of obligation to supply, schedule and coordinate all submittals required by the Contract Documents.

1.03 CONTRACTOR TO SUBMIT SHOP DRAWINGS, PRODUCT DATA AND SUBMITTALS.

A. Contractor shall review for compliance with Contract Documents, approve and submit to Owner Shop Drawings, Product Data, Samples and similar submittals required by Contract Documents.

B. Contractor shall schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Contractor shall include certifications to be submitted with the pertinent drawings at the same time.

C. Contractor shall coordinate scheduling, sequencing, preparing and processing of all submittals with performance of work so that work will not be delayed by submittal processing.

D. Submittals shall specifically identify any Work depicted that does not conform to the Contract Documents.

1.04 OWNER REVIEW OF SHOP DRAWINGS, PRODUCT DATA AND SUBMITTALS.

A. After review by Owner of each Submittal, material will be returned to Contractor with actions defined as follows:

1. NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with general design concept of the Work, future Submittals and additional partial Submittals for any portions of the Work not covered in this Submittal. Does not constitute acceptance or deletion of specified or required items not shown on the Submittal.

2. MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as item 1 above, except that minor corrections as noted shall be made by Contractor.

3. REVISE AS NOTED AND RESUBMIT - Rejected because of major inconsistencies or
errors that shall be resolved or corrected by Contractor prior to subsequent review by Owner.

4. **REJECTED - RESUBMIT** - Submitted material does not conform to Drawings and/or Specifications in major respect, i.e.: wrong size, model, capacity, or material.

B. Favorable review will not constitute acceptance by Owner of any responsibility for the accuracy, coordination, or completeness of the Submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back-check comments, corrections, and modifications from Owner’s review before fabrication. Contractor, Subcontractors, or suppliers may prepare Submittals, but Contractor shall ascertain that Submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. Owner’s review will be only to assess if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as indicated by the Contract Documents. Favorable review of Submittal, method of Work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by Owner, or any officer or employee thereof, and Contractor shall have no claim under Contract Documents on account of failure or partial failure or inefficiency or insufficiency of any plan or method of Work or material and equipment so accepted. Favorable review shall be considered to mean merely that Owner has no objection to Contractor using, upon Contractor’s own full responsibility, plan or method of Work proposed, or furnishing materials and equipment proposed.

C. Unless otherwise specified, Owner’s review will not extend to the means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

D. Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been favorably reviewed by the Owner; otherwise, any such Work is at Contractor’s sole risk.

**PART 2 – PRODUCTS – NOT USED**

**PART 3 – EXECUTION – NOT USED**

END OF SECTION
PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:
   1. Regulatory requirements applicable to Contract Documents
   2. Required provisions under Local Agency Disputes Act
   3. Required references under federal law

1.02 GENERAL

A. Compliance with Laws
   1. Conform to all applicable codes, laws, ordinances, rules and regulations, which shall have full force and effect as though printed in full in these Specifications. Codes, laws, ordinances, rules, regulations and ordinances (Regulatory Requirements) are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements.
   2. Any listing of Regulatory Requirements for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor’s responsibility for complying with all applicable Regulatory Requirements having application to the Work. Where conflict among the Regulatory Requirements or with these Specifications occurs, the most stringent requirements shall be used.
   3. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Bids, except as may be otherwise specifically stated in the Contract Documents.

B. Precedence
   1. Where specified requirements differ from Regulatory Requirements, the more stringent requirements shall take precedence. Where Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by Regulatory Requirements, then Drawings and Specifications shall take precedence so long as such increase is legal. Where no requirements are identified on Drawings or in Specifications, comply with all Regulatory Requirements of governing authorities having jurisdiction.
   2. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a Change Order detailing and specifying the required Work shall be submitted to and approved by Owner before proceeding with the Work.

1.03 REGULATORY REQUIREMENTS

A. Applicable Codes
   1. Codes that apply to Contract Documents include all Codes applicable to construction, including, but not limited to, the following:
b. California Electrical Code (2007 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.

c. California Plumbing Code (2007 Edition or latest applicable code) as amended by applicable local ordinances for plumbing, sewage disposal and health requirements.

d. California Mechanical Code (2007 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.

e. International Fire Code (2006 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.

f. California Administrative Code Titles 15, 19 and 24 (with California amendments), and Americans with Disabilities Act (ADA) accessibility guidelines, whichever is more stringent.

g. All State laws and City and County Ordinances, rules of the State or City or County Health Departments, rules of the National Board of Fire Underwriters and National Fire Protection Associations, and local power company regulations for mechanical and electrical work.

B. Applicable Laws, Statutes, Ordinances, Rules, And Regulations

1. During prosecution of Work to be done under Contract Documents, Contractor shall comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:

   a. Federal:
      1) Americans With Disabilities Act of 1990
      2) 29 CFR, Section 1910.1001, Asbestos
      3) 40 CFR, Subpart M, National Emission Standards for Asbestos
      4) Executive Order 11246
      5) Federal Endangered Species Act
      6) Clean Water Act

   b. State of California:
      1) California Code of Regulations, Titles 5, 8, 17, 19, 21, 22, 24 and 25
      2) California Public Contract Code
      3) California Health and Safety Code
      4) California Government Code
      5) California Labor Code
      6) California Civil Code
      7) California Code of Civil Procedure
      8) CPUC General Order 95, Rules for Overhead Electric Line Construction
      9) CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems
      10) Cal/OSHA
      11) OSHA: Hazard Communications Standards
      12) California Endangered Species Act
      13) Water Code
      14) Fish and Game Code

   c. State of California Agencies:
      1) State and Consumer Services Agency
      2) Office of the State Fire Marshall
      3) Office of Statewide Health Planning and Development
      4) Department of Fish and Game
      5) All Air Quality Management Districts with jurisdiction
      6) All Regional Water Quality Control Boards with jurisdiction
      7) Division of the State Architect (if having jurisdiction)

   d. All Local Agencies with jurisdiction (cities, counties, fire departments)
C. **Change Orders and Claims:**

1. The California Public Contract Code, including but not limited to Section 7105(d)(2), and the California Government Code Section 930.2 et seq., apply to all contract procedures for changes, time extensions, change orders (time or compensation) and claims. Federal law (*U.S. v. Holpuch* 326 U.S. 234) shall supplement California law on the enforceability of these requirements.

2. Any change, waiver, or omission to implement contract change order and claim procedures shall have no legal effect unless expressly permitted in a fully executed change order approved by Contractor and Owner and approved as to form by their respective legal counsel.

D. **Required Provisions On Contract Claim Resolution**

1. The California Public Contract Code specifies required provisions on resolving contract claims less than $375,000, which are set forth below, and constitute a part of this Contract.

2. For the purposes of this section, “Claim” means a separate demand by Contractor of $375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by Owner. In order to qualify as a Claim, the written demand must state that it is a Claim submitted under paragraph 12 of Document 00 7200 (General Conditions) and be submitted in compliance with all requirements of Document 00 7200 (General Conditions), paragraph 12. Separate Claims which total more than $375,000 do not qualify as a “separate demand of $375,000 or less,” as referenced above, and are not subject to this section.

3. A voucher, invoice, payment application, or other routine or authorized form of request for payment is not a Claim for purposes of this section. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a Claim under this section by submitting a separate claim in compliance with Contract Documents claim submission requirements.

4. **Caution.** This section does not apply to tort claims and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the California Government Code.

5. **Procedure:**

   a. The Claim must be in writing, submitted in compliance with all requirements of Document 00 7200 (General Conditions), paragraph 12, including, but not limited to, the time prescribed by and including the documents necessary to substantiate the Claim, pursuant to Document 00 7200 (General Conditions), paragraph 12.3. Claims must be filed on or before the day of final payment. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Document 00 7200 (General Conditions), paragraph 12 or elsewhere in the Contract Documents.

   b. For Claims of fifty thousand dollars ($50,000) or less, Owner shall respond in writing within forty-five (45) days of receipt of the Claim, or Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of Owner and Claimant. Owner’s written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.

   c. For Claims over Fifty Thousand Dollars ($50,000) and less than or equal to $375,000: Owner shall respond in writing within sixty (60) days of receipt of the Claim, or Owner may request in writing within thirty (30) days of receipt of the Claim,
any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of Owner and Claimant; Owner’s written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.

d. Meet and Confer: If Claimant disputes Owner’s written response, or Owner fails to respond within the time prescribed above, Claimant shall notify Owner, in writing, either within fifteen (15) days of receipt of Owner’s response or within fifteen (15) days of Owner’s failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand Owner will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

e. Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim as set forth herein, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

E. Compliance With Americans With Disabilities Act

1. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a Contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under the Contract Documents and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of the Contract Documents.

F. Compliance With IRCA

1. Contractor acknowledges that Contractor, and all subcontractors hired by Contractor to perform services under this Agreement, are aware of and understand the immigration Reform and Control Act (“IRCA”). Contractor is and shall remain in compliance with the IRCA and shall ensure that any subcontractors hired by Contractor to perform services under this Agreement are in compliance with the IRCA. In addition, Contractor agrees to indemnify, defend and hold harmless Owner, its agents, officers and employees, from any liability, damages or causes of action arising out of or relating to any claims that Contractor’s employees, or employees of any subcontractor hired by Contractor, are not authorized to work in the United States for Contractor or its subcontractor and/or any other claims based upon alleged IRCA violations committed by Contractor or Contractor’s subcontractors.
PART 1 - GENERAL

1.01 SUMMARY
   A. Section Includes:
      1. Reference standards, abbreviations, symbols, and definitions used in Contract Documents.
      2. Full titles are given in this Section for standards cited in other Sections of Specifications.

1.02 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES
   A. References
      1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code, or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
      2. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual, or code or of any instruction of any supplier, Contractor shall report it in writing at once to Owner’s Representative and Architect/Engineer, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by Owner.

   B. Precedence
      1. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, CCD, or Supplemental Instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
         a. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
         b. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
      2. No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of Owner, Owner’s Representative, Architect/Engineer or Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to Owner, Architect/Engineer, or any of their consultants, agents, representatives or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.
C. **Referenced Grades, Classes, and Types:**
   1. Where an alternative or optional grade, class, or type of product or execution is included in a reference but is not identified in Drawings or in Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

D. **Edition Date of References:**
   1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of opening Bids.
   2. All amendments, changes, errata and supplements as of the effective date shall be included.

E. **ASTM and ANSI References:** Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.03 **DEFINITIONS**

A. **Meaning of Words and Phrases**

Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. Where abbreviations and symbols are used, such abbreviations and symbols shall be given their common meaning in the construction industry. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural.

While Owner has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:

1. **Addenda:** Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-Bid Conference and/or Site Visit.

2. **Agreement (Document 00 5200):** Agreement is the basic Contract Document that binds the parties to construction Work. Agreement defines relationships and obligations between Owner and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract Documents.

3. **Alternate:** Work added to or deducted from the base Bid, if accepted by Owner.

4. **Application for Payment:** Written application for monthly or periodic progress or final payment made by Contractor complying with the Contract Documents.

5. **Approved Equal:** Approved in writing by Owner as being of equivalent quality, utility and appearance.

6. **Architect/Engineer:** If used elsewhere in the Contract Documents, “Architect/Engineer” shall mean a person (or that person’s firm) holding a valid California State Architect’s or Engineer’s license representing the Owner in the administration of the Contract Documents. Architect/Engineer may be an employee of or an independent consultant to Owner. When Architect/Engineer is referred to within the Contract Documents and not an employee of Owner, Architect/Engineer shall be construed to include employees of Architect/Engineer and/or employees that Architect/Engineer supervises. When the designated Architect/Engineer is an employee of Owner, his or her authorized representatives on the Project will be included under the term Architect/Engineer. If Architect/Engineer is an employee of Owner, Architect/Engineer is the beneficiary of all Contractor obligations to Owner, including without limitation, all releases and indemnities. Architect/Engineer may also be referred to as Architect or Engineer.
7. Asbestos: Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by OSHA or Cal/OSHA.

8. Bid: The offer or proposal of the Bidder submitted on the prescribed form(s) setting forth the prices for the Work to be performed.


10. Bidding Documents: All documents comprising the Project Manual (including all documents and Specification Sections listed in Document 00 0110 [Table of Contents]), including documents supplied for bidding purposes only and Contract Documents.


12. Business Day: Any Day other than Saturday, Sunday, and the following days that have been designated as holidays by Owner. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday.
   a. New Year’s Day, January 1;
   b. Martin Luther King Jr.’s Birthday, third Monday in January;
   c. Lincoln’s Birthday, February 12;
   d. Presidents’ Day, third Monday in February;
   e. Memorial Day, last Monday in May;
   f. Independence Day, July 4;
   g. Labor Day, first Monday in September;
   h. Veterans’ Day, November 11;
   i. Thanksgiving Day, as designated by the President;
   j. The Day following Thanksgiving Day;
   k. Christmas Day, December 25; and
   l. Each day appointed by the Governor of California and formally recognized by the Governing Board as a day of mourning, thanksgiving, or special observance.

13. By Owner: Work that will be performed by Owner or its agents at the Owner’s expense.

14. By Others: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by Owner, other contractors, or other means.

15. Change Order: A written instrument prepared by Owner and signed by Owner and Contractor, stating their agreement upon all of the following:
   a. a change in the Work;
   b. the amount of the adjustment in the Contract Sum, if any; and
   c. the amount of the adjustment in the Contract Time, if any.

16. Code Inspector: A local or state agency responsible for the enforcement of applicable codes and regulations.

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

18. Construction Change Directive (“CCD”): A written order prepared and signed by Owner, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both.

19. Contract Amount: a change order price, line item price, Contract Sum, or other price assigned to a scope of work.

20. Contract Conditions or Conditions of the Contract: Consists of two parts: General Conditions and Supplementary Conditions.
   a. General Conditions are general clauses that are common to the Owner Contracts, including Document 00 7200 (General Conditions).
b. Supplementary Conditions modify or supplement General Conditions to meet specific requirements for Contract Documents, including Document 00 7201 (Supplementary Conditions).


22. Contract Modification: Either:
   a. a written amendment to Contract signed by Contractor and Owner; or
   b. a Change Order; or
   c. a Construction Change Directive; or
   d. a written directive for a minor change in the Work issued by Owner.

23. Contract Sum: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by Owner to Contractor for performance of the Work and the Contract Documents. The Contract Sum is also sometimes referred to as the Contract Price or the Contract Amount.

24. Contract Time: The number or numbers of Days or the dates stated in the Agreement to achieve Substantial Completion of the Work or designated Milestones; and/or to achieve Final Completion of the Work so that it is ready for final payment and is accepted.

25. Contractor: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neutral in gender. The term “Contractor” means the Contractor or its authorized representative.

26. Contractor’s Employees: Persons engaged in execution of Work under Contract as direct employees of Contractor, as Subcontractors, or as employees of Subcontractors.

27. Day: One calendar day of 24 hours measured from midnight to the next midnight, unless the word “day” is specifically modified to the contrary.

28. Defective: An adjective which, when modifying the word “Work,” refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of Samples and “or equal” items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by Owner). Unapproved substitutions are defective. Owner is the judge of whether Work is Defective.

29. Division of State Architect: A division of the State of California providing, design and construction oversight for K–12 schools and community colleges, and developing and maintaining accessibility standards and codes utilized in public and private buildings throughout the State of California.

30. Drawings: The graphic and pictorial portions of 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.


32. Final Acceptance or Final Completion: Owner’s acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to:
   a. Final cleaning is completed.
   b. All systems having been tested and accepted as having met requirements of Contract Documents.
   c. All required instructions and training sessions having been given by Contractor.
   d. All Project Record Documents having been submitted by Contractor, reviewed by Owner, and accepted by Owner.
   e. All punch list Work, as directed by Owner, having been completed by Contractor.
f. Generally all Work, except Contractor maintenance after Final Acceptance/Final Completion, having been completed to satisfaction of Owner.

33. Force Account: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.

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

35. Furnish: Supply only, do not install.

36. Indicated: Shown or noted on the Drawings.

37. Install: Install or apply only, do not furnish.

38. Latent: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under Document 00 7200 (General Conditions).

39. Law: Unless otherwise limited, all applicable laws including without limitation all federal, state, and local laws, statutes, standards, rules, regulations, ordinances, and judicial and administrative decisions.

40. Material: This word shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.

41. Milestone: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.

42. Modification: Same as Contract Modification.

43. Not in Contract or "NIC": Work that is outside the scope of Work to be performed by Contractor under Contract Documents.

44. Notice of Completion: Shall have the meaning provided in California Civil Code §3093, and any successor statute.

45. Off Site: Outside geographical location of the Project.

46. Owner: Owner is defined in Document 00 5200 (Agreement).

47. Owner-Furnished, Contractor Installed: Items furnished by Owner at its cost for installation by Contractor at its cost under Contract Documents.

48. Owner's Representative(s): See Document 00 5200 (Agreement).

49. Partial Utilization: Use by Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all of the Work.

50. PCBs: Polychlorinated byphenyls.

51. Phase: A specified portion of the Work (if any) specifically identified as a Phase in Document 00 5200 (Agreement) or Document 01 1100 (Summary).

52. Product Data: That information (brochures, catalog sheets, manufacturer's cut sheets, etc.) supplied by vendors having technical and commercial characteristics of the supplied equipment or materials and accompanying commercial terms such as warranties, instructions, and manuals.

53. Progress Report: A periodic report submitted by Contractor to Owner with progress payment invoices accompanying progress schedule. See Document 00 7200 (General Conditions).

54. Project: Total construction of which Work performed under Contract Documents may be whole or part.

55. Project Manager: If used elsewhere in the Contract Documents, “Project Manager” shall mean a person representing the Owner in the administration of the Contract Documents. Project Manager may be an employee of or an independent consultant to Owner. When
Project Manager is referred to within the Contract Documents and no Project Manager has in fact been designated, then the matter shall be referred to Owner. The term Project Manager shall be construed to include employees of Project Manager and/or employees that Project Manager supervises. When the designated Project Manager is an employee of Owner, his or her authorized representatives on the Project will be included under the term Project Manager. If Project Manager is an employee of Owner Project Manager is the beneficiary of all Contractor obligations to Owner, including without limitation, all releases and indemnities.


57. Project Record Documents: All Project deliverables required under the Contract Documents, including without limitation, as built drawings; Installation, Operation, and Maintenance Manuals; and Machine Inventory Sheets.

58. Provide: Furnish and install.

59. Request for Information (“RFI”): A document prepared by Contractor requesting information regarding the Project or Contract Documents. The RFI system is also a means for Owner to submit Contract Document clarifications or supplements to Contractor.

60. Request for Proposals (“RFP”): A document issued by Owner to Contractor whereby Owner may initiate changes in the Work or Contract Time as provided in Contract Documents.


62. RFI-Reply: A document consisting of supplementary details, instructions, or information issued by Owner that clarifies or supplements Contract Documents, and with which Contractor shall comply. RFI- Replies do not constitute changes in Contract Sum or Contract Time except as otherwise agreed in writing by Owner. RFI-Replies will be issued through the RFI administrative system.

63. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

64. Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

65. Shown: As indicated on Drawings.

66. Site: The particular geographical location of Work performed pursuant to the Contract Documents.


68. Specified: As written in Specifications.

69. Subcontractor: A person or entity that has a direct contract with 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 neutral 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.

70. Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of Owner as evidenced by a notice or certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended, and unperformed or incomplete work elements are minor in nature; or if no such certificate is issued, when the Work (or specified part) is complete and ready for final payment as
evidenced by written recommendation of Owner for final payment. The terms “Substantially Complete” and “Substantially Completed” as applied to all or part of the Work refer to Substantial Completion thereof.

71. Supplemental Instruction: A written directive from Owner to Contractor ordering alterations or Modifications that do not result in change in Contract Sum or Contract Time, and do not substantially change Drawings or Specifications.

72. Testing and special inspection agency: An independent entity engaged to inspect and/or test the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.

73. Underground Facilities: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: Electricity, gases, chemicals, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.

74. Unit Price Work: Shall be the portions of the Work for which a unit price is provided in Document 00 5200 (Agreement) or Section 01 1100 (Summary).

75. Work: The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including everything shown in the Drawings and set forth in the Specifications. Wherever the word “work” is used, rather than the word “Work,” it shall be understood to have its ordinary and customary meaning.

B. Other Defined Terms

The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:

1. Wherever words “as directed,” “as required,” “as permitted,” or words of like effect are used, it shall be understood that direction, requirements, or permission of Owner is intended. Words “sufficient,” “necessary,” “proper,” and the like shall mean sufficient, necessary, or proper in judgment of Owner. Words “approved,” “acceptable,” “satisfactory,” “favorably reviewed,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by Owner.

2. Wherever the word “may” or “ought” is used, the action to which it refers is discretionary. Wherever the word “shall” or “will” is used, the action to which it refers is mandatory.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Specifications for general requirements for furnishing, installing, operating, and removing temporary project facilities and controls as required to perform and complete the Work.

1.02 REFERENCES

A. American National Standards Institute (ANSI)
   ANSI S1.4 Specification for Sound Level Meters

B. State of California, Department of Transportation (Caltrans), Standard Specific
   Section 12 Construction Area Traffic Controls Devices
   Section 82 Markers and Delineators

C. State of California, Department of Transportation (Caltrans), Traffic Manual
   Chapter 5, Manual of Traffic Controls for Construction and Maintenance Work

D. State of California (Caltrans), Standard Plans

1.03 TRAFFIC PLAN AND CONTROLS

A. Traffic Control Plan

   1. A traffic control plan and schedule will be submitted to the Engineer at the preconstruction conference. This plan will explain how the Contractor will control the traffic during the life of the project. In this plan Contractor will identify how and when construction will take place with minimum impact to campus access. The traffic control plan shall include explanatory narrative as required to complete the plan.

B. Permits: As applicable, apply for and obtain all permits from jurisdictional authorities as required to perform work, including hauling permits. Two copies of issued permits shall be furnished to the Engineer for record purposes.
C. Temporary Closing to Traffic: Prior to temporary closing the breezeway, or other access, or to changing traffic patterns from those indicated on the Contract Drawings, obtain approval from appropriate jurisdictional authority, and comply with imposed conditions, at least two weeks before such closures or changes are made. Deviations will be for an emergency condition affecting life and property only, and the Contractor shall immediately notify the Engineer and the appropriate jurisdictional authority of any such emergency changes. Copies of all approvals shall be furnished to the Engineer.

D. Temporary Walkways: In areas where removal of existing sidewalks is necessary, access to adjacent businesses, entrances, and properties shall be maintained by temporary walkways having a width of not less than four feet and meeting ADA requirements.

E. Temporary Paving and Patching: Construct, maintain, and remove temporary pavement and patching required to safely and expeditiously handle vehicle and pedestrian traffic, within or adjacent to the jobsite. Temporary pavement and patching composition shall conform to the specifications of the local jurisdictional authority. Any construction, maintenance, or removal required by the Contractor’s operations off site shall conform to the requirements specified herein.

1.04 HAUL ROUTES

A. Make arrangements with the various jurisdictional authorities for access to streets and roads for transporting materials, equipment, excess earth and soil materials, and debris to and from the site of the Work.

B. All such access or haul routes shall be indicated on the traffic control plan and shall be submitted to the jurisdictional authorities for approval as specified in Article 1.03 herein.

C. These haul routes shall be maintained and cleaned of all dirt and debris resulting from the Contractor’s use of these streets and roads. Any damage to streets and roads resulting from the Contractor’s use shall be properly repaired and, at completion of this Contract, restored to their original condition or better.

1.05 CONSTRUCTION OPERATIONS UNDER TRAFFIC

A. Definitions: Construction equipment is defined for the purposes of this Article as all types of equipment, vehicles, and tools used in connection with construction work.
The term workers includes every person or firm performing work in or adjacent to public streets.

B. Construction Equipment: When in traffic lanes, all vehicles and equipment shall be operated at normal traffic speeds. If this is not practicable, a slow moving vehicle emblem shall be displayed in accordance with the Motor Vehicle Code. Construction equipment shall not be parked in any lane intended for use by normal traffic. Equipment parked or stored at the work site shall be behind a guard rail, barrier, curb, or other protective device.

C. One-Way Traffic: No construction equipment shall be operated in traffic lanes, except in the designated direction of travel for respective lanes.

D. Construction Operations

1. Schedule surface operations so that work is not carried on intermittently throughout the area. Excavation or construction activities shall be scheduled and pursued to completion as required to permit opening of street areas to traffic without unnecessary delays.

2. No construction work involving occupancy of traffic lanes shall be performed during adverse weather conditions or adverse road conditions, and traffic shall be properly safeguarded by use of flashers and lights in addition to the signs and other markings specified herein. During these periods, no construction deliveries shall take place over a travel lane or immediately adjacent thereto.

3. When traffic conditions dictate, the Contractor shall modify its work operation for such length of time as required to alleviate the hazardous traffic conditions.

E. Equipment Travel

1. No construction equipment other than that designated and used for general highway transportation shall be moved on streets during hours of darkness or periods of adverse weather conditions which reduce normal visibility.

2. Any construction equipment or material required for construction operations which exceeds the maximum vehicle dimensions specified in the Motor Vehicle Code, shall be moved only in accordance with established State and local regulations. No such oversize load shall be moved over public streets without first obtaining approval of the appropriate jurisdictional authority.

F. Crossing Traffic Lanes: Construction equipment entering the traveled way from the median shall be safeguarded by a CMS and with flaggers as required. Where traffic speeds are high, slow-moving construction equipment entering the traveled way shall be protected by a “rolling barricade” supplied by the California Highway Patrol.
(CHP). This operation shall be performed at off-peak hours and requires coordination between the Contractor and the CHP, with the cost being borne by the Contractor.

G. Flaggers: When flagging is required, provide qualified flaggers and flagging in accordance with the requirements of the Caltrans Traffic Manual, Chapter 5, Manual of Traffic Controls, Section 5.07.

H. Removal of Traffic Control Devices: All temporary signs, barricades, barrier curbs, crash cushions, drums, and cones used to safeguard traffic in connection with construction work shall be removed at the close of the work day, unless the state of the work is such that warning devices are still needed and are adapted for night closing.

I. Storage: No material or traffic control devices shall be stored on any lane intended for traffic use.

1.06 POLLUTION ABATEMENT - GENERAL REQUIREMENTS

A. Comply with the General Conditions, Article GC7.10. Conduct construction operations in a manner which will minimize pollution of the environment surrounding the area of the Work by all practicable means and methods. Apply specific controls as specified in the Contract Specifications and as follows:

1. Waste Materials: No waste or eroded materials shall be allowed to enter natural or man-made water or sewage removal systems. Eroded materials from excavations, borrow areas, or stockpiled fill shall be contained within the Work area. The Contractor shall develop methods for control of erosion as specified in Article 1.08 herein.

2. Burning: No burning of waste materials or debris will be permitted.

3. Burying: No burying of waste materials and debris will be permitted within the limits of the District’s property.

B. Provide for and maintain the flow of all sewers, drains, house or inlet connections, and all water courses which may be encountered during progress of the Work. Do not allow the contents of any sewer, drain or house or inlet connection to flow into trenches or outside of the District’s property unless in an approved area consistent with State and Federal regulations. Immediately remove from proximity of the work all offensive matte, using such precautions as are required by jurisdictional authorities.

1.07 DUST CONTROL
A. Provide dust control at all times, including holidays and weekends, as required to abate dust nuisance on and about the site which is a result of construction activities. Dust control shall be by means of sprinkled water or by other approved methods, except that chemicals, oil, or similar palliative shall not be used.

B. Quantities and equipment for dust control shall be sufficient to effectively prevent dust nuisance on and about the site; and when weather conditions warrant, sprinklering equipment shall be on hand at all times for immediate availability.

C. The Engineer shall have authority to order dust control work whenever conditions warrant, and there shall be no additional cost to the District therefor. Dust control shall be effectively maintained whether or not the Engineer orders such work.

D. Complaints from the public shall be reported to the District and shall be acted on immediately.

E. Where earthwork operations are in progress, keep exposed earth surfaces dampened continuously. Also, keep dirt accessways and roads dampened continuously.

F. If portions of the site are temporarily inactive or abandoned for whatever reason, provide dust control and abatement continuously during such periods of inactivity.

G. Where dust resulting from construction activities has collected on public sidewalks and streets, hose down such sidewalks and streets to abate flying dust particles. Clean all sidewalks and streets from accumulated dirt and dust.

1.08 MUD CONTROL

A. Take proper measures to prevent tracking of mud onto public streets, drives, and sidewalks. Such measures shall include, but are not limited to, covering muddy areas on the site with clean, dry sand.

B. All egress from the site shall be maintained in a dry condition, and any mud tracked onto streets, sidewalks, or drives shall be immediately removed, and the affected area shall be cleaned. The Engineer may order such work at any time the conditions warrant.

C. Where trucks will leave a muddy site and enter paved public streets, the Contractor shall maintain a suitable truck wheel-washing facility and crew. All trucks, or other vehicles leaving the site, shall be cleaned of mud and dirt, including mud and dirt clinging to exterior body surfaces of vehicles.

D. All trucks coming to the site or leaving the site with materials or loose debris shall be loaded in a manner which will prevent dropping of materials or debris on streets. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately.
1.09 NOISE CONTROL

A. Requirements: Minimize noise caused by construction operations, and provide working machinery and equipment fitted with efficient noise suppression devices. Employ other noise abatement measures as necessary for protection of employees and the public. In addition, restrict working hours and schedule operations in a manner which will minimize, to the greatest extent feasible, disturbance to residents and/or students in the vicinity of the Work.

B. Definitions

1. Daytime refers to the period from 7:00 a.m. to 7:00 p.m. local time daily except Sundays and legal holidays.

2. Nighttime refers to all other times including all day Sunday and legal holidays.

3. Construction Limits are defined for the purpose of these noise control requirements as the District right-of-way lines, construction easement boundaries, or property lines as indicated on the Contract Drawings.

4. Zones, Special Zones, and Special Construction Sites outside of the Construction Limits shall be as designated by the local authority having jurisdiction. Such specially designated zones shall be treated by the Contractor as if they were within the Construction Limits.

C. Monitoring

1. Promptly inform the District Representative of any complaints received from the public regarding noise. Describe the action proposed and the schedule for implementation, and subsequently inform the District Representative of the results of the action.

2. Monitor noise levels day and night and for each new activity or piece of equipment. Start by measuring three times a day plus once a night for three consecutive days. Monitor noise levels at least at least once a week thereafter.

D. Measurement Procedure

1. Except where otherwise indicated, perform all noise measurements using the A-weight network and “slow” response of an instrument complying with the criteria for a Type 2 General Purpose sound level meter as described in ANSI S1.4.

2. Measure impulsive or impact noises with an impulse sound level meter complying with the criteria of IEC 179 for impulse sound level meters. As
an alternative procedure, a Type 2 General Purpose sound level meter on C-weighting and “fast” response may be used to estimate peak values of impulsive or impact noises. Transient meter indications of 125 dBC “fast” or higher will be considered as indications of impulsive noise levels of 140 dB or greater.

3. Measure noise levels at buildings affected acoustically by the Contractor’s operations at points between three feet and six feet from the building face to minimize the effect of reflections.

4. Measure noise levels at points on the outer boundaries of Construction Limits or Special Construction Sites for noise emanating from within.

5. Where more than one criterion of noise limits are applicable, use the more restrictive requirement for determining compliance.

E. Continuous Construction Noise: Prevent noise from stationary sources, parked mobile sources, or any source or combination of sources producing repetitive or long-term noise lasting more than one hour from exceeding the following limits:

1. Maximum Allowable Continuous Noise Level, dBA:

<table>
<thead>
<tr>
<th>Affected Residential Area</th>
<th>Daytime</th>
<th>Nighttime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family residence</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Along an arterial or in multi-family residential areas, including hospitals</td>
<td>65</td>
<td>55</td>
</tr>
<tr>
<td>In semi-residential/commercial areas, including hotels</td>
<td>70</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affected Commercial Area</th>
<th>At All Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>In semi-residential/commercial areas, including schools</td>
<td>65</td>
</tr>
<tr>
<td>In commercial areas with no nighttime residency</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affected Industrial Areas</th>
<th>At All Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>All locations</td>
<td>65</td>
</tr>
</tbody>
</table>

F. Intermittent Construction Noise: Prevent noises from non-stationary mobile equipment operated by a driver or from any source of non-scheduled, intermittent,
non-repetitive, short-term noises not lasting more than four hours from exceeding the following limits:

1. Maximum Allowable Intermittent Noise Level, dBA:

<table>
<thead>
<tr>
<th>Affected Area</th>
<th>Daytime</th>
<th>Nighttime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family residence areas</td>
<td>75</td>
<td>60</td>
</tr>
<tr>
<td>Along an arterial or in multi-family residential areas, including hospitals</td>
<td>75</td>
<td>65</td>
</tr>
<tr>
<td>In semi-residential/commercial areas, including hotels</td>
<td>75</td>
<td>70</td>
</tr>
<tr>
<td>Affected Commercial Area</td>
<td>At All Times</td>
<td></td>
</tr>
<tr>
<td>In semi-residential/commercial areas, including schools</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>In commercial areas with no nighttime residency</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Affected Industrial Area</td>
<td>At All Times</td>
<td></td>
</tr>
<tr>
<td>All locations</td>
<td>90</td>
<td></td>
</tr>
</tbody>
</table>

1.10 **EXISTING UTILITIES / FACILITIES**

A. It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Engineer and Owner assume no responsibility therefor. The Contractor is advised that underground utilities are not shown on the plan drawings. The Contractor shall be responsible for verifying actual location and depth of existing utilities in the field. Where excavation is contemplated, the Contractor shall notify Underground Service Alert at (800) 642-2444 or 811, prior to such excavation.

B. Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to determine their exact depth and location. Payment for exploratory excavation shall be included in the various items of work needed to complete the excavation work. Extreme care shall be exercised to avoid damage, and it will be the Contractor’s sole responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

C. The Contractor is advised of the possible existence of certain underground facilities that may require special precautions to protect the health, safety and welfare of the
workmen and of the public. These facilities include, but are not limited to: irrigation lines and peripherals; street lighting electric supply system conductors or conduits; telephone and cable service lines, either directly buried or in duct or conduit and; underground water, gas, and electrical distribution systems.

D. The Contractor shall not be entitled to any right of way delays associated with the relocation or repair of these utilities and other facilities and shall cooperate fully with the owners of these utilities and other facilities for their relocation and repair work.

E. Schedule constraints will be discussed at the preconstruction conference and the Contractor shall incorporate such adjustments in their contract scheduling as necessary.

F. All existing facilities in conflict with the proposed improvements shall be relocated by the Contractor.

1.11 TEMPORARY FACILITIES AND UTILITIES

A. Contractor’s Offices

1. If applicable, Contractor shall maintain on site a suitable office completely furnished to house the administrative staff of the Contractor to the satisfaction of the Owner.

2. The facility shall have sufficient telephone and data cabling to maintain telephone service, fax service and computer connections to run all software and operations required to satisfactorily communicate with the project team.

3. Contractor shall submit to the Owner the intended office and equipment configuration for approval prior to placement and installation.

B. Electric Power and Lighting

1. The Contractor will furnish and pay for power during the course of the work to the extent power is available on the Site. The Contractor shall be responsible for providing and maintaining temporary facilities required to deliver that power service from its existing location on the Site to points of use.

2. Contractor shall verify characteristics of power available on the Site. Contractor shall take all actions required to make modifications where power of higher voltage or different phases of current are required. Contractor shall be fully responsible for providing that service and shall pay all costs required therefore.

3. The Contractor shall furnish, wire, install, and maintain temporary electrical lights wherever it is necessary to provide illumination for the proper
performance and/or observation of the Work. If portable or temporary lights are used, all light must be located so as not to direct light into neighboring properties.

C. Water
1. The Contractor will furnish and pay for water during the course of the work to the extent water is then available on the Site. The Contractor shall be responsible for providing and maintaining temporary facilities required to deliver such utility service from its existing location on the Site to points of use.
2. Contractor shall use backflow preventers on water lines at point of connection to outside water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.
3. Contractor shall make potable drinking water available for human consumption. Drinking water shall be potable, and drinking water facilities shall be clean and sanitary.

D. Sanitary Facilities
1. Provide adequate temporary toilet conveniences, and washing facilities, for use of all employees and persons engaged on or about the Work, including subcontractors and their employees.
2. Locate sanitary facilities where approved by Owner, Inspector and/or authorities having jurisdiction and maintain in a clean and sanitary condition during the course of the Work. Keep such facilities adequately supplied with toilet paper, paper toweling, paper cups, and related supplies as required.
3. Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the Owner.
4. At completion of the Work, sanitary facilities shall be properly disinfected and all evidence of same removed from the site.

E. Telephone Service
1. Contractor shall arrange with local telephone service company for telephone service for the performance of the Work. Contractor shall, at a minimum, provide in its field office one line for telephone, computer and one line for fax machine.
2. Contractor shall pay the costs for telephone and fax lines installation, maintenance, service, and removal.
F. Fire Protection

1. Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.

2. Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces and fire watches until 30 minutes past the conclusion of the event.

G. Trash Removal

1. Contractor shall provide and maintain sufficient debris boxes and shall segregate debris as required elsewhere in this document for recycling as not to become a public nuisance. Capacity of boxes and bins shall be sufficient as to accept all trash created until removed from site.

1.12 ENCLOSED STORAGE AND SHOPS

A. Provide all temporary storage and shop rooms that may be required at the site for safe and proper storage of tools, materials, and equipment. Construct such rooms only in locations indicated or as approved by the District Representative, and so as not to interfere with the proper installation and completion of other work.

B. Remove such rooms within three days of receipt of notices from the District that removal is necessary, and incur all expenses for such removal.

C. Storage of gasoline or similar fuels shall conform with NFPA regulations and local fire department regulations and shall be confined within definite boundaries apart from buildings as approved by the District Representative and jurisdictional fire marshall.

1.13 PROTECTIVE BARRICADES AND SAFETY PRECAUTIONS

A. Construct and maintain barricades, lights, shoring, warning signs, and flashing lights as required by Federal and State safety ordinances and as required to protect the District’s property from injury or loss and as necessary to protect the public and adjacent properties from harm and damage. Provide walks around obstructions made in a public place for prosecuting the Work. Leave all protection in place and maintain until removal is authorized.

B. Guard and protect all workers, pedestrians, vehicles, structures, fencing, landscaping and the public from excavations, construction equipment, obstructions, and other dangers with adequate railings, guard rails, k-rails, temporary walks, barricades, warning signs, directional signs, overhead protection, planking, decking, danger lights, and other suitable safeguards.
1.14 TEMPORARY FENCING

A. Furnish, construct, maintain, and later remove temporary fencing around the project site perimeter as indicated.

B. Except as otherwise specified herein, temporary fencing shall conform to the Standard Drawings and Specifications Standards for permanent fences.

C. Used materials may be employed for temporary fencing, provided such used materials are good, sound, and are suitable for the purpose intended.

D. Fencing materials may be commercial quality, provided the dimensions and sizes of said materials are equal to, or greater than, the dimensions and sizes indicated on the Standard Drawings or specified in the Contract Specifications. Additional fencing options include the following:

1. Posts may be either metal or wood.

2. Galvanizing and painting of steel items will not be required.

3. Treating wood with wood preservatives will not be required.

4. Concrete footings for metal posts will not be required, except where portable footings are required for temporary anchorage of posts.

E. Temporary fencing which is damaged from any cause during the progress of the Work shall be repaired or replaced by the Contractor at no additional cost to the District.

F. When no longer required for the Work, temporary fencing shall be removed. Removed fencing and related materials shall become the property of the Contractor and shall be removed from the site of the Work, except as otherwise provided herein.

G. Holes and other damages caused by the removal of temporary fences shall be properly filled to match adjacent surfaces.

1.15 SECURITY

A. Provide for security of the Work and the site until final inspection and acceptance of the Work. Storage areas shall be suitably fenced and lighted and routinely patrolled by security guards.

B. The District assumes no responsibility for protection of structures and finished work or for loss of materials and equipment from the time that Contract operations have commenced until final acceptance of the Work.
C. If watchman service is deemed necessary by the Contractor, such protection shall be provided by the Contractor, and all costs therefor shall be paid for by the Contractor.

D. Damaged, lost, or stolen materials and equipment, whether or not stored or already installed, shall be replaced by the Contractor with new specified materials and equipment, including reinstallation expenses where applicable, at no additional cost to the District.

1.17 PUBLICITY RELEASES

A. Contractor shall not release any information, story, photograph, plan, or drawing relating information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s).

1.18 REMOVAL OF TEMPORARY FACILITIES AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials prior to final inspection.

B. Remove underground installations to a minimum depth of two feet.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section describes requirements and procedures for:
   1. Project cleaning
   2. Testing of equipment and systems
   3. Substantial Completion
   4. Final Completion
   5. Close Out
   6. Warranties

1.02 SUBSTANTIAL COMPLETION

A. Removal of Temporary Construction Facilities and Project Cleaning.
   1. Prior to Substantial Completion inspection: remove temporary materials, equipment,
      services, and construction; clean all areas affected by the Work; clean and repair damage
      caused by installation or use of temporary facilities; restore permanent facilities used
      during construction to specified condition.

B. Equipment and Systems.
   1. Prior to Substantial Completion, Contractor shall start up, run for periods prescribed by
      Owner, operate, adjust and balance all manufactured equipment and Project systems,
      including but not limited to, mechanical, electrical, safety, fire, and controls.
   2. Demonstrate that such equipment and systems conform to contract standards and
      manufacturer’s guarantees. Where applicable, use testing protocols specified, and if the
      contract is silent, then consistent with manufacturer’s recommendations and industry
      standards.

C. Procedure for Substantial Completion
   1. When Contractor considers Work or designated portion of the Work as Substantially
      Complete, submit written notice to Owner, with list of items remaining to be completed or
      corrected and explanation of why such items do not prevent Owner’s beneficial use and
      occupancy of the Work for its intended purposes. Within reasonable time, Owner will
      inspect to determine status of completion.
   2. Should Owner determine that Work is not Substantially Complete, Owner will promptly
      notify Contractor in writing, listing all defects and omissions. Contractor shall remedy
      deficiencies and send a second written notice of Substantial Completion. Owner will
      reinspect the Work. If deficiencies previously noted are not corrected on reinspe ction, then
      pay the cost of the reinspe ction.
   3. When Owner concurs that Work is Substantially Complete, Owner will issue a written
      notice or certificate of Substantial Completion, accompanied by Contractor’s list of items to
      be completed or corrected as verified by Owner.
   4. Manufactured units, equipment and systems that require startup must have been started
      up and before a notice or certificate of Substantial Completion will be issued.
   5. A punch list examination will be performed upon Substantial Completion. One follow-up
      review of punch list items for each discipline will be provided. If further Site visits are
required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse Owner for costs associated with these visits.

1.03 FINAL COMPLETION
A. Requirements
1. Final Completion occurs when Work meets requirements for Owner’s Final Acceptance.
B. Procedure
1. When Contractor considers Work is Finally Complete, submit written certification that:
   a. Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
   b. Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of Owner, and are operative.
   c. Project Record Documents are completed and turned over to Owner, and Work is complete and ready for final inspection.
2. In addition to submittals required by Contract Documents, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
3. Should Owner determine that Work is incomplete or Defective, Owner promptly will so notify Contractor, in writing, listing the incomplete or Defective items. Contractor shall promptly remedy the deficiencies and notify the Owner when it is ready for re-inspection.
C. Final Adjustments of Accounts:
1. Submit a final statement of accounting to Owner, showing all adjustments to the Contract Sum and complete and execute Document 00 6530 (Agreement and Release of Claims).
2. If so required, Owner shall prepare a final Change Order for submittal to Contractor, showing adjustments to the Contract Sum that were not previously made into a Contract Modification.
D. Warranties
1. Execute Contractor’s Submittals and assemble warranty documents, and Installation, Operation, and Maintenance Manuals, executed or supplied by Subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in 8½ inches by 11 inches three-ring binder with durable plastic cover, appropriately separated and organized. Assemble in Specification Section order.
2. Submit material prior to final Application for Payment. For equipment put into use with Owner’s permission during construction, submit within 14 Days after first operation. For items of Work delayed materially beyond Date of Substantial Completion, provide updated Submittal within 14 Days after acceptance, listing date of acceptance as start of warranty period.
3. Warranty Forms: Submit drafts to Owner for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents. Warranty shall be countersigned by manufacturers. Where specified, warranty shall be countersigned by Subcontractors and installers.
4. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.
5. Term of Warranties: For materials, equipment, systems, and workmanship, warranty period shall be one year minimum from date of Final Completion of entire Work except where:
a. Detailed Specifications for certain materials, equipment or systems require longer warranty periods.
b. Materials, equipment or systems are put into beneficial use of Owner prior to Final Completion as agreed to in writing by Owner.

E. **Warranty of Title:**

1. No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of Owner.

F. **Turn-In.** Contract Documents will not be closed out and final payment will not be made until all keys issued to Contractor during prosecution of Work and letters from property owners, pursuant to Contract Documents, are turned in to Owner.

G. **Release of Claims.** Contract Documents will not be closed out and final payment will not be due or made until Document 00 6530 (Agreement and Release of Claims) is completed and executed by Contractor and Owner.

H. **Fire Inspection Coordination.** Coordinate fire inspection and secure sufficient notice to Owner to permit convenient scheduling (if applicable).

I. **Building Inspection Coordination.** Coordinate with Owner a final inspection for the purpose of obtaining an occupancy certificate (if applicable).

**PART 2 - PRODUCTS – NOT USED**

**PART 3 - EXECUTION – NOT USED**

**END OF SECTION**
ENVI RONMENTALLY SUSTAINABLE PROCUREMENT--CONSTRUCTION

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

For Operation and Construction services the District is committed to:

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

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

Signature

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

Contractor Name: ________________________  Title: _______________________________

Authorized Signature: _______________________________  Date:
PART 1 - GENERAL

1.01 WORK INCLUDED

A. Remove materials, systems, components, fixtures and equipment as designated and as required for completion of remodeling work indicated.

B. Coordinate selective demolition for remodeling with mechanical, structural and electrical demolition; cap and identify active utilities where not otherwise identified under Division 15 and 16 work.

C. Contractor shall make efforts to recycle demolished materials rather than landfill materials. Architect will provide a list of recycling companies and locations upon request.

1.02 RELATED WORK

A. Section 15100: General Mechanical.

B. Section 16010: Electrical General Provisions

1.03 QUALITY ASSURANCE

A. Perform demolition in conformance with ANSI A10.6.

1.04 EXISTING CONDITIONS

A. Site Surveys:

1. Prior to start of demolition operations, conduct survey of existing conditions. On such survey, list items specified and indicated to be salvaged.

2. Following performance of demolition, inspect and report defects and structural weaknesses of construction and improvements partially demolished, cut, and removed; of construction and improvements remaining; and of adjacent construction and improvements.

B. Protection: Protect the structural integrity of existing construction and improvements to remain.

1.05 PROTECTION

A. Maintain free and safe passage to and from all areas of the Work.

1. Cover and protect existing materials when demolition work is performed in areas where existing materials will not been removed. Provide particular care with protection of historic building fabric.
B. Prevent movement of adjacent construction, provide and place bracing and be responsible for safety and support of adjacent construction.

   1. Assume liability for such movement, damage and injury.

C. Cease operation and notify Architect immediately if safety of structure appears to be endangered; take precautions to properly support structure.

   1. Do not resume operation until safety is restored.

1.06 EXISTING SERVICES

A. Disconnect or remove utility services as required for completion of Project; disconnect, stub off, and cap utility service lines not required for new construction.

   1. Do not remove utilities discovered during demolition but not indicated without first determining purpose for utility.

B. Place markers to indicate location of disconnected services; identify service lines and capping locations on Project Record Documents.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:

   1. Remove and recycle or dispose of items and materials not designated to be salvaged. Disposal shall be at the legal dump site for the material to be disposed.
   2. If, in the course of removing designated items and materials, the condition of other materials or the structure so exposed appears to be damaged or of otherwise questionable condition, immediately notify the Architect, who will determine if the other materials or structure shall be removed, and if so to what extent.
   3. Nothing to be removed from the site shall be stored, sold, or burned on the site.
   4. Remove and recycle or dispose of all debris found in each unit at start of work.

B. Items to be Salvaged:

   1. Carefully remove materials indicated to be retained by Owner; deliver and store where directed.

a. Coordinate extent of existing materials to be retained by Owner with Owner’s Representative prior to beginning selective demolition.

   2. Carefully disconnect, remove, and protect items indicated and designated to be salvaged, as well as any additional items so directed by the Architect.
   3. Package salvaged items that are in satisfactory condition for reinstallation in cardboard and label as to contents. Should a question arise as to whether or not certain items are of suitable condition for reinstallation, consult the Architect for determination.
   4. Deliver salvaged items at time and to location directed by the Owner.
   5. Reinstall salvaged items in locations indicated, or as designated by the Architect.
   6. Salvaged items not indicated or designated for reinstallation in the Work shall remain in storage.
7. Obtain approved list of items to be salvaged, prior to beginning demolition operations. Salvage the following items unless otherwise indicated or directed by the Architect, and transport items to storage site designated by the Contracting Officer:

a. Exterior and interior doors and hardware; tag hardware and identify.
b. Window operating hardware and hinges.
c. Doors and hardware.

8. Salvaged items rejected by the Contracting Officer shall become the Contractor’s property.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for beginning selective building demolition. If unsatisfactory conditions exist, do not begin demolition operations until such conditions have been corrected.

3.02 PREPARATION

A. Prior to start of demolition operations, prepare a proposed sequence for the Work; coordinate with related Work which requires cutting and sawing.

B. Review proposed sequence with the Owner and Architect prior to starting demolition operations.

C. Cap and protect utility lines prior to start of demolition operations.

3.03 GENERAL

A. As demolition progresses, continuously inspect for damage. Should signs of damage arise, immediately notify the Architect, and stop demolition operations in the affected location until advised as to how to proceed. Protect building fabric to remain in order to preserve historic building fabric.

B. Remove items designated for demolition, and as required for the performance of the Work. If in doubt as to whether an item is to be demolished, contact the Architect for a decision prior to proceeding with its demolition.

C. Remove items carefully; provide for neat and structurally sound junctions between existing and new materials.

D. As applicable, remove miscellaneous items and fastenings associated with items to be demolished.

E. Demolish concrete in small sections.

F. No blasting shall be permitted.

G. Clean surfaces affected by the demolition operations of all residual adhesives, bitumen, and other adhering materials, as required to afford suitable substrates for the application of new materials.

H. Demolish indicated appurtenances in an orderly and careful manner.
1. Use methods which do not damage materials indicated to remain.

2. Cut concrete and masonry using masonry saws and hand tools; provide sharp clean cuts requiring minimal patching for new construction.

3. Use impact tools only where specifically approved in advance for areas where operations do not disturb building occupancy.

I. Perform demolition in accordance with authorities having jurisdiction.

J. Remove demolished materials from site, unless otherwise directed.

1. Remove from site, contaminated, vermin infested, and dangerous materials encountered and disposed of by safe means so as not to endanger health of workers or public.

K. Remove tools and equipment upon completion of work; leave area in condition acceptable to Architect.

3.04 CUTTING AND CORING

A. Make new openings neat, as close as possible to profiles indicated, and only to the extent required to accommodate new Work.

B. Do not cut or alter structural members without the prior written consent of the Architect.

C. At concrete materials where edges of cuts and holes will remain exposed in the completed Work, perform cutting and coring with power equipment.

3.05 REPAIR

A. Repair damage to adjacent construction caused as result of this work.

END OF SECTION
PART 1  GENERAL

1.01  WORK INCLUDED

A. Miscellaneous Excavation and Backfill required for removal of existing plumbing fixtures and installation of new plumbing fixtures.

1.02  RELATED SECTIONS

B. Section 02070 - Selective Demolition for removal of existing flooring and slabs.

C. Section 02810 – Landscape Irrigation.

1.03  REFERENCES


1.04  QUALITY ASSURANCE

A. Excavating, grading and compacting operations shall be done under observation of District’s Soils Engineer.

1.05  SUBMITTALS

A. Submit the following under provisions of Section 01300.

B. Test Reports as indicated.

PART 2  MATERIALS

2.01  SOILS:

A. Import material, if required, shall meet the requirements as specified and approved by the Geotechnical Engineer.

PART 3  EXECUTION

3.01  PREPARATION

A. Maintain and protect existing utilities remaining which pass through work area.

B. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Architect.

C. Sequence operations so as to maintain safe working conditions and preserve existing work which is to remain.
3.02 SUBBASE

A. Excavate to depths required for removal, installation of plumbing fixtures and equipment.

B. Areas of subgrade found to be excessively wet shall be reworked and allowed to dry to optimum moisture and then compacted to required minimum.

C. Aggregate Base shall be spread and compacted in lifts as necessary. Application of water may be used to aid in obtaining compaction, however, caution shall be exercised to not apply excessive water to soften the subbase.

D. Aggregate Base shall be compacted to a minimum of 95 percent of maximum density as determined by ASTM D1557-78. Test shall be performed by a qualified testing laboratory or District's Soils Engineer.

E. Care shall be taken to prevent damage to plumbing lines.

F. If tests indicate work does not meet specified requirements, recompact. Cost of retest will be deducted from Contract Sum by Change Order.

3.01 PREPARATION:

A. Protect adjacent properties and structures from damage due to earthwork operations. Protect open excavations and trenches with fences, covers, or railings as required to maintain safe pedestrian and vehicular traffic.

B. Identify required lines, levels, contours, and datum.

C. Employ a competent instrument operator to properly lay out grades and stakes, using a professional instruments, and to be present on site during grading, excavating and filling operations.

D. Establish elevations, and set and protect stakes during earthwork operations.

E. Identify known underground, above ground, and aerial utilities. Stake and flag locations.

F. Notify utility company to remove and relocate utilities when required.

G. Protect above and below grade utilities which are to remain.

H. Protect trees, plant life, lawns, and other features remaining as a portion of final landscaping. Comply with requirements of Arborist Report.

I. Protect bench marks, sidewalks, paving, and curbs, either on-site or off-site, from damage due to construction, excavation equipment and vehicular traffic.

3.02 EXCAVATION:

A. Underpin adjacent structures that may be damaged by excavation work, including utilities and pipe chases.

B. Excavate subsoil required to accommodate trenching, slabs-on-grade, import fill, paving, and construction operations.

C. Control drainage in the vicinity of the Work to prevent water from accumulating or running into the excavation or into adjacent property. Provide shoring and bulk-heading necessary to hold the earth back.
C. When dust conditions exist, dampen the areas to prevent seepage of dust and transportation of debris into the buildings and onto adjacent property.

E. Prevent standing water from developing in excavated portions of the Work at all times.

F. Stockpile excavated material in areas designated on site or as directed by the Architect. Remove all excess material not being used, from site.

3.03 TRENCHING:

A. Notify the Architect and Arborist two days prior to trench commencement. After completion of layout and coordination with Owner’s Arborist, excavate to widths and depths shown on the Drawings. Excavations are subject to Arborist inspection.

B. Hand dig trenches in areas of tree roots as directed by Arborist. Hand trim trenches. Remove loose matter.

D. Correct unauthorized excavation at no cost to Owner.

E. Correct areas over-excavated by error or damaged by movement of the sides of the trench in accordance with this Section at no additional cost to the Owner.

3.04 BACKFILLING:

A. Use only engineered or approved fill materials for required backfill. Compact in accordance with the Drawings or other Specification sections. If not indicated on the Drawings or other Specification sections, compact materials to a minimum of 90 percent density.

B. Backfill areas to contours and elevations with approved materials.

C. Maintain optimum moisture content of backfill materials to attain required compaction densities stipulated in the Drawings.

D. Slope grade away from building minimum ¼” per foot, unless noted otherwise.

E. Make grade changes gradual. Blend slope into level areas.

3.05 SUBBASE

A. Excavate to depths required for removal, installation of new work.

B. Areas of subgrade found to be excessively wet shall be reworked and allowed to dry to optimum moisture and then compacted to required minimum.

C. Aggregate Base shall be spread and compacted in lifts as necessary. Application of water may be used to aid in obtaining compaction, however, caution shall be exercised to not apply excessive water to soften the subbase.

D. Aggregate Base shall be compacted to a minimum of 95 percent of maximum density as determined by ASTM D1557-78. Test shall be performed by a qualified testing laboratory or Owner’s Geotechnical Engineer.

E. Care shall be taken to prevent damage to existing utility lines.

F. If tests indicate work does not meet specified requirements, recompact. Cost of retest will be deducted from Contract Sum by Change Order.

02200 - 3 EXCAVATION AND BACKFILL
3.06 COMPACTION:

A. Preparation of engineered fill areas, selection and placing of engineered fill materials, shall be in conformance with the Drawings, and will be observed and tested by the Geotechnical Engineer.

B. Notify Geotechnical Engineer two working days in advance of filling operations to permit required testing.

C. Generally, compact subgrade to density requirements for subsequent backfill materials.

3.07 TOLERANCES:

A. Rough Grade: Plus or minus .05 feet of design rough grade.

B. Top Surface of Backfilling Under Paved Areas: Plus or minus .05 feet.

C. Top Surface of General Backfilling: Plus or minus .05 feet.

3.08 FIELD QUALITY CONTROL:

A. Field Density Test: The Geotechnical Engineer will test earthwork and compacted areas, at least one test per each 600 cubic yards or fraction thereof; minimum of two tests per layer in isolated areas. Where sheepfoot rollers are used, tests will be taken in compacted materials below the disturbed surface.

B. When the relative compaction is below the percentage specified in the Soils Report, recompaction will be required until the stipulated percentage level is achieved.

C. Laboratory tests will be based on ASTM D1557 to determine conformance with the recommendations of the Soils Report.

3.09 ADJUSTING:

A. Restore, to the satisfaction of the Architect/Arborist/Engineer, any street pavements, walks, curbs, gutters, and trees, which become damaged in the performance of the Work.

B. After completion of the Work, remove rubbish and equipment from the site.

3.10 PROTECTION:

A. Protect finished work.

B. Recompact fills subjected to vehicular traffic.

C. Leave fill material stockpile areas completely free of excess fill materials.

D. Before working over backfill, verify that such work has been properly backfilled and compacted. Promptly notify the Architect/Engineer, in writing, of contrary conditions.

END OF SECTION
SECTION 02500

ASPHALT PAVING

PART 1   GENERAL

1.01 WORK INCLUDED

A. Provide new asphaltic concrete paving and aggregate base at existing playground area, as indicated.

1.02 RELATED SECTIONS

A. Section 09900 - Painting for parking striping.

1.03 QUALITY ASSURANCE


B. ASTM: standard test methods for materials and methods.

C. Contractor shall guarantee construction of paved asphaltic concrete paving for a period of two years after final acceptance against any defects in workmanship including cracks and elevation irregularities exceeding tolerances and will immediately make necessary repairs upon notification.

1.04 SUBMITTALS

A. Submit the following under provisions of Section 01300.

B. Test Reports as indicated.

PART 2   MATERIALS

2.01 AGGREGATE BASE

A. Class 2 aggregate as specified in Section III, and Section 26 of the State Standard Specifications (DOT). Aggregate Base Materials shall be free from vegetable matter and other deleterious substances, and shall be of such nature that it can be compacted with watering and rolling to form a firm, stable base.

2.02 ASPHALTIC CONCRETE PAVING

A. Type B asphalt concrete, as specified in Section III, and Section 39 of the State Standard Specifications (DOT).

PART 3   EXECUTION

3.01 INSPECTION
A. Verify area and extents of repairs at site with Architect and Owner.

3.02 PREPARATION

A. Remove, off-haul and properly dispose of existing damaged asphalt paving at area of new work.

B. Excavate subgrade as required if unacceptable for reuse in new installation. Off-haul and properly dispose of materials required to be removed.

C. Import Aggregate Base Materials as required for new installation.

D. Import Asphalt Concrete Base Leveling Course material as required for new installation.

3.03 SUBBASE

A. Areas of subgrade found to be excessively wet shall be reworked and allowed to dry to optimum moisture and then compacted to required minimum.

B. Aggregate Base shall be spread and compacted in lifts as necessary. Application of water may be used to aid in obtaining compaction, however, caution shall be exercised to not apply excessive water to soften the subbase.

C. Aggregate Base shall be compacted to a minimum of 95 percent of maximum density as determined by appropriate ASTM Standard Method. Test shall be performed by a qualified testing laboratory.

D. At final compaction, the aggregate base shall be left in a smooth, even and uniform depth below finish grade and to a tolerance of 1/4 inch above the required grade as shown on the Contract Drawings.

3.04 ASPHALT CONCRETE BASE LEVELING COURSE

A. Prior to placement of asphalt concrete, a prime coat of liquid asphalt shall be applied to the areas to receive asphalt concrete as specified in Section 39, State Standard Specifications (DOT). Prime coat shall be applied at an approximate rate of 0.25 gallons per square yard of surface covered. The prime coat shall be allowed to thoroughly dry before asphalt concrete is installed.

B. Asphalt concrete shall be placed in two lifts, and each lift compacted by use of adequate equipment of size and weight to achieve 95 percent relative compaction as determined by appropriate ASTM Test Method. Asphalt concrete shall be placed only when the temperature is above 40 degrees F and the surface of the aggregate base is dry.

C. Asphalt concrete shall be placed with a paver equipped with tracks to insure and even spread to grade tolerance.

D. Asphalt concrete shall have a smooth, well sealed, tight mat finish surface, with no seams or ridges. Surface shall abut flush with existing surfaces and have continuous and even slopes between abutting areas.

E. Asphalt Concrete shall be delivered and deposited on aggregate base at temperatures between 250 degrees and 300 degrees F.
F. Allow asphalt concrete to cure a minimum of fourteen days before allowing access to traffic.

3.05 CLEANING

A. Clean areas of work per requirements of Section 01700.

END OF SECTION
SECTION 02520

PRECAST CONCRETE PAVERS

PART 1 - GENERAL

1.01 SUMMARY
A. Perform all work required to complete, as indicated by the Contract Documents and furnish all supplementary items necessary for the proper installation of Precast Concrete Pavers.

1.02 RELATED SECTIONS
A. 03320 - Concrete Topping

1.03 SYSTEM DESCRIPTION SUMMARY
A. System shall consist of precast concrete pavers installed on portland cement setting bed.
B. The pavers installation shall be absolutely rigid and even large slabs when subjected to vehicular traffic, shall not be displaced.

1.04 REFERENCES
A. Refer to Section 01090 - References Standards
B. American Society for Testing and Materials (ASTM)
1. ASTM C 33: Specification for Concrete Aggregates
2. ASTM C 150: Specification for Portland Cement
3. ASTM C 67: Method of Sampling and Testing Brick and Structural Clay Tile
4. ASTM C 140: Specification for concrete
C. T.C.A. Tile Council of America
   1. Installation Method Cement Mortar Bonded F101-93

1.05 SUBMITTALS
A. Submit the following in accordance with the Supplementary General Conditions:
   1. Manufacturer’s Literature: Materials descriptive literature, installation instructions and paver color selection chart.
   2. Test Reports: Three (3) copies, showing compliance with specified ASTM requirements.
   3. Shop drawings (optional):
      a. Layout drawings of each paved area showing the pattern of pavers, indicate pavers requiring cutting, indicate setting bed methods in each area, drainage patterns and drains. Include details of setting beds, noting all materials and their thickness, show details at curbs and vertical surfaces.
      b. Details of custom (nonstandard) curbs and stair tread/risers, include methods of installation
   4. Samples: Three (3) sample pavers of each manufacturer, type, size and color selected or specified.

1.06 QUALITY ASSURANCE

02570 - 1 PORTLAND CEMENT CONCRETE PAVING
A. Manufacturer Qualifications:
   1. All products covered under this Section shall be produced by a single manufacturer unless otherwise specified.
   2. Manufacturer shall submit evidence of having not less than ten (10) years successful production of this product.
   3. The paver manufacturer shall demonstrate, either by proven field performance of the laboratory freeze-thaw test that the paving units have adequate durability if they are to be subjected to a freeze-thaw environment.
      a. Satisfactory field performance is indicated when units similar in composition and made with the same manufacturing process as those to be supplied to the purchaser, do not exhibit objectionable deterioration after at least 3 years.
      b. The units used as the basis for proven field performance shall have been exposed to the same general type of environment, temperature range and traffic volume as is contemplated for the units supplied to the purchaser.

B. Subcontractor Qualifications:
   1. Subcontractor shall submit evidence of skill and not less than five (5) years specialized experience with this product.

C. Pre-Installation Conference: As directed by the Architect.

1.07 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Do no work during freezing weather or on wet or frozen sub-base.

B. Mock-up Installation
   1. Prior to the start of precast concrete paver work construct mock-ups of each type of paver size and pattern area including precast curb for th Owner and Architect to review. The mock-ups will be at the project site at a location mutually agreed to by the Owner and Contractor.
   2. Construct the two (2) mock-up installations a minimum 8 foot x 8 foot area of typical precast concrete units and slabs with all setting beds, joints, edge and curb details as shown on th drawings.
   3. After review of the mock-ups, they should be retained and used as a standard of quality for the precast concrete paver work. At completion of the work remove the mock-up installations and related materials from the project site. If the mock-ups are incorporated in the actual construction, record their actual locations and sizes on the actual built record drawings for the project.

1.08 SEQUENCING AND SCHEDULING

A. Coordinate sequencing and scheduling of work with other supporting, adjacent, contiguousor otherwise related material trades.
PART 2 - PRODUCTS

2.02 MATERIALS

A. System source: Wausau Tile, Wausau WI, 1-800-388-8728

B. System Name: Thick Mortar Method - Pedestrian Installation

C. Precast Concrete Pavers
   1. Name: Terra-Pavers
   2. Size: As selected
   3. Finish and Color: To be picked from Type 1-Type 2-Type 3 finishes
   4. Reference Standard:
      a. Cementitious Materials: Materials shall conform to the following applicable ASTM Specifications
         1. Portland Cement: ASTM C 150 for Portland Cement
      b. Aggregates shall conform to these ASTM specifications, except that grading requirements shall not necessarily apply:
         1. Normal Weight: ASTM C 33 for Concrete Aggregates
      c. Other constituents: Coloring pigments, integral water repellents, finely ground silica, etc., shall be previously established as suitable for use in concrete and either shall conform to ASTM Standards where applicable, or shall be shown by test or experience not to be detrimental to the durability of the concrete.
   5. Performance Requirements:
      a. Compressive Strength: At the time of delivery to the work site, the average compressive strength shall not be less than 7,000 psi with no individual unit less than 6,500 psi per ASTM C 140.
      b. Absorption: The average shall not be greater than 5% per ASTM C140.
      c. Flexural Strength: Not less than 600 psi per ASTM 293.
      d. Load carrying capacity: Paver units shall have a tested center load capacity of 1,750 lbs.
      e. Portland Cement Mortar Mix: ASTM C 150, Laticrete 226, thick Bed Mortar Mix with 3701 Admix, or approved equal.
      f. Reinforcement: 2" x 2" - 16/16 welded galvanized wire mesh used in thick mortar bed.
      g. Water: Clean and free of deleterious acids, alkalis or organic materials
      h. Grout: Laticrete Grout with 3701 Grout Admix, color as selected or approved equal.
      i. Bond Slurry: Laticrete 4237 bond Coat or approved equal
      j. Sealant: As specified in Section 07920 -0 Sealants and Caulking
      k. Back-up: As specified in Section 07920 - Sealants and Caulking
      l. Bond Breaker: As specified in Section 07920 - Sealants and Caulking

2.03 MIXING

A. Mortar setting bed: As recommended by the manufacturer.

B. Grouting Mix: As recommended by manufacturer. Color as selected.

C. Carefully work in sufficient water to obtain desired consistency. avoid use of excess water. Use caution in mixing to get complete wetting and homogeneity.

D. Rework mixes from time to time to maintain proper consistency, as recommended by manufacturer but do not add ingredients. Discard mortar that has reached its initial set.

PART 3 - EXECUTION

3.01 INSPECTION
A. Examine all surfaces to receive the parts of the work specified herein. Verify all dimensions of in-place and subsequent construction. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Installation of precast concrete pavers and associated construction constitutes acceptance of the adjacent and underlying construction.

B. Installation of Mortar bed as per TCA f101-94. All materials used follows instructions of manufacturer for use in mortar method.

C. Install precast concrete pavers

D. Grouting of pavers in strict accordance with grout manufacturer’s directions and instructions. Latex or acrylic additives of the same manufacturer as the grout.

E. All control and expansion joints to be installed as per TCA EJ 171-94. all joint materials used to follow manufacturer’s directions and instructions.

F. Field cut precast pavers in accordance with manufacturer’s recommendations for methods, equipment and precautions.

3.02 CLEANING AND PROTECTION

A. Remove and replace pavers which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment to eliminate evidence of replacement.

B. Cleaning: Remove mortar stains and all other types of soiling from exposed paver surfaces, wash and scrub clean.

C. Provide final protection and maintain conditions in a manner acceptable to installer, which ensures paver work being without damage or deterioration at time of substantial completion.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY:

A. Section Includes:
   1. Concrete paving and topping slab for vehicular and pedestrian traffic, including driveway aprons, curbs, and sidewalks.
   2. Concrete curbs and gutters.
   3. Concrete patching of existing concrete to remain.

B. Related Documents
   1. Section 02000 – Earthwork for preparation of subgrade at paving on grade.
   2. Section 02500 – Asphalt Paving.
   3. Section 03300 – Cast-in-place Concrete for suspended slab substrate.
   4. Section 07120 – Fluid-applied Waterproofing.
   5. Section 07900 – Joint Sealants for traffic-rated sealants.
   6. Division 15 & 16 sections for plumbing and/or electrical devices placed in paving.

1.02 REFERENCES:

A. ASTM C 494-92 - Chemical Admixtures for Concrete
B. CALTRANS - Standard Specifications, July 1992

1.03 QUALITY ASSURANCE:

A. Mock-Ups: Provide sample panels not less than 20 square feet in size on the project site showing the proposed color range, texture, finish, and workmanship of each type of finish listed below. Upon approval, each panel shall become the standard of comparison for all concrete indicated to receive that finish.

   1. Broom finish concrete.
   2. Sandblast finish concrete with and without integral color.

B. Sample panels shall be approved before proceeding with the respective work. Sample panels, if approved, may be left in place as part of the completed construction.

C. Regulatory Requirements: Provide curb cuts and ramps meeting the accessibility requirements of California Code of Regulations (CCR) Title 24 Part 2, Chapter 11; and ADA Accessibility Guidelines for Buildings and Facilities, current edition.

PART 2 - PRODUCTS

2.01 MATERIALS:
A. Cement, Aggregate, Admixtures, Form Release Agents, Expansion Joint Fillers and Curing Materials: Conform to Section 03000.

B. Reinforcing Bars and Mesh: Conform to Section 03100. Furnish welded wire mesh in flat sheets, not rolls, unless otherwise acceptable to the Architect.

C. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement. Use flexible spring steel forms or laminated boards to form radius bends.

D. Color Hardener for Concrete Pavement
   1. Manufacturers: Color Hardener shall be as follows or equal approved in accordance with Section 01630:
      L.M. Scofield; Lithochrome Color Hardener
   2. Material Requirements: Streak-free, powdered, cementitious material containing special hard aggregate. Dry-Shake color hardener shall be completely free of calcium chloride.
      b. Limeproof and has maximum resistance to effect of ultra-violet light.
      c. Color: Blush Beige
      d. Coverage: 1-½ bags per 100 SF minimum, or as recommended by manufacturers

E. Curing Compound for Colored Concrete: Color curing compound shall be as follows or equal approved in accordance with Section 01030
   L.M. Scofield, Lithochrome Colorwax

2.02 MIXING

A. Provide mix designs for each class of concrete used in accordance with Section 03300. For concrete to receive color hardener, mix design shall have a minimum of 5-1/2 sacks (517 lbs.) of cement per cubic yard of concrete. Mix shall be uniform between loads.

B. Properties and Proportions:
   1. Proportion concrete to provide a minimum compressive strength at 28 days of 3000 psi for all site work concrete.
   2. Slump: Between 3 and 4 inches maximum. Slump shall be consistent for concrete to receive integral color.
   4. Air Content: 5 to 8 percent.

C. Mix concrete in accordance with the mixing requirements of Section 03000.

D. For concrete to receive integral color, do not use reactive aggregate, admixture or additive containing calcium chloride, waterproofing admixtures or superplastizer.

2.03 ACCESSORIES
A. Non-Shrink Grout: Packaged product; minimum 6000 psi; Burke # (324) 57-100, or equal product substituted under provisions of Section 01630.

B. Concrete Curing Compound: Conforming to ASTM C309 Type 1, Class A or B, and Standard Specifications Section 90-07; non-yellowing, non-staining liquid membrane forming type; VOC compliant.

C. Form Release Agent: Non-staining chemical form release agent free of oils, waxes, and other material harmful to concrete; VOC compliant.

B. Concrete Bonding Agent: high solids, acrylic polymer latex bonding agent and admixture that conforms to the ASTM C1059 Type I standard; Intralok Bonding Agent by W R Meadows or approved equal.


F. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer.

D. Compressible Joint Filler: ASTM D1751; pre-molded non-extruding asphalt impregnated fiberboard or felt, ¼ inch thick; tongue and groove profile.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION:

A. Scarify earth subgrade to a depth of not less than 6 inches and compact it to 95 percent of maximum density. Subgrade shall be well drained and have adequate and uniform load-bearing capacity. Subgrade shall be moist during concrete placement. Concrete shall not be placed over freestanding water, muddy or soft spots.

B. Suspended Slab: Complete installation of electrical and plumbing rough-ins in area to be paved. Complete installation of fluid-applied waterproofing. Protect waterproofing from damage. Moisten waterproofing for concrete placement. Concrete shall not be placed over freestanding water.

C. Abutting to Existing Concrete: Remove loose or cracked existing concrete. Clean abutting surfaces to remove oils, grease, dirt or other materials that would prevent a tight bond.
   1. Mechanically abrade existing substrate to remove all unsound concrete, ensuring excessive force is not used.
   2. Ensure substrate is structurally sound and free of grease, oil, dirt or any other contaminants that can adversely affect the bond.
   3. Ensure prepared surface is dust-free and has a sufficient profile to ensure adequate mechanical lock.
   4. Ensure substrate must be saturated surface dry (SSD) and free of standing water.
   5. Apply Concrete Bonding Agent per manufacturer’s instructions.

D. Protect adjacent materials to remain.

3.02 FORM CONSTRUCTION:

A. Set forms to required grades and lines, braced and secured. Install forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement. Coat forms with a non-staining form release agent.
B. Check completed formwork for grade and alignment to following tolerances:

1. Top of forms not more than 1/8 inch in 10 feet.
2. Vertical face on longitudinal axis, not more than ¼ inch in 10 feet.

C. Clean forms after each use and coat with form release agent as required to ensure separation from concrete without damage.

D. Slope step treads ¼ inch per foot to drain.

3.03 CONCRETE PLACEMENT:

A. General: Comply with requirements of Section 03000, unless otherwise indicated.

B. Do not place concrete until subbase and forms have been checked for line and grade. Moisten subbase if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

C. Place concrete by methods that prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing and joint devices.

D. Deposit and spread concrete in a continuous operation between transverse joints as far as possible. If interrupted for more than ½ hour, place a construction joint.

3.04 INSTALLATION OF CURBS AND GUTTERS:

A. Construct concrete curbs and curb and gutters as indicated, with faces and backs formed for the full depth. Before removal of the forms finish the surface true to grade by means of a straightedge float, not less than 10 feet long, operated longitudinally over the surface of the concrete. Construct form clamps so as not to interfere with the operation of this float. Immediately after removing the front curb forms, trowel the face of the curb smooth to a depth of not less than 2 inches below the flow line or to the flow line of integral curb and gutter, and then finish with a steel trowel. Finish the top and gutter face and the front and back edges rounded unless otherwise indicated. Give the curb face a final fine brush finish with brush strokes parallel to the line of the curb. Give tops of curbs a smooth trowel finish.

B. Expansion Joints: Provide expansion joints at ends of curb returns and at maximum intervals of 60 feet on straight runs. Provide weakened plane joints at maximum intervals of 15 feet between expansion joints. Use preformed joint material as specified in Section 03100, and edge with a tool having a radius of not greater than ¼ inch. Construct weakened plane joints to a minimum depth of ½ inch by scoring with a tool which will leave the corners rounded and insure a free movement of the concrete at the joint.

C. Finish top and face of curbs and curb and gutters true and straight, of uniform width, and free from humps, sags or other irregularities. When a straightedge 10 feet long is laid on the top or face of the curb or gutter, the surface shall not vary more than ¼ inch from the edge of the straightedge, except at grade changes or curves.

D. Automatic machine may be used for curb and gutter placement at Contractor's option. If machine placement is to be used, submit revised mix design and laboratory test results that meet or exceed minimums specified. Machine placement shall produce curbs and gutters to
required cross-section, lines, grades, finish, and jointing as specified for formed concrete. If results are not acceptable, remove and replace with formed concrete as specified.

3.05 INSTALLATION OF SIDEWALKS AND OTHER FLATWORK:

A. Placing: Place concrete in accordance with Section 03000. Strike off and compact the fresh concrete until a layer of mortar has been brought to the surface. Float the surface to grade and cross section with a float not less than 10 feet long and not less than 6 inches wide. Trowel surfaces to a uniform smooth texture free of trowel marks ready to receive final finish as specified below.

1. For concrete to receive color adjacent concrete surfaces shall be protected by plastic sheeting during application and finishing of the colored concrete.

B. Joints: Tool the surfaces of flatwork to provide weakened plane joints in accordance with patterns indicated. Where no pattern is indicated, mark flatwork into rectangles as indicated. Use a scoring tool that will leave the corners rounded. Form expansion joints ¼ inch wide at all returns and opposite expansion joints in curbs. Where curb is not adjacent, form expansion joints as indicated. Fill expansion joints with premolded expansion joint filler as specified in Section 03000.

1. For joints in concrete to receive color caulk all joints with Lithochrome Colorcalk in matching or blending color as selected by Architect.

C. Tolerances: The surface of flatwork shall not vary more than 0.02 foot from a 10 foot straight edge except at grade changes.

D. Broom Finish: After concrete has been troweled and joints have been formed, use a stiff fiber broom to provide a uniformly straight scored surface at right angles to the general flow of traffic to provide a medium broom finish.

E. Ramps for the Disabled: Finish surface in accordance with handicapped accessibility requirements of CCR Title 24 Part 2, Chapter 71; and ADA Accessibility Guidelines for Buildings and Facilities.

F. Curing

1. On colored concrete use pigmented curing compound in matching color and as recommended by color hardener manufacturer.

2. On all other concrete surfaces, use dissipating resin compound.

3.06 CLEAN-UP:

A. During the progress of the work and at the completion of the work, remove all trash, debris, etc., from the project site and leave the site clean and in orderly condition.

3.07 PROTECTION:

A. All special finishes of concrete surfaces shall be protected until final acceptance of the project.
PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Rubber tile playground surfacing system.
B. Related Sections: Division 2 Sitework Sections: Materials and Methods, Excavation, Asphalt Paving, Concrete Paving, Sub-Drainage, Storm Drainage, Fencing, Playground Equipment and Structures.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   8. ASTM D3389 Abrasion Testing.
   10. DIN 1835 Part 6-Permeability to Water.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide a single layer rubber tile playground surfacing system which has been designed, manufactured and installed to meet the following criteria:
   1. Shock Attenuation (ASTM F1292) - 2-1/2" meets 6' critical fall height, 4-1/4" meets 8' critical fall height.
      b. Head Injury Criteria - Less than 1000.
   2. Flammability (ASTM D2859) - Pass.
   3. Tensile Strength (ASTM D412) - 180 lbs/in² min.
   4. Water Permeability Rate: 0.034 cm/sec.
   5. Accessibility: Comply with requirements of ASTM F1951-08 - Pass.
   7. Void Volume: 42% min 2-1/2". 50% min 4-14".
   8. Coefficient of Thermal Expansion: .0011 in/ft/° F.
   9. Wear Surface Density: 70 lbs/cu ft min.
   10. Abrasion Testing (ASTM D3389): Less than 0.010" lost or less than 1 g lost.
   11. Elongation At Break (ASTM D412): 70% min.
SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
B. Product Data: Submit manufacturer’s product data and installation instructions.
C. Verification Samples: Submit manufacturer’s standard verification samples of 9" x 9" (229 x 229 mm) minimum.
D. Quality Assurance/Control Submittals: Submit the following:
   1. Certificate of qualifications of the playground surfacing installer.
E. Closeout Submittals: Submit the following:
   1. Warranty documents specified herein.

QUALITY ASSURANCE

A. Qualifications: Utilize an installer having experience with projects of similar scope and complexity.

DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.
B. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.
C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 20 degrees F (-7 degrees C) and a maximum temperature of 100 degrees F (38 degrees C).

PROJECT/SITE CONDITIONS

A. Environmental Requirements: Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain.

WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
B. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.
C. Proper drainage is critical to the longevity of the UltraTile surfacing system. Inadequate drainage will cause premature breakdown of the system in affected areas; and void the warranty.
   1. Warranty Period: 10 years from date of product shipment.

PART 2 PRODUCTS

RUBBER TILE PLAYGROUND SURFACING SYSTEM

A. Manufacturer: Surface America, Inc.
   1. Contact: PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, (716) 632-8413; Fax: (716) 632-8324; E-mail: info@surfaceamerica.com; website: http://www.surfaceamerica.com.
B. Proprietary Products/Systems. Rubber tile playground surfacing system, including the following:
   1. UltraTile:
a. Material: UltraTile is a factory-molded surface composed of high-quality, 100% post-consumer SBR (Styrene Butadiene Rubber) tire rubber and EPDM colored granules bound together by a wear and weather resistant polyurethane and a 3 mm top wear layer with tapered, conical support legs. **Specifier Note:** The type of playground equipment determines the required tile thickness. Depending on ASTM F1292 requirements for critical fall height 6’ or 8’ (1.8 or 2.4 m), select tile thickness from optional thicknesses 2 1/2” or 4 1/4” (63.5 or 108 mm), respectively. Specify project requirements below and coordinate with working drawings.

b. Thickness and Weight: [2 1/2” or 4 1/4” (63.5 or 108 mm)] [Safari colors: 24 or 30 lb (11 or 13.5 kg); Carnival colors: 26 or 36 lb (12 or 16 kg)].

c. Color:
   1. Carnival Colors: [Blueberry Pie] [Caramel Corn] [Cherry Blast] [Grape Ape] [Orange Aide] [Rock Candy] [Sour Apple].
   2. Safari Colors: [Butterflies] [Cheetah Gold] [Fire Flies] [Midnight] [Rain Drops] [Red Rover] [River Rapids] [Zappy Zebra].
   3. Accessories Colors (Accessories are not manufactured with an UltraTile top wear layer. The EPDM colored granules are homogeneously mixed throughout to produce coordinated designs for all UltraTile colors.): [PG60A] [PG61A] [PG62A] [PG63A] [PG64A] [PG65A] [PG66A]

**2.03 ACCESSORIES**

A. Provide accessory items as follows:
   1. Surface America PlayGrip Adhesive.
   2. UltraTile Reducer: 48” x 8” x 2 ½” or 48” x 12” x 4 ¼”.
   3. UltraTile ADA Access Ramp: 24” x 24” x 2 ½”.
   4. UltraTile L/R Side Reducer for ADA Access: 24” x 8” x 2 ½”.
   5. UltraTile Outside 45 Corner Reducer: 16” x 8” x 2 ½”.
   6. UltraTile Inside 45 Corner Reducer: 12” x 8” x 2 ½”.
   7. UltraTile Outside 90 Corner Reducer: 12” x 8” x 2 ½”.
   8. UltraTile Quad Blok Connector: 8” x 8” x 17 mm.
   9. 4 ¼” Accessories are customized in the field.

**PART 3 EXECUTION**

**3.01 MANUFACTURER’S INSTRUCTIONS**

A. Comply with the instructions and recommendations of the playground surfacing manufacturer.

**3.02 EXAMINATION**

A. Site Verification of Conditions: Verify that substrate conditions are suitable for installation of the playground surfacing system.

B. Do not proceed with installation until unsuitable conditions are corrected.

C. Proper drainage is critical to the longevity of the UltraTile surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

**3.03 PREPARATION**

A. Surface Preparation: Ensure that the concrete or asphalt substrate is level or uniformly sloped since surface variations will be telegraphed through to the rubber tile surface.
3.04 INSTALLATION

A. Site Layout
   1. Sweep area clear of all dust and loose debris.
   2. Determine a starting point for the first course of tile to best suit the site area. For irregular site configurations, the best starting point is often in the center. This will ensure a symmetrical finish for tiles that require trimming along the perimeter. Other installations are best started in the corner or along the edge that represents the length or width dimension of the site.
   3. Mark two points on the base surface at an equal distance from the edge of the installation. These points should be located near the opposite ends of the site in the lengthwise direction.
   4. Snap a chalk line through the established points. When installing UltraTile over geotextile fabric, string lines must be used in place of chalk lines.
   5. Measure the length of the site along the chalk line. Mark a point at half the distance of the site.
   6. Using the 3-4-5 right triangle method, snap a chalk line to form a 90 degree angle to the previously established lengthwise chalk line. These perpendicular reference lines will serve as a guide for laying the first course of tile.

B. General Information
   UltraTile can be installed using a variety of installation methods. The most common and secure method is full adhesion of tiles and accessories side-to-side and directly to the substrates using Surface America PlayGrip, an easy-to-use one-part polyurethane adhesive.

C. Fully Adhered Installation
   1. Follow the site layout instructions to prepare the site area for installation. The tiles, accessories and substrates must be dry before, during and 24 hours after the application of adhesive.
   NOTE: Coverage rates for the PlayGrip adhesive are approximately 60 sq/ft on concrete, and 50 sq/ft on asphalt. PlayGrip is available in 2-gallon and 4-gallon pails.
   2. Using a 1/8” square-notched trowel, apply the adhesive slightly wider than the tile being placed.
   3. Place tile into fresh adhesive bed following pre-established lines. If applicable, place ramps into fresh adhesive in a similar manner.
   4. Allow 24 hours for adhesive to cure before opening area for use.

D. Quad Blok Installation
   NOTE: Installation of UltraTile by means of the Quad Blok system works only with 2 ½” tiles.
   1. Follow the site layout instructions to prepare the site area for installation.
   2. Once chalk lines are established, place the first tile at the intersection of two chalk lines, aligning adjacent edges of the tile with chalk lines.
   3. Apply a continuous 3/8” diameter bead of PlayGrip adhesive along the center axes of all Quad Blok connectors. Working adhesive time is dependent upon environmental conditions.
   4. Fit the first tile with four prepared Quad Blok connectors by lifting each tile corner slightly, sliding the connectors under each corner and engaging the four corner legs of each tile with the respective apertures in the Quad Blok. Continue to sequentially lay the tile and to set the Quad Blok connectors along one chalk line until the first course of tile is complete. NOTE: In the field, cut the Quad Blok connectors in half to properly secure tile around the perimeter edge of surface area.
   5. Complete the other three quadrants of the site area in a similar fashion.
   6. Depending on manpower availability, one or more quadrants can be worked on simultaneously using the above method.
   7. Allow 24 hours for adhesive to cure before opening area for use.
E. Cutting Tiles & Accessories

1. Avoid leaving a cut edge of a tile exposed to eyesight. To ensure a finished appearance, any tile that has its factory molded edge removed or cut for any reason should be positioned against a transition ramp, masonry or timber edging unless the edge is to be placed against a wall or other vertical member. Use either a silicone sealant or a permanently elastic urethane sealant/adhesive for filling gaps, if any, between cut edges and walls.

2. The most accurate cuts are made using a heavy-duty utility knife and a straight edge. A saber saw utilizing a 7-10 TPI wood cutting blade also does an acceptable job, especially for free-form cuts. A saw with a 3-3.5 amp rated motor having a 1” stroke with variable orbital setting will produce the best result.

3. When working beneath the play structure, it will be necessary to occasionally notch out portions of tiles so that the tiles will properly fit around the posts supporting the play equipment.

4. Cut tile so that the cutout is approximately ¼” larger in all dimensions than the support it will surround. The extra distance is to prevent binding of the tile around the support. Voids between the equipment supports and tile cuts should be filled in with silicone sealant or a permanently elastic urethane sealant/adhesive.

5. Tile cuts are normally laid out by referencing dimensions from the edges of tiles already in position. These dimensions are then transferred to and laid out on the tile to be cut.

6. A lead-in cutting line is extended from the tile edge to the portion to be cut. The lead-in cutting line chosen usually represents the shortest distance from the cutout area to an edge of the tile or the one that is least noticeable.

7. Reducers installed at the corners should be miter cut to allow reducers to fit together correctly, or use factory molded corner pieces available in 2 ½” thickness.

3.05 PROTECTION

A. Protect the installed playground surface from damage resulting from subsequent construction activity on the site.
PART 1 - GENERAL

1.1 CONDITIONS AND REQUIREMENTS

Refer to the General Conditions, Supplementary General Conditions and General Requirements.

1.2 DESCRIPTION

A. Furnish labor, tools, equipment, new materials, transportation, temporary storage facilities and perform operations necessary to properly execute and complete this contract in accordance with the Drawings and these Specifications. The intent is to accomplish the work of installing an irrigation system that will operate in an optimum manner.

B. Related work specified elsewhere (but not limited to):

   SECTION 02923 LANDSCAPE GRADING AND SOIL PREPARATION
   SECTION 02950 PLANTING AND PLANT MATERIALS
   SECTION 16050 ELECTRICAL
   SECTION 15400 PLUMBING SYSTEMS

1.3 QUALITY ASSURANCE

A. Reference Standards (but not limited to):

   1. ASTM: American Society for Testing and Materials


   2. NSF: National Sanitation Foundation

   3. AWWA: American Water Works Association

   4. CPC: California Plumbing Code
5. CEC: California Electric Code

6. ANSI: American National Standards Institute

B. Drawings:

1. For purposes of clarity and legibility, drawings are essentially diagrammatic to the extent that many offsets, bends, unions, special fittings, and exact locations of items are not indicated, unless specifically mentioned or dimensioned.

2. Exact routing of pipe and material locations is governed by structural conditions and obstructions. Make use of data in Contract Documents and any other necessary source (Underground Service Alert, etc.).

3. Do not willfully install the irrigation system(s) as shown on the drawings when it is obvious in the field that; (1) unknown obstructions and grade differences or discrepancies in area dimensions might not have been considered in engineering; (2) there are conflicts and differences between Irrigation Drawings and other related drawings; and (3) other trade and construction changes would cause planting and irrigation changes. Immediately notify the Owner's Representative of obstructions, differences and changes. In the event this notification is not performed, assume full responsibility for any changes necessary.

1.4 VISIT TO THE SITE

Visit the construction site, take measurements and obtain any other information as may be necessary for a complete and conclusive bid.

1.5 SUBMITTALS

A. Substitutions:

Submit any proposed changes to the installation and substitutions from materials listed on the plans or these specifications, in writing, to the Owner's Representative. Submit shop drawings for any equipment not shown, indicated and detailed on drawings. Obtain written approval from Owner's Representative prior to installation.

B. Record Drawings:

1. Provide record drawings (as-builts) in accordance with requirements of General Conditions and requirements.

2. Maintain in good order at the construction site one complete set of record prints of Irrigation Drawings. In the event any work is not installed as indicated, mark and dimension accurately on record prints as changes occur. Dimension from two permanent points of reference (building corners, sidewalks, road intersections, etc.) the location of the following items:

a. Connection(s) to water source.

b. Connection(s) to electrical source.

c. Routing of pressure mainline pipes and lateral line pipes (dimension max. 100' long along routing).

d. Routing of common, control and spare wires when separate from
pressure mainline pipe and locations of splices.

e. Backflow preventer(s), master and remote control valves.

g. Drip system PVC headers when applicable.

i. Other related assemblies and equipment as directed by the Owner’s Representative.

3. Upon completion of work, provide As-built drawings. See General Conditions.

C. Operation and Maintenance Manuals:

1. Prior to the final review of the irrigation system, furnish 2 individually bound Service Manuals (triple ring binders) to the Owner’s Representative. Manuals shall contain the following:

a. Index sheet indicating the installing company’s and subcontractors’ names, contacts, addresses, and phone numbers.

b. (Not used)

c. Certificate of insurance verifying coverage for completed operations.

d. List of installed materials with names, addresses and phone numbers of local manufacturers and representatives.

e. Copies of equipment warranties or certificates.

f. Manufacturers’ maintenance instructions of equipment including exploded drawings and spare parts lists.

D. Extra Materials: Provide the following upon completion of work.

1. 2 sets of matching Quick Coupler Valve keys and hose swivels.

2. 2 keys for each controller box and enclosure, and 2 padlocks with keys for enclosure when applicable.

3. 2 sets of any special tool required for the maintenance of each type of component used in the system.

4. 2 padlocks with keys for each backflow preventer enclosure(s).

E. Provide instruction in operation of system to the Owner's Representative.

1.6 PROJECT CONDITIONS

A. Sequencing and Scheduling:

Coordinate work with the installation of other trades and construction site improvements,
including utility and landscape installation.

B. Environmental Conditions:

Perform no installation work during wet, muddy or frozen conditions.

C. Rules, Codes and Regulations:

Perform work and install materials in full accordance with the latest rules and regulations of the California Electric Code, the California Plumbing Code, Occupational Safety and Health Administration and other applicable state or local laws or regulations including local water conservation and irrigation guidelines. Nothing in these specifications and on drawings are to be construed to permit work not conforming to these documents or codes.

1. Furnish additional material and labor required to comply with applicable standards, rules and regulations when not mentioned in these specifications or indicated on drawings.

2. When specifications and drawings call for materials or construction of a better quality or larger size than required by applicable standards, rules and regulations, the provision of the specifications shall take precedence.

D. Safety:

1. Erect and maintain barricades, guards, warning signs, lights, etc. as required for the protection of the public and workers.

2. Perform work in a safe manner. Follow regulations, OSHA requirements and other authoritative agency requirements.

3. Prior to commencement of work, verify locations of existing underground utilities so that proper precautions may be taken to not damage such improvements.

E. Maintaining Traffic:

Ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project. Provide warning signs, barricades, flagmen, etc. necessary to meet traffic requirements.

F. Permits, Fees and Taxes:

Obtain permits and pay required fees and taxes to governmental agencies having jurisdiction over the work and arrange for inspections specified by local ordinances during the course of construction as necessary.

PART 2 - PRODUCTS

2.1 PRODUCT DELIVERY, STORAGE AND HANDLING

Handling of materials: Exercise care in handling, loading, unloading, and storing. Pipe and fitting cracks can occur from sudden impact. Protect plastic products from excessive exposure to sunlight. Remove dented or damaged materials from the construction site, and if installed, replace with new undamaged materials.
2.2 MATERIALS

A. PVC Pressure mainline pipe and fittings:
   1. Pressure mainline pipe: Schedule 40 PVC for 1 1/2" and smaller. Class 315 PVC for 2" and 2 1/2". Class 200 gasketed for 3" and larger.
   2. Pressure mainline pipe shall be made from an NSF approved Type 1, Grade 1, PVC compound conforming to ASTM D1785. Pipe shall meet requirements as set forth in ASTM D2441, with an appropriate standard dimension ratio (SDR) for solvent-weld pipe.
   3. PVC pipe shall bear the following markings:
      a. Manufacturer's name
      b. Nominal pipe size
      c. Schedule or Class
      d. Pressure rating in PSI
      e. NSF
      f. Date of extrusion
   4. Fittings shall bear the manufacturer name and/or trademark, material designation, size, applicable IPS schedule and NSF seal of approval.

B. PVC lateral line pipe and fittings:
   1. Lateral line pipe: Schedule 40, size as noted in the Drawings.
   2. Pipe shall be made from NSF approved, Type 1, Grade 1 PVC compound conforming to ASTM D1784. Pipe shall meet requirements set forth in ASTM D2441 with an appropriate standard dimension ratio (SDR) for solvent weld pipe.
   3. Requirements for lateral line pipe and fittings shall be the same as for pressure main line pipe and fittings.

D. Sleeving and Conduit:
   Schedule 40 PVC pipe sized as needed.

E. Copper pipe and fittings:
   Type "L" copper pipe conforming to ASTM B88. Fittings shall be solder type conforming to ANSI B16.22 and B16.18.

F. Galvanized steel pipe and fittings:
   Schedule 40 galvanized steel pipe conforming to ASTM (A120). Fittings shall be schedule 40 hot dipped, double banded malleable steel.

G. Schedule 80 PVC nipples and TOE (threaded one end) nipples:
Nipples shall have factory molded threads. Machine threaded nipples shall not be allowed.

H. Control wire:

Minimum no. 14 AWG UL approved direct burial copper wire. Larger wire shall be installed as scheduled by controller and valve manufacturers. Common wire shall have white insulating jacket. Control wire shall have black jacket. Spare wire shall have yellow jacket. Other components requiring wires shall have different color jackets.

I. Solvent weld joints:

Solvent and primer shall be make and type approved by manufacturer(s) of pipe and fittings. Solvent shall be a proper consistency throughout use. Mixing thinner with solvent shall not be allowed.

J. Pipe joint compound:

Non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Use Whitlam Blue Magic industrial grade thread sealing compound or equal on threaded connections.

K. Identification tags:

Install tags manufactured by T. Christy Enterprises or equal, standard size 1 1/8" hot-stamped letters on yellow background slipped around solenoid wires on valves prior to connecting control wires. Letters to conform to controller letter and station numbers indicated on drawings.

L. Painting:

Paint all materials specified and indicated to be painted with one coat oil base metal primer and two coats rust inhibitive outdoor enamel, using color approved by Owner’s Representative.

M. Concrete and concrete thrust blocks:

Install as specified, indicated and detailed on drawings. Concrete shall have 2000 lb. strength at 28 days. Fine aggregate for use in concrete may be granular sand. Rock and gravel for use in concrete to be mechanically washed and free from injurious amounts of deleterious substances.

N. Valve boxes:

1. Provide separate 14" x 19" green plastic rectangular valve boxes and bolt-down lids as indicated and detailed on drawings.

2. For Quick Couplers - Provide 9" green plastic round valve boxes and bolt down lids as indicated and detailed on drawings.

3. Provide other boxes and extensions indicated and detailed on drawings.

O. Drain rock:

1/2" to 3/4" washed rounded gravel.
PART 3 - EXECUTION

3.1 GENERAL

Notify Owner’s Representative 5 days prior to installation for a pre-installation conference and field review and for maintenance and final punch list review. Notice of 4 working days is required for on-call reviews.

3.2 INSPECTION OF SITE CONDITIONS

A. Scaled dimensions are approximate. Prior to installation, check and verify actual site dimensions prior to proceeding with work.

B. Prior to installation, verify locations of new and existing utilities. Exercise extreme care in excavating and working near utilities. Assume responsibility for damages to utilities that are caused by operations or neglect.

C. Point of connection for irrigation water supply: Verify the location and available pressure is as is required on the Irrigation Drawings.

D. Coordinate installation of materials to avoid interference with utilities or other construction or difficulty in planting trees, shrubs, and ground cover.

E. Protect existing irrigation system components, trees, shrubs, sod, and other features designated to remain as part of final work. Strip existing sod for pipe trenches passing through existing landscaping with a mechanical sod stripper uniformly 1” to 1 1/2” thick with clean cut edges. Replace stripped sod in sufficient time to allow for satisfactory recovery and growth. Hand water stripped and reinstalled sod until irrigation system(s) are operational.

F. Coordinate work of this Section with that of other Trades and Sections for the location of water source(s), electrical source(s), pipe, sleeves and conduits though structures, walls, under paving, etc.

G. Materials (pipes, valves, etc.) shown within adjacent paved areas or other construction features are for design clarification only. Install materials in planting areas (unless otherwise specified, indicated or detailed). Valves shown in centers of planting areas are to be installed adjacent to nearest walk, header, or curb unless approved otherwise. Pipes shall be set in common trenches 3 inches apart where shown parallel and adjacent to each other.

3.3 PREPARATION - LAYOUT OF WORK

Prior to installation, locate water source(s), electrical source(s), sleeves, conduits, pipe routings, locations of hardware and sprinklers. Notify Owner’s Representative to review layout when area, grade differences or obstructions are not as indicated on drawings.

3.4 INSTALLATION

A. Point(s) of connection:

Connect to source(s) indicated on drawings.

B. Trenching:
1. Trench straight to an even grade and to support pipe continuously on bottom of trench. Excavation shall closely follow layout shown on drawings.

2. Provide for a minimum of 24" cover for pressure main line pipe.

3. Provide for a minimum cover of 18" for lateral line pipe.

4. Provide for a minimum cover of 24" for control wire.

5. Provide for a minimum cover of 24" for pipe, wire, sleeves and conduits under asphalt pavement.

6. Provide a minimum cover of 24" for sleeves and conduits.

C. Backfilling:

1. Do not backfill trenches until required reviews and tests are performed. Backfill trenches with specified excavated materials free from large clods of earth or stones and other extraneous materials. Compact backfill to the same density equal to adjacent undisturbed soil. Backfill flush to adjacent grades and leave no dips, sunken areas, humps or other surface irregularities.

2. Surround pipe with sand in rocky terrain as indicated and as detailed on drawings.

D. Pipe and fitting installation and connections:

1. Thoroughly clean pipe and fittings of dirt, dust and moisture before installation.

2. Use appropriate solvent and applicator, and primer, for each size and type of pipe. Apply per manufacturer’s recommendations.

3. On PVC to metal connections, use teflon tape along with thread sealing compound on 2" and larger connections. Where threaded PVC connections are required, use threaded PVC nipples onto which the PVC fittings may be solvent welded.

4. Lay pipe with identification markings facing up.

5. No changes in direction of piping under hardscape shall be permitted unless directed otherwise by the Owner’s Representative.

E. Pipe Line clearance:

Lines shall have a minimum 3" horizontal clearance from each other and a 6" minimum clearance from lines of other trades. Separate utilities per applicable codes. Parallel lines shall not be installed directly over one another.

F. Electric Controller(s):

1. Locate controller(s) in general location(s) shown with exact placement to be determined at jobsite by the Owner’s Representative.

2. Connect to 120 volt source(s) provided at site in immediate vicinity. Provide power and Install 120 volt switch box at each new connection.

3. Use rigid metal conduit above grade, slab or floor.
4. Install conduit to adjacent planter for control wires. Seal all conduit holes with silicone.

5. Connect control wire to controller(s) in sequential arrangement according to assigned valve identification number indicated on drawings.

6. Controller(s) shall be properly grounded.

7. Program controller(s) to not exceed design flow. Care shall be taken to prevent runoff and slope/soil erosion caused by prolonged applications of water.

G. Master and Remote control valves:

Install approximately where indicated on drawings. Locate valve box in planting areas and a minimum of 12” from paving, curb or header board. When grouped together, allow at least 12” between valve boxes and install each valve in a separate valve box unless otherwise indicated on drawings.

H. Control Wiring:

1. Make connections between controller(s) and valves with direct burial copper wire. Install in accordance with valve manufacturer's specifications and wire chart.

2. Wire shall occupy the same trench with pressure main lines wherever possible. When not possible, house wire in conduit as described in "Sleeving and Conduit" section.

3. Where more than one wire is placed in trench, tape together at 10' intervals.

4. Provide 2' expansion coil at each wire connection and on runs more than 100' in length. Form expansion coils by wrapping at least 5 turns of wire around a 1" diameter pipe, then withdraw pipe.

5. Splicing on runs shall be placed in valve and junction boxes. Indicate splices on the As-Built Plan.

6. Install separate common wire for each controller.

8. Run 2 spare control wires through all valve locations from their respective controller(s).

9. Run a control wire from the clock to each valve, including valves for future use that are not connected to sprinkler heads per the Irrigation Drawing.

I. Sleeving and Conduit:

1. Pressure main lines, lateral lines and control wire passing under existing and proposed concrete and paving shall be placed in sleeves and conduits.

2. Sleeves and conduit shall extend 6” beyond edge of pavement or curb and shall be staked with wooden stakes marked “Irrigation”. Remove stakes when the job is accepted.

3. Provide removable non-decaying plug at ends of sleeves and conduits.
J. Flushing of System:

1. Flush pressure main line piping prior to installation of control valves.

2. After control valves, lateral line piping and assemblies are in place and connected, necessary diversion work has been completed, and prior to installation of sprinklers, spray heads and other outlets, open control valves and use a full head of water to again flush out the system.

3. Install spray heads only after flushing of system has been accomplished.

K. Irrigation Spray heads

1. Install as indicated and detailed on Drawings.

2. Spacing shall not exceed maximums typically shown on drawings. In no case shall spacing exceed maximum recommended by the manufacturer.

3. Install check valves as shown on riser assemblies where low head drainage occurs. Note especially to avoid drainage at sidewalks and other points where puddling will cause damage or hazard.

3.5 FIELD QUALITY CONTROL

A. Adjustment of the System:

a. Flush and adjust each spray head for optimum performance and complete coverage and minimum spray on buildings, asphalt, sidewalks, roadways, etc. Tilt spray heads at mounds and slopes for optimum coverage.

b. If it is determined that adjustments in the irrigation equipment will provide more adequate coverage, make such adjustments prior to planting. Adjustments may also include changes in nozzle sizes, and degrees of arc.

B. Testing of Irrigation System: Field Tests will be required as specified below

a. Trench depth and pipe assembly inspection.

b. Pressure and leakage test.

c. Complete system operation and coverage test.

C. Payment for Tests: Contractor shall pay for all required tests.

D. Description of Tests and Required Results:

a. Pressure and leakage test: Perform and submit the results of the pressure and leakage test prior to backfilling of trenches. Inspection of completed installation during pressure and leakage test will be made by the Owner’s Representative prior to backfilling of trenches. Notify the Owner’s Representative at least 4 working days prior to performing the test.

   i. Center load pipe with sufficient backfill in accordance with Paragraph 3.11 to anchor pipe before testing. Do not cover any fittings.

   ii. Install remote-control valves and cap risers prior to testing.

   iii. Furnish all equipment for testing.
iv. Allow solvent-weld plastic pipe joints to cure for at least 24 hours before performing test.

v. Test new main lines at 125 pounds per square inch (psi) minimum. Lines will be accepted if test pressure is maintained for six hours. Maximum loss allowed is 4 PSI. Make repairs and retest as necessary until required conditions are met.

vi. Test lateral lines with water at line pressure and visually inspect for leaks. Correct defects and retest as necessary until no loss of water is observed.

b. Systems operation and coverage test: Perform the systems operation and coverage test at the request of the Owner’s Representative prior to date of Final Acceptance by the Owner’s Representative. Test controllers through all their cycles in the presence of the Owner’s Representative, and make any necessary adjustments. If evidence of complete coverage and fully functional operation is not assured, test shall be judged a failure. Make repairs and retest as necessary until required conditions are met.

E. Correcting Deficiencies:

a. All deficiencies in work and/or items not meeting specified testing requirements shall be corrected in order to meet specification requirements at no additional cost to the Owner.

b. Testing shall be repeated after correction of deficiencies is made until the specified requirements are met. This work shall be performed at no additional cost to the Owner.

F. Repair of damage: Promptly repair to the satisfaction of the Owner’s Representative and without additional expense to the Owner all damage to paving, planting, structures and other improvements due to settlement of improperly compacted trench backfill.

3.6 CLEAN-UP

Clean-up shall be made daily as work progresses. Refuse and excess dirt shall be removed from the site, walks and paving shall be broomed or washed down, and any damage sustained on the work of others shall be repaired to original conditions. Clean and remove all debris prior to Final Inspection by Owner’s Representative.

3.7 FINAL REVIEW PRIOR TO ACCEPTANCE

A. Operate each system in its entirety at time of final review. Any items deemed not acceptable shall be reworked to the satisfaction of the Owner’s Representative.

B. Final review shall take place after submission of specified lists, record drawings, materials and manuals.

3.8 REVIEWS

Installation is subject to reviews at any time by Owner’s Representative.

3.9 MAINTENANCE

1.7 MAINTENANCE SERVICES

A. Maintenance Period: Immediately after Owner’s Representative Final Acceptance, a 90 day maintenance period shall begin. Maintenance visits shall be not less frequently than once per week. Maintenance shall be by qualified and experienced gardeners and shall include, but not be limited to, running and adjusting the irrigation system to assure adequate watering. The
maintenance period will be extended if the system is improperly maintained, and all items replaced that are affected, at no additional cost to the Owner. The maintenance period is an obligation of the Contractor which remains in effect after Final Acceptance of Work.

END OF SECTION
STEEL ORNAMENTAL FENCE

SECTION 02820

PART 1 - GENERAL

1.01 WORK INCLUDED

The contractor shall provide all labor, materials and appurtenances necessary for installation of the welded ornamental steel fence system defined herein.

1.02 RELATED WORK

Section 03300 - Concrete

1.03 SYSTEM DESCRIPTION

A total fence system of Welded and Rackable Ornamental Steel. The system shall include all components (i.e., panels, posts, gates and hardware) required.

1.04 QUALITY ASSURANCE

The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.05 REFERENCES

- ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
- ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
- ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- ASTM F2408 – Ornamental Fences Employing Galvanized Steel Tubular Pickets.

1.06 SUBMITTAL

The manufacturer’s literature shall be submitted prior to installation.

1.07 PRODUCT HANDLING AND STORAGE

Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

1.08 PRODUCT WARRANTY
A. All structural fence components (i.e., rails, pickets, and posts) shall be warranted within specified limitations, by the manufacturer for a period of 20 years from date of original purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering or corroding.

B. Reimbursement for labor necessary to restore or replace components that have been found to be defective under the terms of manufactures warranty shall be guaranteed for five (5) years from date of original purchase.

PART 2 - MATERIALS

2.01 MANUFACTURER
Ameristar Fence Products, Inc., in Tulsa, Oklahoma, Montage Pool, Majestic™, Welded and Rackable Ornamental Steel, or approved equal. (Contact Steel & Fence Supply, San Jose CA, 408-573-3779).

2.02 MATERIAL
A. Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (310 MPa) and a minimum zinc (hot-dip galvanized) coating weight of 0.60 oz/ft² (184 g/m²), Coating Designation G-60. Color: Dark Green.

B. Material for pickets shall be 5/8” square x 18 Ga. tubing. The rails shall be steel channel, 1.25” x 0.92” x 14 Ga. Picket holes in the rail shall be spaced 4.334” o.c. Fence and gate posts shall be a minimum of 2” square x 16 Ga.

C. Height shall be 3'-0”.

2.03 FABRICATION
A. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.

B. Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar’s proprietary fusion welding process, thus completing the rigid panel assembly (Note: The process produces a virtually seamless, spatter-free good-neighbor appearance, equally attractive from either side of the panel).

C. The manufactured panels and posts shall be subjected to an inline electrode position coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be (specify Black or Bronze). The coated panels and posts shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2 (Note: The requirements in Table 2 meet or exceed the coating performance criteria of ASTM F2408).

D. The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fences under ASTM F2408.

E. Gates shall be fabricated using welded ornamental panel material and gate ends having a 1-1/4” square cross-sectional size. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding.
PART 3 – EXECUTION

3.01 PREPARATION

All new installation shall be laid out by the contractor in accordance with the construction plans.

3.02 FENCE INSTALLATION

Fence post shall be spaced according to Table 3, plus or minus ½”. For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence panels shall be attached to posts with brackets supplied by the manufacturer. The “Earthwork” and “Concrete” sections of this specification shall govern material requirements for the concrete footer.

3.03 FENCE INSTALLATION MAINTENANCE

When cutting/drilling rails or posts adhere to the following steps to seal the exposed steel surfaces; 1) Remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1-3 above will negate warranty. Ameristar spray cans or paint pens shall be used to prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-Ameristar parts or components will negate the manufactures’ warranty.

3.04 GATE INSTALLATION

Gate posts shall be spaced according to the manufacturers’ gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers’ gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacturer of the gate and shall be installed per manufacturer’s recommendations.

3.05 CLEANING

The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

END OF SECTION
PART 1 GENERAL

1.01 WORK INCLUDED

A. Installation of Woven Polypropylene Wind Screen material and accessories on chain link fences.

1.02 RELATED WORK

A. NA.

1.03 QUALITY ASSURANCE

A. System: Provide complete system from single manufacturer including all accessories.

B. Warranty:

1.04 REFERENCES

A. ASTM Technical Performance Standards:
   a. D-5041 Material Weight.
   b. D-5100 Warp and Fill Tensile Tests.
   c. D-2261 Warp Tear Test.
   d. D-5512 Fill Tear Test.
   e. D-737 Air Flow Test.

1.05 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Product Data: Submit product literature, including standard details.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS


B. Substitutions: Refer to Section 01630.

2.02 MATERIALS

A. FenceScreen300 Series Commercial Closed Poly.

1. Sizes: Full height of fence; see drawings for length.
2. Material: UV Resistant Woven Polypropylene, color green, 90% transparency, 5.5 oz/yd, warp tensile 420 lbs, warp tear 125 lbs., fill tensile 225 lbs, fill tear 90 lbs and air flow 12%.
3. Panels Edges: 2” polypropylene webbing with 3/8” brass grommets at 24” O.C.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Verify field conditions prior to ordering material.

B. Install per manufacturers instructions.

C. Material shall be tight and flat to chainlink fabric and shall not significantly bulge in high wind.

END OF SECTION
SECTION 02825

CURVES FENCES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Fence panels and accessories.

1.02 REFERENCES:

A. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
B. ASTM A82 – Mechanical, Physical and Performance Properties of Carbon Steel Wire
C. ASTM A641 – Zinc-Coated (Galvanized) Carbon Steel Wire
F. RAL – German Institute for Quality Assurance and Indication.

1.03 SUBMITTALS

A. Submittals shall be in accordance with Division 01.
B. Product Data: Submit manufacturer’s product data, standard details, and installation instructions.
C. Shop Drawings: Submit showing sizes critical dimensions, panel layout constraints using a 2 x 2 inch modular grid, and details and locations of accessories.
D. Color Submittals: Submit coupons 2 x 3/12 inches minimum showing color and texture to be provided.

1.04 QUALITY ASSURANCE

A. Manufacturer: Minimum 5 years experience manufacturing and supplying trellis structures of the type required for this project.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect materials from damage. Store panels flat. Provide edge protection when strapping is used. Do not apply loads to panel edges.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER


2.02 PANELS

A. Panels shall be rigid, three-dimensional welded wire grid fabricated of 14-gage ASTM A641 galvanized steel wire.
B. Face Grid: Wires shall be welded at each intersection to form a 2 x 2 inch face grid on the front and back of panels.
C. Trusses: Face grids shall be separated by bent wire trusses spaced at 2-inch centers and welded to front and back face grids at each truss apex.

D. Thickness: 3 inches.

E. Length and Width: Provide in 2-inch nominal increments.

F. Tolerance: 1/8 inch in width and ¼ inch in length.

2.03 ACCESSORIES

A. Trim:
   1. Fabricate from 20-gage ASTM A879 galvanized steel.
   2. Types:
      a. Channel Trim: Thickness of panel x ½ inch legs.
      b. Angle Trim: ½ inch x ½ inch legs.

B. Clips and Straps: Provide manufacturer’s standard types of clips and straps suitable for mounting conditions. Fabricate from ASTM A879 galvanized steel. Adjustable clips shall have ¼ inch diameter 18-8 stainless steel bolt, washer, and nut.

C. Plastic Spacers: Provide ½ inch thick black Ultra High Molecular Weight polyethylene (UHMW) washers [to hold clips away from mounting surface].

D. Fence Posts: 3-inch [diameter ASTM A500 steel tube. Provide steel post caps.

E. Fasteners for Mounting Clips to Fence Posts: Self drilling, self tapping hex washer head screws, Type 410 stainless steel, and free from rust when salt spray tested for 300 hours in accordance with ASTM B117.

F. Fasteners for Attachment to Structure:
   1. To Concrete or Masonry: [550 lbs].

2.04 FABRICATION

A. Cut to size.

B. Weld trim to panels and grind smooth exterior surfaces of welds.

C. Curve Panels using either “crimp-to-curve” or “cut-to-curve” technique as recommended by manufacturer for diameter of curve and conditions of use.

2.05 FINISHES

A. Metal components (except fasteners) shall be factory finished after fabrication.

B. Finish System: pretreat with general purpose, alkaline, water based cleaner / degreaser applied at 240 degrees F. prime with zinc-rich epoxy powder coat. Topcoat with polyester or polyester-urethane powder coat.

C. Salt Spray Resistance: Finish shall remain rust free when tested 1680 hours in accordance with ASTM B117.

D. Color: Wrinkle-Textured Green.

E. Touch-Up Paint: Provide high quality, exterior-grade spray paint suitable for conditions of use.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect substrates and conditions affecting work of Section. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION
A. Fence Posts: Install posts as shown on Drawing.

3.03 INSTALLATION

A. Install panels plumb and square, centered within area designated for panels, and aligned to maintain modular grid.
B. Avoid cutting panels in field. Where field cutting is essential, apply touch-up paint to cut edges.
C. Install securely with fasteners located [as shown on Drawings.] [To meet manufacturer’s requirements.]
D. Repair bent or damaged panels. If panels cannot be repaired to satisfaction of Architect, remove from jobsite and replace with new panels.

END OF SECTION
SECTION 02880

PLAY YARD EQUIPMENT

PART 1 GENERAL

1.01 WORK INCLUDED

A. Installation of play yard equipment, structures and accessories.

1.02 RELATED WORK

A. Section 02790: Rubber Tile Play Surface
B. Section 02850: Engineered Wood Fiber Surface.
C. Section 03300: Concrete.

1.03 QUALITY ASSURANCE

A. System: Provide complete system from single manufacturer including all accessories.

1.04 REFERENCES

B. ASTM Technical Performance Standards:

1.05 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Shop Drawings: Indicate plan layout, grid, spacing of components, accessories, and anchorage.

C. Product Data: Submit product literature, including standard details.
PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Landscape Structures, Inc.

B. Substitutions: Refer to Section 01630.

2.02 MATERIALS

A. Single Post Swing: Landscape Structures, model #177332.
   1. Sizes: 12'-0” between post, 8'-0” maximum height of horizontal bar, two swings.
   2. Seats: 1 full bucket model #176038 and 1 belt seat model #174018
   3. Chain: 3/16” straight-link-welded chain with “ProGuard” finish model #173877.

B. Arch Bridge: Landscape Structures, model #143677.
   1. Railing: Provide guardrail accessory designed for bridge.
   2. Landings: 47” x 47” metal deck at each end of bridge, Landscape Structures, model #111228, with guard rails each side, each landing.
   3. Posts: 5” diameter post by same manufacturer as bridge and landings, provide 8.

3. Storage Box: Lifetime 60012 Deck Box, model #LFT500L.
   1. Size: 60”x 24”x 26 ½”, 16.4 cubic feet
   2. Features: Lockable Lid with spring hinges.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Verify field conditions prior to ordering material.

B. Install new equipment per manufacturers instruction and ASTM Standards.

C. Set post in concrete 12” concrete pier to a minumum depth of 18” or a greater depth as required by manufacturer.

END OF SECTION
PART 1: GENERAL INFORMATION

Quality Control, Applicable Testing Certifications and Sustainability

- **IPEMA Certification** – [www.ipema.org](http://www.ipema.org)
  - IPEMA provides a Third Party Certification Service where an independent laboratory provides written validation of a participants’ certification of conformance to certain safety standards for their products.
  - These certifications include ASTM F1292 and ASTM F2075.
  - The Third Party Certification Service has randomly selected and tested some of the products of the participating company.
  - The Third Party Certification Service has performed a plant and/or home office inspection, involving a review of the participants’ Quality Assurance Program, installation instructions, and compliant follow up systems.
  - The list of IPEMA certified products is maintained exclusively by TÜV SÜD America.

- **ASTM F1292**
  - Test results must be for Engineered Wood Fiber and Mats.
    - Test performed on new material.
    - Test performed on 12-year-old Engineered Wood Fiber.
  - Test results for Engineered Wood Fiber must show G-max values of less than 155G for an 8” thick system or 120G for a 12” system with a 12’ drop height, and HIC values less than 1,000 for both new and 12-year-old materials.
  - Test results for Engineered Wood Fiber must show G-max values of less than 200G for a 12” system with a 14’ drop height, and HIC values less than 1,000 for both new and 12-year-old materials.
  - Test results for mats must show G-max values of less than 200G and HIC values of less than 1,000 for a 3’ drop height.

- **ASTM F1951**
  - Must meet the intent of the Americans with Disabilities Act (ADA).

- **ASTM F2075**
  - Material must undergo the test method described in Section 9.0 to determine the presence of tramp metal particles. Metal particles embedded or mixed in
Engineered Wood Fiber may cause injury if a child were to fall on/or come in contact with them. The limit for tramp metal was set to reduce the potential of injury.

- Standard wood chips, bark mulch or materials from recycled pallets will not be acceptable.

- **LEED® Credits**
  - Products assist in obtaining LEED (Leadership in Energy and Environmental Design) credits for projects.
  - Sustainability Analysis performed by a LEED Green Associate.
  - Recycled Content, Regional Materials, and Construction Waste Management, along with others, are available for use in LEED project certification.

**PART 2: MATERIAL DATA**

- **Engineered Wood Fiber**
  - Shredded wood fiber consisting of randomly sized pieces.
  - Recycled wood from used pallets are not acceptable.
  - The amount of **Fibar Engineered Wood Fiber** necessary to provide the approximate depth after compaction is as follows:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>38 cubic yards per 1,000 sq. ft. of playground area</td>
</tr>
</tbody>
</table>

- **Drainage System** – Patented under *U.S. Patent numbers 4,679,963; 5,026,207 and 5,076,726, and other patents pending.*
  - **FibarDrain**
    - Drainage matrix that channels water away from playground.
    - Minimum flow rate of 10 gpm/ft.
    - Needle-punched 100% non-woven geotextile sleeve encasing a monofilament nylon mesh.
    - Laid out on 6'-0 centers in the direction of the grade.
    - Prevents deterioration of Fibar Engineered Wood Fiber.
  - **FibarFelt**
    - Needle-punched 100% non-woven geotextile fabric that separates the Engineered Wood Fiber from soil below.
    - Material allows water to flow through, and prevents rock and soil contamination of the Engineered Wood Fiber.
    - Designed to cover the sub-grade and drainage matrix to ensure proper drainage.
    - Seams should be overlapped 3”.

- **Accessory Items**
  - **FibarMat**
    - 3’ x 3’ x 1.5” with beveled edges (ADA compliant) on all sides.
• Placed under each swing seat, tire swing, slide exit, and sliding poles.
• Prevents excessive wear under swings and slides.
• Can be placed on top, in middle or under Engineered Wood Fiber (but over FibarFelt).

  o **ADA Wheelchair Access Ramp**
    • Crafted from High-Density Polyethylene.
    • Won’t fade, splinter or crack.
    • Wide enough for motorized wheelchairs.

**PART 3: SITE PREPARATION AND INSTALLATION**

  **In-Ground Installation** (Exiting at Grade Level)
  • Excavate area to proper depth, based on Critical Fall Height.
  • Minimum 1% downward grade to ensure proper drainage to FibarDrain Strip.
  • On grades of greater than 10% - use of FibarSystems is not recommended.
  • Remove all roots, stones, and vegetation.
  • Accurately grade and firmly compact entire area, especially where fill materials have been utilized.
  • Excavate trench 2” wide x 6” deep, perpendicular to grade at lowest point of playground area.
  • Install FibarDrain and connect low end of strip to storm drain or similar device to remove collected water.
  • Install playground equipment.
  • Install retaining border or curb.
  • Install FibarDrain strips at 6’ centers in direction of grade.
  • Cover sub-grade and drainage trench with FibarFelt.
    • Allowing 3” overlap at all seams.
    • Slit to fit around footings of equipment.
    • Overlap all slits with either next piece of FibarFelt or scrap piece, to ensure complete coverage.
  • Install FibarMat wear mats either on FibarFelt, in middle of Fibar Engineered Wood Fiber® or on top of system.
  • Permanently mark, with paint or other type of permanent marker, all the legs of the playground equipment with the compacted system design depth.
  • Spread Fibar® EngineeredWood Fiber using a Bobcat, small front-end loader or our Express Blower Trucks.
    • Care should be taken when driving over FibarDrain.
    • Do not make sharp turns on FibarFelt or FibarDrain.
  • Install all materials delivered.
- Additional materials are supplied to account for natural compaction.
- Material may be several inches high, until it compacts.
- Feather edges to make smooth transition to grade or border.
  - Hand spread and rake for smooth, finished surface.
  - After two weeks of active use, surface should be raked again.
  - Consumer Product Safety Commission (CPSC) and ASTM recommends Use Zones of at least 6 feet around all equipment, except:
    - Swings – Use zone equal to 2 times the height of top rail is needed in front and behind swings.
    - Slides – Use zone equal to height of slide plus 4 feet, extending a minimum of 6 feet, in front of slide exits.
  - Complete information on use zones can be found at CPSC and ASTM.

- Manufacturer’s Limited Warranty
  - The Fibar Group, LLC provides a written 25-year warranty against loss of resiliency for the FibarSystem 300.
  - The Fibar Group, LLC provides a written lifetime warranty on the FibarFelt geotextile fabric material.
  - The Fibar Group, LLC provides a written lifetime warranty on the FibarDrain drainage matrix.
  - The Fibar Group, LLC provides a written 3-year warranty on the FibarMat wear mats.

- Product Liability Insurance Certificate with project owner named as certificate holder.
SECTION 02923

LANDSCAPE GRADING AND SOIL PREPARATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Soil preparation.
B. Finish grade subsoil.
C. Final grade topsoil for finish landscaping.

1.02 RELATED SECTIONS

A. Section 02810 - Landscape Irrigation.
B. Section 02950 – Planting and Plant Materials

1.03 SUBMITTALS

A. The contractor shall submit, a minimum of fourteen (14) days prior to installation, 6 copies of manufacturer’s literature and analytical data on the following:
   1. Chemicals to be used including pesticides and herbicides
   2. Organic soil amendment.
   3. Bark mulches
   3. Commercial fertilizers.

B. The Contractor shall submit to Owner’s Representative written documentation listing quantities, composition, type, origin, and weight of all required amendments and chemicals to be utilized in soil preparation procedures.

C. When requested, Contractor will submit copies of all delivery tags and records to verify ordering quantities, and delivery of specified amendments.

D. Submit two 1-quart size samples each of the proposed bark mulches and organic soil amendment labeled with date, name, source and content.

E. Horticultural Soil testing: Using standard horticultural practices prepare and send up to three soil samples to a certified horticultural soil testing laboratory for recommendations for fertilizers or soil amendment as described in Paragraph 3.05. Provide test results and recommendations to the Owner’s Representative 10 days prior to commencing the work.

1.04 PROJECT CONDITIONS

A. Protect existing landscaping and other features remaining as final work.
B. Prior to beginning work, Contractor shall locate all underground utilities in order to avoid possible damage.
C. Protect existing structures, fences, roads, sidewalks, paving, underground utilities and curbs designated to remain. Protect existing trees and shrubs to remain – see notes on the Drawing.
D. Do not use heavy equipment such as trucks rollers or bulldozers, which may cause damage to existing facilities. Use hand excavation, as required, in order to minimize the possibility of damage.

E. Maintain grade stakes set by others until removal is agreed upon by all parties concerned.

F. Equip internal combustion motors and compressors with mufflers. Do not leave such equipment running under trees.

G. Repair or replace any existing structures, materials, equipment, sidewalks, or landscaping designated to remain that is damaged during the course of landscape preparatory work, in a manner satisfactory to the Owner’s Representative, at no additional cost to the Owner.

H. Store products in safe areas. Protect from deterioration and damage.

1.05 REGULATIONS AND STANDARDS

A. Code and standards compliance
   1. All work shall be performed under the current State and Federal Occupational Safety and Health Acts.
   2. All State construction safety orders.
   3. Should the contract documents specify materials or construction methods which exceed these regulations, then the contract documents shall take precedence.
   4. All work described in this section shall be performed under the current state laws and regulations.

1.06 SAFETY

A. Safety:
   1. Erect and maintain barricades, guards, warning signs, lights etc. as required for the protection of the public and workers.
   2. Perform work in a safe manner. Follow regulations, OSHA requirements and other authoritative agency requirements.
   3. Prior to commencement of work, verify locations of existing underground utilities so that proper precautions may be taken to not damage such improvements.

B. Maintaining Traffic:

   Ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project. Provide warning signs, barricades, flagmen, etc. necessary to meet traffic requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil Strippings: Organic topsoil resulting from original clearing and stripping: Stockpile and reuse as topsoil in future landscape areas. Amend stripplings following redistribution of topsoil. Remove excess site stripplings off site.
B. Import Topsoil only to achieve finish grade: Topsoil shall be friable sandy loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5. Topsoil shall also be free from toxic amounts of acid or alkaline chemicals and shall be capable of sustaining plant life. Prior to importing topsoil provide two 1-quart labeled samples, a horticultural soil test, with results and recommendations, for Owner's Representative review and approval. No topsoil shall be imported to site until the Owner's Representative has reviewed and approved horticultural soils report.

C. Imported Top Soil: Sandy loam or loamy sand, with characteristics as follows:
   1. Chemistry:
      a. Salinity: Saturation Extract Conductivity (ECe less than 3 mmhos at 25 degrees C).
      b. Sodium: Sodium Absorption Ration (SAR) Less than 6.0 ppm.
      c. Boron: Saturation Extract Concentration Less than 1.0 ppm.
      d. Reaction: pH of Saturation Paste: 5.5 - 7.5.

   2. Physical Properties: Meeting USDA Classification of fraction passing 2.0 mm sieve:

<table>
<thead>
<tr>
<th>Class*</th>
<th>Particle Size Range</th>
<th>Max.%</th>
<th>Min.%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Sand</td>
<td>0.5 - 2.0 mm</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Silt Plus Clay</td>
<td>&lt;0.05 mm</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 13 mm</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Rock</td>
<td>1/2 - 1 inch</td>
<td>10 percent by volume with none &gt;1 inch</td>
<td></td>
</tr>
<tr>
<td>Organic</td>
<td></td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

*If native subgrade texture is within specified limits, the import topsoil texture should be as similar as practical to that material.


4. Fertility Considerations: Sufficient quantities of available nitrogen, phosphorus, potassium, calcium and magnesium to support normal planted growth. In the event of inadequacies as indicated by soil test Contractor shall incorporate necessary amendments to satisfy requirements.

2.02 SOIL AMENDMENT

A. No amendment shall be delivered to the site without prior approval of submittals by Owner's Representative.

B. Source: Fir sawdust, Fir bark, pine bark, cedar sawdust, redwood sawdust, or hardwood bark. Amendment shall be free of weed seed, dust or other noxious material.

C. Nitrogen content dry weight basis where required:
   1. Fir or cedar sawdust: Minimum 0.56-0.84 percent.
   2. Fir or pine bark: Minimum 0.56-0.84 percent.
   3. Redwood sawdust: Minimum 0.4-0.6 percent.
4. Hardwood Bark: Minimum 0.8-1.2 percent.

D. Dry bulk density lbs/cu yd:
   1. Redwood sawdust: 270 - 370.
   2. Fir or cedar sawdust: 270 - 370.
   3. Fir or Pine bark: 450 - 580.

E. Wood residual soil amendment physical properties, typically described as 0 x 1/2 inch product:

<table>
<thead>
<tr>
<th>Percent Passing</th>
<th>Sieve Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>9.51 mm</td>
</tr>
<tr>
<td>95-100</td>
<td>6.35 mm</td>
</tr>
<tr>
<td>90-100</td>
<td>4.76 mm</td>
</tr>
<tr>
<td>75-100</td>
<td>2.38 mm</td>
</tr>
<tr>
<td>45-70</td>
<td>1.00 mm</td>
</tr>
<tr>
<td>0-30</td>
<td>500 micron</td>
</tr>
</tbody>
</table>

F. Iron content: Minimum 0.08 percent dilute acid soluble iron based on dry weight if specified or claimed as iron treated.

G. Salinity (ECe): Maximum 3.0 mmhos/cm at 25 degrees C. (Saturation extract conductivity.)

H. Organic content: 92 percent of dry weight by ash method.

I. Reaction (pH): Minimum 4.0; maximum 7.5.

2.03 CHEMICAL ADDITIVES

A. Commercial Fertilizer shall be commercially processed fertilizer. Said fertilizer shall comply and conform to applicable requirements of agricultural laws and regulations for the State of California.
   a. Granular Fertilizer to be: A quality manufactured fertilizer
   b. Pelletized fertilizer to be: Osmocote or equal
   c. Tablet fertilizer to be: Osmocote or equal

B. Fertilizer type or amount may be adjusted by the Owner’s Representative based on Horticultural Soils Test.

C. Soil sulfur shall be a 99% elemental sulfur agricultural grade product.

D. Iron Sulfate: Agricultural grade product.

2.04 MULCHES: See Section 02950 – Planting and Plant Materials

2.04 ACCESSORIES

A. Weed Control: Pre-emergent herbicide will be allowed upon approval of the Owner’s Representative and submittal of recommendation by a licensed pest control advisor.
PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify site conditions and note irregularities affecting Work of this Section. Inform the Owner's Representative of any discrepancies between plans and specifications, and existing conditions.

B. Beginning of Work means acceptance of existing conditions.

3.02 ROUGH GRADING AND CULTIVATING

A. Protect existing trees and shrubs to remain.

B. Remove or redistribute excess soil before the application of fertilizer and organic amendments. Rough grades are acceptable within (0.1') one tenth of a foot from finish grades shown on the drawings.

C. Planting areas: Allow for ten percent settlement of berms and fill areas.

D. Drainage: Provide surface drainage of planted area. Correct drainage conditions which may be detrimental to the growth of plant material or which will result in retention of water in tree pits. Minimum slope in landscape areas is two percent (2%). Slope away from buildings.

D. Prior to proceeding with work: Contractor shall check rough graded areas and verify all dimensions. Contractor shall immediately inform Owner's Representative of any discrepancy between field conditions and contract documents. No work shall be performed in areas of discrepancy until authorization has been given by Owner's Representation.

3.03 SUBSOIL PREPARATION

A. Eliminate uneven areas and low spots. Cleanly cut roots over 1 inch in diameter, do not tear roots.

B. Scarify and rip subgrade to a minimum depth of 8 inches. Scarify and rip in areas where equipment used for hauling has compacted subsoil. Following scarification and ripping, till all planting areas to breakdown clods. Sub soil shall be free from clods and rock debris larger than 1 inches in nominal diameter.

C. Weeding and Clearing: Remove weeds and debris from areas to be landscaped and dispose of off-site. In all planting areas remove rocks, pavement, concrete, debris, noxious, and unwanted material over 1 inch in size diameter, from the site.

D. Moisture Content: Do not work soil when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form in air, or clods will not break readily. Apply water as required to provide ideal moisture content for tilling.

3.04 PLACING IMPORT TOPSOIL (if required to achieve finish grade)

A. Scarify existing soil as described in 3.03 above.

B. Place imported topsoil in all planting areas to a depth of six inches with a relative compaction of 80% maximum relative compaction by Test Method No. California 216.

C. Use topsoil in relatively dry state. Place during dry weather.
D. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.

E. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.

F. Manually spread topsoil around existing trees, plants, and structures to prevent damage. Do not spread soil or raise finish grades at the roots, stems or trunks of existing plants to remain.

G. Lightly compact placed topsoil.

H. Remove surplus subsoil and topsoil from site.

I. Leave stockpile area and site clean and raked, ready to receive plant material.

3.05 AMENDMENTS

A. After completion of the initial tilling and ripping process, and establishment of rough landscape grades, submit 3-1 quart samples of soil from various landscape areas to a horticultural soils laboratory such as Soil & Plant Lab., Santa Clara, CA for purposes of determining horticultural suitability and recommendations for improvements. Provide test results and recommendations to the Owner's Representative 10 days prior to commencing the work.

B. Adjust amendments as directed by the Owner's Representative.

C. Uniformly spread and incorporate specified amendments as described in the test results.

D. Fertilizer

   A. Turf Areas: Granular and pelletized fertilizer
      a. Apply in accordance with manufacturer's instructions.
      b. Mix thoroughly into upper six (6) inches of topsoil.
      c. Lightly water to aid the dissipation of fertilizer.

   B. Shrub and Tree Areas: Slow release fertilizer tablets
      a. Apply in accordance with manufacturer's instructions.
      b. Place in planting holes within the specified backfill, not touching the rootball
      c. 1 gallon size plants: 1 tablet
      d. 5 gallon size plants: 2 tablets- place on opposite sides of plant
      e. 15 gallon size trees: 3 tablets- place symmetrically around root ball.

C. Bid Amounts

   1. For purposes of pricing bid the following amendments:

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity/1,000 sq ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen and Iron fortified Organic Amendment (Fir Bark)</td>
<td>5 cubic yards</td>
</tr>
<tr>
<td>Potassium Sulfate (0-0-50)</td>
<td>5 lbs.</td>
</tr>
<tr>
<td>Commercial Pellatized Fertilizer (16-20-20)</td>
<td>15 lbs.</td>
</tr>
<tr>
<td>Fertilizer Tablets</td>
<td>1 per 1 gallon size plant</td>
</tr>
<tr>
<td></td>
<td>2 per 5 gallon size plant</td>
</tr>
</tbody>
</table>
2. If the amendment has not been iron fortified, then 10 pounds iron sulfate shall be added per 1,000 s.f. Apply iron sulfate cautiously, avoiding contact with fresh concrete. Contractor will be responsible to replace any concrete paving stained.

3. If sawdust is used instead of high density Fir bark amendment, then the application rate shall be 7 cubic yards.

D. Specified amendments and rates shall meet those recommended by the testing laboratory.

E. Apply sufficient water to completely moisten the area to a depth of 12 inches after amendments are worked into the soil. Leave areas undisturbed for a period of not less than 10 days. Water as frequently as necessary to keep the areas moist during the 10 day period.

F. Weed the area after the 10 day period has expired and the soil has dried sufficiently to permit work without excessive compaction. Restore surface to finish grade. Chemical weed control will be permitted, but such applications shall be performed in accordance with state laws and Perata Community College District regulations.

G. Following completion of amendment incorporation, 3 - 1 quart samples of amended topsoil shall be tested for compliance with previous soil test results by an approved horticultural soil testing lab. Additional amendments will be supplied and incorporated by contractor (at no additional expense to owner) as noted in test results.

3.06 FINISH GRADING

A. Conform to grades shown on grading and planting plan, after soil preparation and settlement. Depressed and bumped surfaces will not be accepted.

B. Finish grade ground cover areas to be 1-1/2 inch below curb and pavement within one foot of edge of paving. Finish grade turf to be 1/2 inch below curbs and walks within one foot of edge of paving.

C. Notify Owner’s Representative three days prior to completion of finish grades for review before any planting begins.

D. Finish each area to a neat and uniform appearance. Slope surfaces evenly and ensure good drainage with no abrupt change of surface.

E. Make minor adjustments of finish grades, if required, at the direction of Owner’s Representative.

3.07 TOLERANCES

A. Top of Topsoil: Plus or minus 1/2 inch.

B. Provide 2 percent minimum slope in planting areas, draining away from buildings. Lawn slopes shall not exceed a 4 horizontal to 1 vertical slope.

3.08 DRAINAGE

A. All grades shall provide for natural runoff of water without low spots or pockets.

B. Correct drainage conditions which may be detrimental to the growth of plant material or which result in retention of water in tree pits for more than 24 hours.
C. See Section 02950 PLANTING AND PLANT MATERIALS for testing and correction of drainage in plant pits.

END OF SECTION
SECTION 02950
PLANTING AND PLANT MATERIALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Planting of trees, plants, and ground cover.
B. Topsoil bedding amendment.
C. Mulches.
D. Maintenance.

1.02 RELATED SECTIONS

A. Section 02810 - Landscape Irrigation.
B. Section 02923 - Landscape Grading and Soil Preparation.

1.03 REFERENCES

A. A Checklist of Woody Ornamental Plants of California, Manual 32, University of California.
B. ANSI Z60.1 - Nursery Stock.
C. FS O-F-241 - Fertilizers, Mixed, Commercial.
D. Standardized Plant Names, second edition.

1.04 SUBMITTALS

A. Certification of grass seed from seed vendor for each grass-seed mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

1. Certification of each seed mixture for sod, identifying sod source, including name and telephone number of supplier.

1.05 MAINTENANCE PLAN

A. Submit under provisions of Section 1 and per the Peralta Community College District requirements.

C. Maintenance Information: Include: Pathway cleaning, watering year-round, weeding, cutting and trimming method and minimum distances of 18 inches to buildings, removal of rodent habitat and attractants such as fruit; fertilizer and amendment types, application frequency, and recommended amounts; maintaining irrigation and other guidelines.
1.06 QUALITY ASSURANCE

A. The Owner’s Representative reserves the right to take and test materials for conformity to specifications. Contractor will furnish samples upon request. Cost of testing non-conforming material shall be paid by Contractor.

B. Provide inspection and testing for verifying acceptability and robustness of plants.

C. Minimum quality of plant material shall conform to American Association of Nurserymen specifications, current edition.

1.07 INSPECTIONS

A. Notify the Owner’s Representative 5 days prior to proceeding with the following work to allow for review:
   1. Plant material layout on site (including preliminary finish grade).
   2. Substantial Completion.
   3. Final Review prior to Owner acceptance. Failure to request this notice shall automatically postpone the date of completion and continue the maintenance period until final completion is approved.

B. The Owner's Representative reserves the right to inspect plant material for size and condition of root structure for injuries, root girdling, root bound condition and other latent defects which may impede development of plant material. The Owner's Representative may request the washing of soil from the root ball of selected plant material for visual inspection of root structure. Plant material that has been washed or rejected shall be removed from the site immediately.

C. Plant Material Layout: Contractor shall schedule plant layout such that Owner's Representative can visually inspect layout of plant material as well as size, orientation and quality in one single trip to site.

D. Planting: No plant material shall be planted (including replacement of rejected material) until the Owner's Representative has approved its quality and placement. Plant material planted without approval of Owner's Representative shall, if required, be removed, relocated and replanted at Contractor's expense.

E. Soil Preparation: No plant material shall be planted until in conformance with soil preparation procedures in Section 02923 has been verified.

1.08 QUALIFICATIONS

A. Nursery: Company specializing in growing and cultivating the plants with five years documented experience.

B. Installer: Company specializing in installing and planting the plants with five years documented experience.

1.09 REGULATORY REQUIREMENTS

A. Comply with all Federal, State, County and Peralta Community College District regulations governing landscape materials and fertilizer and herbicide composition.

B. Plant Materials: Certified by State Department of Agriculture; free of disease or hazardous insects.
C. Provide certificate of compliance from authority having jurisdiction indicating approval of plants supplied.

D. Provide certificates of inspection as required by law for transportation of plant material.

E. Inspection of plant material by Federal and State Agencies does not preclude rejection of plants at project site.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Division 1.

B. Protect plants until planted.

C. Deliver plant material immediately prior to placement. Keep plants moist.

D. Reject plants when ball of soil surrounding roots has been cracked or broken prior to or during process of planting.

E. Provide list of suppliers for all plant materials including location, nursery, phone and contact person.

F. Contractor shall submit to the Owner's Representative a copy of the purchase order for all plant material within 10 days after receipt of notification of award of contract. Purchase order shall show plant quantities, person ordering, delivery date, and person receiving order. Failure to provide evidence of purchase order for trees shall extend plant establishment and maintenance period by the number of days which have lapsed without receipt of purchase order.

G. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

H. Sod: Harvest, deliver, store, and handle sod according to the requirements of the Turfgrass Producers International “Guideline Specifications to Turfgrass Sodding, 2006” www.turfgrasssod.org.

1.11 SUBSTITUTIONS

A. Substitutions will be acceptable only if specified plant material is determined to be unavailable or if quality of available stock is shown to be unacceptable. Contractor wishing to substitute plants for those specified, shall submit a list of proposed substitutions to Owner's Representative a maximum of thirty (30) days from notice of award of contract.

1.12 ENVIRONMENTAL REQUIREMENTS

A. Do not install plant material when ambient temperatures may drop below 35 degrees F or above 90 degrees.

B. Do not install plants when wind velocity exceeds 30 mph.

1.13 COORDINATION

A. Coordinate with installation of utilities, and landscape irrigation system piping.

1.14 WARRANTY
A. Provide one year warranty on all trees and shrubs from date of Final Acceptance.

B. Replace dead or unhealthy plants within one month of identifying those plants as dead or unhealthy.

C. Replacements: Plants of same size and species as specified will be used with a new warranty commencing on date of replacement at no additional cost to the Owner.

1.15 MAINTENANCE

A. Maintenance period: Maintain plant life for 90 days after date of Final Acceptance.

B. See Paragraphs 3.08 “MAINTENANCE PRIOR TO FINAL ACCEPTANCE” and 3.12 “PLANT ESTABLISHMENT AND MAINTENANCE PERIOD”.

1.16 GENERAL REQUIREMENTS

A. Personnel: All operations associated with this specification section shall be performed by personnel familiar with proper landscape procedures. All work shall be supervised by an experienced planting foreman who shall be on-site whenever work of this section is performed.

B. The landscape irrigation system shall be installed complete, functional and approved by Owner's Representative prior to beginning work of this section.

C. Prior to beginning work of this section, identify and locate all underground utilities and take precautions so as to not damage or disrupt service. If conflicts arise between existing utilities and proposed work notify Owner's Representative. Proceed in the same manner if other obstacles such as rock are encountered. Owner's Representative will outline a course of action to resolve the conflict. Where possible remove underground obstacle. Only relocate placement of plant material under the direction of the Owner's Representative in order to avoid obstacles. Contractor shall be responsible for the repair of any damaged utilities caused by his negligence in performing work of this specification section.

D. Water Service: Water shall be provided by Owner. Prior to shutting off existing water service, obtain permission of Owner. Keep disruptions of existing water service to a minimum.

E. Protection of Existing/Adjacent Site Work:
   1. Any damage resulting from work of the Contractor to existing/adjacent site work; including plant material shall be repaired, or in the case of plant material, replaced by Contractor at no additional cost to the Owner.
   2. Tree roots over one (1) inch in diameter, cut cleanly, do not tear existing roots. Do not allow exposed roots to dry out.

1.17 SAFETY

A. Safety:
   1. Erect and maintain barricades, guards, warning signs, lights etc. as required for the protection of the public and workers.
   2. Perform work in a safe manner. Follow regulations, OSHA requirements and other authoritative agency requirements.
   3. Prior to commencement of work, verify locations of existing underground utilities
so that proper precautions may be taken to not damage such improvements.

B. Maintaining Traffic:

Ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project. Provide warning signs, barricades, flagmen, etc. necessary to meet traffic requirements.

C. See Drawings for protection of existing trees and shrubs to remain

PART 2 - PRODUCTS

2.01 TREES, PLANTS, TURF AND GROUND COVER

A. Trees, Plants and Ground Cover: Species and size shall be as identified in the Plant List on the Drawings. They shall be grown in climatic conditions similar to those in locality of the Work and shall be labeled with their full botanical name in accordance with references listed in Part 1 above. Provide no less than 1 label for every 10 plants of a species except trees. Every tree shall have the nursery label that includes the ‘Variety’ if named in the Plant List. Plant material shall be nursery grown in keeping with good horticultural practices.

I. Turf from sod: Provide high quality freshly harvested sod according to the requirements of the Turfgrass Producers International “Guideline Specifications to Turfgrass Sodding, 2006” www.turfgrasssod.org. Keep moist and protect sod until planted.

C. Trees: Straight trunks of uniform taper, with central leader intact, larger at the bottom, free of damaged bark with minor abrasions and cuts showing healing tissue. Trees unable to stand upright without support shall be rejected. All trees shall be standards and matched unless multiple trunk specimens are specified.

1. Caliper size for trees shall be as follows:
   a. For all trees measurement shall be 4 feet above natural soil line on tree.
   b. 15 Gal. tree - 1 inch minimum diameter; 24 inch box - 1-1/2 inches minimum diameter; 36 inch box - 2-1/2inches.

D. Remove sucker basal growth and sucker lateral growth from tree trunks and treat to eliminate re-sprouting. Allow normal lower side branching to remain. Trees having multiple leaders shall be rejected, unless otherwise specified.

E. Root Systems:

1. Trees and shrubs: Container-grown for at least 6 months prior to planting. Reject plants with root bound conditions.

2. Groundcover from rooted cuttings: Groundcover from rooted cuttings shall be 2 inches to 3 inches in height; measured from planted soil level. Groundcover shall have a full, healthy, viable, well established root structure. Groundcover sampled at site that does not meet these requirements will be rejected. Remedial action based on rejection will be to replant all deficient groundcover areas with appropriate material.

F. Health: Vigorous foliage, roots, and stems with normal habit of growth for each species; free of diseases, insect stages, burns, dead branches and branch tips, or disfiguring characteristics.

G. Nomenclature: Plant names used on drawings conform to Standardized Plant Names, by the Joint Committee on Horticultural Nomenclature. Names of varieties not included are generally accepted in the nursery trade.
2.02 BACKFILL AND SOIL AMENDMENT: See Section 02921

2.03 ACCESSORIES
   
   A. Mulch: Redwood or Douglas Fir species; 98 percent bark with less than 2 percent wood, free of growth or germination inhibiting ingredients, nitrogen stabilized.
   
   B. Stakes: Wooden, 2 inch diameter for 15 gallon trees and 3 inches diameter for 24 inch box trees, untreated.
   
   C. Ties shall be recycled rubber tire ties or as approved.
   
   D. Landscape Headers: Redwood or recycled plastic, 2" x 4' nominal size.

2.04 FERTILIZERS, CHEMICALS, AND AMENDMENTS: See Section 02923 Landscape Grading and Soil Preparation

PART 3 - EXECUTION

3.01 EXAMINATION
   
   A. Verify that prepared subsoil is ready to receive work.
   
   B. Verify that the areas shown on the planting plans closely approximate the areas to be planted.
   
   C. Verify that required the irrigation system is available, in proper location, and ready for use.
   
   D. Beginning of installation means acceptance of existing site conditions.

3.02 PREPARATION
   
   A. Layout plants for review and final orientation by Owner’s Representative prior to installation.
   
   B. Excavate for plants. Dig circular plant pits Scarify pit walls and loosen subsoil at bottom of pits.

3.03 FERTILIZING See Section 02923 Landscape Grading and Soil Preparation

3.04 PLANTING
   
   A. Plants shall be protected from drying conditions. Store plants in shade; water thoroughly.
   
   B. Notify the Owner’s Representative to obtain plant material approval prior to planting. Remove defective plants installed without approval, upon request of the Owner’s Representative and install an acceptable replacement.
   
   C. Plant pits shall be as detailed.
   
   D. Place plants for best appearance for review and final orientation by Owner’s Representative.
   
   E. Set plants vertically. The top of the rootball shall be set one-half inch above the finish grade of the planting area.
   
   F. Remove and recycle non-biodegradable plant containers. Carefully remove plants from containers. Do not use ax, mattock, shovel, pick or similar instrument to break cans.
G. Scarify sides of plant rootball.

H. Set plants in pits or beds, partly filled with prepared amended backfill mixture as detailed in the Drawings.

I. See Section 02923 for backfill soil preparation.

J. NOT USED

K. Tree pit drainage test: Saturate soil with water when the pit or bed is half full of top soil and again when full. Contractor shall notify Owner's Representative if subsoil conditions prevent water from draining in a twenty-four (24) hour period. Contractor shall submit proposals to correct drainage problem prior to proceeding with work. Planting shall not proceed until drainage problem has been resolved to the satisfaction of the Owner's Representative.

L. Tamp backfill firm and construct plant berm as necessary to water plants. Basin bottoms shall drain to berm, away from plant stem.

M. Remove plant berms from plants within an automatic irrigation system prior to final inspection and finish grade the area.

N. Soil augers are not approved for use in preparing plant pits.

3.05 PLANT STAKING

A. Stake trees immediately after planting. Trunks shall be vertical.

B. Stakes shall be aligned with prevailing site winds. Stakes shall be placed outside rootball, as near trunk as possible, a minimum of 18 inches deep, and plumb. All double stakes shall have same height.

C. Using approved tree ties, attach tree to stakes. Cut off stake 6 inches above upper tie and 4 inches below lowest permanent branches. Ties shall be loose to allow 4 inches of trunk movement in all directions.

3.06 TURF, GROUNDCOVER & VINES

A. Groundcover and vine plants shall be planted in a triangular pattern or as noted on drawings. Spacings indicated on plans are maximums.

B. Water thoroughly after planting. Install mulch immediately after watering.

C. Turf from sod: Plant sod according to the requirements of the Turfgrass Producers International “Guideline Specifications to Turfgrass Sodding, 2006” www.turfgrassesod.org.

3.07 FIELD QUALITY CONTROL

A. The Owner's Representative reserves the right to visit the job site and inspect plant material and planting procedures at any time.

B. Plants will be rejected if a ball of earth surrounding roots has been disturbed or damaged prior to or during planting.

3.08 MAINTENANCE PRIOR TO FINAL ACCEPTANCE
A. Contractor shall maintain all plants and planted areas immediately following planting through to Final Acceptance. This maintenance time does not count towards "Maintenance Period", Section 3.12.

B. Neatly prune plants where necessary. Prune only according to standard horticultural practices. Maintain the natural character of plant material. Do not prune without the specific approval of the Owner’s Representative. Plants pruned without approval shall be replaced, if required.

C. Immediately remove clippings after trimming.

D. Water to prevent soil from drying out. Do not over-water.

E. Use soil probes to determine moisture content at different depths.

F. Control growth of weeds. Apply herbicides and pesticides in accordance with manufacturer's instructions. State and Peralta Community College District regulations. Remedy damage resulting from improper use of these chemicals.

G. Fertilize on a regular and as needed basis to maintain healthy growth. Should the need for fertilizer or formula be in question, soil samples shall be taken from locations specified by Owner’s Representative. Samples shall be analyzed by a licensed soil testing lab. The recommendations from the lab shall be implemented.

H. Utilize common and accepted horticultural maintenance practices and procedures.

I. TURF MAINTENANCE

1. Begin maintenance of turf immediately after each area is planted and continue until acceptable lawn is established, but for not less than the Maintenance Period.

2. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, reseeding, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.

3. Watering: Keep turf soils uniformly moist to a depth of 4 inches (100 mm). Water turf at the minimum rate of 1 inch (25 mm) per week.

4. Mow turf as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height without cutting more than 40 percent of the turf height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until turf blades bend over and become matted. Do not mow when turf is wet.

5. Fertilization: Apply fertilizer to lawn after first mowing and when turf blades are dry.

3.10 CLEAN-UP

A. Upon completion of daily operations, remove trash, excess soil, and other debris. Sweep walks, walls, and pavement and wash clean, leaving the entire area in a neat, orderly condition.

B. Plants showing signs of deficiency shall be immediately removed and replaced with viable plants in good condition of the same species and cultivar.
3.11 PROTECTION

A. Maintain plant material in a healthy growing condition prior to and during planting operations.

B. Contractor shall be responsible for vandalism, theft, and damage to plant material until commencement of the Plant Establishment and Maintenance period.

C. Protect planting areas including turf areas with temporary fencing.

3.12 FINAL REVIEW PRIOR TO ACCEPTANCE

A. Prior to end of planting maintenance period and before beginning of Plant Establishment Maintenance Period, a pre-maintenance inspection will be conducted.

B. Request for this inspection shall be by the Contractor to Owner's Representative 7 days prior to beginning of Plant Establishment Period.

A. Contractor and Owner's Representative shall be present for walk through.

B. The Owner's Representative shall determine conformance with contract documents and whether or not plant material is in satisfactory growing condition. If landscape is determined to be in satisfactory condition, Owner's Representative will issue written Notice of Acceptance and the commencement of Plant Establishment and Maintenance Period.

3.12 PLANT ESTABLISHMENT AND MAINTENANCE PERIOD

A. All landscape areas shall be neatly kept and weed-free for inspection.

B. The Contractor shall provide maintenance of all plants and planting areas from date of Owner's written acceptance of planting portion of work and extending for a period of ninety (90) days. If, in the opinion of the Owner's Representative the landscape is not in presentable condition or in a healthy viable state, then Notice of Acceptance and termination of plant establishment period will be deferred for a minimum ten working day period, or until such time as the Owner's Representative determines the landscape to be acceptable. The Owner's Representative will prepare a "punch list" of deficient items. The Contractor shall continue maintenance for the extended ten working day period at no cost to Owner. During the ten working day extension, the deficient items from the "punch list" shall be resolved. Following completion of the "punch list", Contractor shall request another walk through. Extensions of maintenance period will continue until such time as the landscape or deficient elements is/are in an acceptable condition.

C. During Plant Establishment and Maintenance Period, Contractor shall maintain plant material and planting areas as outlined in Section 3.08.

D. The Contractor shall request a final review five working days prior to the end of the Plant Establishment and Maintenance Period of the landscape by Owner's Representative. If in the opinion of the Owner's Representative, the landscape is found to be acceptable, then a recommendation will be made to the Owner for acceptance of landscape. Remove all temporary fencing.

END OF SECTION
SECTION 03300
CONCRETE WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES
A. Cast-in-place paving, slabs, and patching.
B. Reinforcing and accessories.
C. Aggregate base.

1.02 RELATED SECTIONS
C. Section 02500 – Asphalt Paving: Adjacent asphalt paving.

1.03 REFERENCES
A. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
B. ACI 315 - Details and Detailing of Concrete Reinforcement.
C. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
D. ASTM C31 - Making and Curing Concrete Test Specimens in the Field.
E. ASTM C33 - Concrete Aggregates.
F. ASTM C39 - Compressive Strength of Cylindrical Concrete Specimens.
G. ASTM C94 - Ready-Mixed Concrete.
H. ASTM C143 - Slump of Portland Cement Concrete.
I. ASTM C150 - Portland Cement.

1.04 SUBMITTALS
A. Submit under provisions of Division 01.
B. Mix Designs: Submit certified copies for concrete class specified; include test reports.
C. Manufacturer's Reports:
   1. Submit certified mill test reports (tensile and bending) for each heat or melt of steel prior to delivery of material to job site.
2. Deliver transit mix delivery slip with each load of concrete certifying the quantity of cement, water, fine aggregate coarse aggregate and admixtures in the load and the departure time from the plant.

1.05 QUALITY ASSURANCE

A. Construct concrete formwork in accordance with ACI 347.

B. Reinforcing steel shall conform to ACI 301 and ACI 315. Place reinforcing steel in accordance with CRSI 63, 65 and Manual of Standard Practice.

C. Obtain cementitious materials from same source throughout.

D. Reinforcing steel is to be tested in accordance with ASTM A615. Such material, as required shall be furnished free of charge by the Contractor.

E. Mill affidavits stating physical and chemical properties of the reinforcing steel shall be submitted to the Architect and testing laboratory before installing the reinforcing steel.

1.06 REGULATORY REQUIREMENTS

A. Concrete work shall conform to Current UBC Chapter 19 and Current California Amendments Chapter 19A.

B. Concrete curing compounds and form release agents shall comply with VOC (Volatile Organic Compounds) regulations of the Bay Area Air Quality Management District and California Air Resources Board.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site, store and protect under provisions of Section 01600.

B. Store reinforcing steel in a manner to prevent damage, excessive rusting, and fouling with dirt, grease and other bond-breaking coatings.

C. Store and protect, from freezing and damage.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

A. Forms: Wood or steel, profiled to suit conditions.

B. Keyed Joint Forms: Minimum 26 gauge galvanized steel; 3-1/2 inch size; removable cap; provided with splice plates, stakes, and driving buttons; Burke Keyed Kold Joint, or equal product substituted under provisions of Section 01630.


D. Anchorages: Nails, spikes, lag bolts, and through bolts of strength and character to maintain formwork in place while concrete is placed; sized as required.

2.02 REINFORCEMENT
A. Reinforcing bars - new billet steel, ASTM A615 Grade 60 for No. 5 bars and larger, Grade 40 for No. 4 and smaller. Welded wire fabric if required shall conform to ASTM A185.

B. Tie Wire: Minimum 16 gauge; annealed; black.

C. Accessories: CRSI 63; metal or plastic spacers, supports ties, as required for spacing, assembling, and supporting reinforcing.

2.03 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Type II, natural color.

B. Aggregate: ASTM C33.
   1. Coarse Aggregate: Normal weight; 3/4 inch maximum size; clean, uncoated, crushed aggregate, free of materials which cause staining or rust spots.
   2. Fine Aggregate: Clean, natural sand.

C. Water: Clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious material.


2.04 ACCESSORIES

A. Non-Shrink Grout: Packaged product; minimum 6000 psi; Burke # (324) 57-100, or equal product substituted under provisions of Section 01630.

B. Concrete Curing Compound: Conforming to ASTM C309 Type 1, Class A or B, and Standard Specifications Section 90-07; non-yellowing, non-staining liquid membrane forming type; VOC compliant.

C. Form Release Agent: Non-staining chemical form release agent free of oils, waxes, and other material harmful to concrete; VOC compliant.

D. Joint Sealer: Single component polyurethane sealant complying with FS TT-S-00230C, Type I, Class A and ASTM C920; shore A hardness of 25 to 35; ChemRex, Inc. Sonneborn "Sonolastic" SL1, or equal product substituted under provisions of Section 01630.

E. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer.

2.05 CONCRETE MIXES

A. Proportion concrete materials in accordance with CBC State Chapter 19, Section 1905(a). Designed mixes (Method B) and pretested mixes (Method C) shall be prepared under the supervision of a registered civil engineer and shall bear the stamp and signature of that engineer.
   1. No concrete shall be poured until mix designs and test reports have been submitted, reviewed, and accepted by the Architect and the District's testing laboratory.
2. No substitutions shall be allowed in the materials used without additional test reports as specified herein and showing that the quality of the concrete satisfactory.

B. Mix and proportion to produce concrete with the following characteristics:

1. Slabs: Slump of 2 inches minimum and 4 inches maximum per ASTM C143; air entrainment of 4 percent minimum and 6 percent maximum; minimum compressive strength of 3,000 psi at 28 days.

C. Do not use calcium chloride.

2.06 FABRICATION OF REINFORCEMENT

A. Shop fabricate reinforcement in accordance with details on Drawings. Where specific details are not shown or noted fabricate in conformance with ACI 315 and CRSI.

B. Clean bars of loose rust, loose mill scale, and substances which may decrease bond.

C. Bend bars cold and accurately to detail.

2.07 SOURCE QUALITY CONTROL

A. Owner's testing laboratory will review mill tests for reinforcing steel, concrete mix designs, and delivery slips.

B. The owners testing laboratory will sample and test cement and aggregate as required by the Office of the State Architect.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that subgrade gradients and elevations are complete.

B. Verify that subgrade is compacted to minimum 90 percent compaction and ready to receive base.

C. Beginning of installation means acceptance of subgrade conditions.

3.02 FORMING

A. Place and secure forms to correct location, dimension, and profile.

B. Construct matched, tight fitting forms which are adequately stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of concrete.

C. Form vertical surfaces to full depth and securely position to required lines and levels. Extend edge forms for exposed edges of slabs to minimum 6 inches below finished grade.

D. Arrange and assemble formwork to permit easy dismantling and stripping and to prevent damage to concrete during formwork removal.

E. Maintain the following alignment tolerances:
1. Top of Form: Maximum 1/8 inch in 10 feet.
2. Vertical Face: Maximum 1/4 inch in 10 feet.

F. Coat form surfaces in contact with concrete with form release agent.

3.03 PLACING REINFORCING STEEL

A. Bars shall be continuous, straight, level and plumb. All splices that may be required in steel reinforcing bars shall be located only as shown on the drawings. Splices in wire fabric shall be at least 1-mesh wide. Steel reinforcement, at the time concrete is placed, shall be free of rust, scale, loose mill scale, oil, paint or any coating that will destroy or reduce the bond between steel and concrete.

B. Place reinforcing steel and threaded rods in accordance with the Drawings. Install reinforcement accurately and secure against movement, particularly under the weight of workers and the placement of concrete.

C. Locate reinforcement accurately in the forms and hold in place by supports adequate to prevent displacement and to maintain reinforcement at proper distances from form face. Place supports in accordance with CRSI 63. Do not use wood supports and spacers inside the forms.

D. Drill existing concrete slabs and aprons to embed reinforcing steel and threaded rods. Remove dust and debris as required by non-shrink grout manufacturer. Mix and apply non-shrink grout in accordance with manufacturers instructions. Set reinforcing steel and threaded rods in non-shrink grout.

E. Bending of bars around openings and sleeves is not permitted. Where conduits, piping, inserts, sleeves, and other embedded items interfere with placing reinforcing steel, propose method of avoiding conflict and obtain Architect authorization to proceed with proposed method before concrete is placed.

F. Tie reinforcing rigidly and securely with steel tie wire at splices, at crossing points and at intersections. After cutting, bend tie wire so that concrete placement will not force the wire ends to surface of concrete.

G. Tie dowels securely in place before concrete is deposited In the event there are no bars in position to which dowels may be tied, add #3 bars (minimum) to provide proper support and anchorage. Do not bend dowels after placement of concrete.

3.04 JOINTS

A. Construct joints properly aligned with face perpendicular to concrete surface.

B. Place construction joints in locations and manner shown on Drawings or as authorized by Architect.

1. Clean and roughen construction joints, including keys by removing entire surface and exposing clean, solid embedded aggregate by sandblasting or other means acceptable to the Architect.

C. Place expansion joints between slab edges and adjacent structure.

1. Place compressible joint filler between concrete and other appurtenances.
2. Place joint filler vertical in position and in straight lines. Secure to formwork during concrete placement.

3. Install joint fillers full width and depth of joint. Recess top of filler 1/2 inch where joint sealants as indicated on Drawings.

4. Provide joint fillers in single lengths for full slab width. Fasten joint filler sections together where multiple lengths are required.

D. Place keyed joint forms for keyed expansion joints at intervals and locations shown on Drawings. Maintain removable cap in place until concrete finishing and curing is complete.

1. Form scored joints in fresh concrete using a jointer to cut a smooth uniform groove.

2. Strike joints before and after brooming.

E. Rough edges, including edges of expansion and scored joints, with 1/2 inch radius edging tool.

3.05 MIXING

A. Ready mix concrete in accordance with ASTM C94.

B. Provide equipment adequate for the purpose and maintain in good condition. Mixers shall be equipped with an automatic device for recording number of revolutions of drum and blades prior to completion of mixing operation.

C. Do not add water to the mix after the initial introduction of mixing water for the batch except when, on arrival at the job site, the slump of the concrete is less than the specified.

D. Keep concrete continuously agitated until discharge into the hopper at the job site.

E. Ensure that the mixed concrete is placed in the forms within 90 minutes and 300 revolutions of the drum from the time of introduction of cement and water to the mixer.

F. Keep a record on the job site showing time and place of each pour of concrete. Make record available to Architect for his review upon request.

3.06 PLACING CONCRETE

A. Place concrete in accordance with ACI 304. Place concrete immediately after mixing. Do not use concrete after it has begun to set. Re-tempering is not permitted.

B. Protect concrete from physical damage or reduced strength due to weather extremes. Place concrete in accordance with ACI 305 in hot weather. Place concrete in accordance with ACI 306 in cold weather.

C. Ensure reinforcement, inserts, and embedded parts are not disturbed during concrete placement.

D. Place concrete continuously. Place concrete in one course monolithic construction for full width and depth.
E. Place and spread concrete to full depth of forms. Use tools for hand spreading and consolidation which prevent segregation of aggregate and dislocation of reinforcement.

F. Consolidate concrete.

G. Strike off and bull float concrete after consolidation. Avoid working mortar to surface. Level ridges and fill voids.

H. Check surface with 10 foot straightedge. Fill depression and refloat repaired areas.

I. Darby the concrete surface to provide a smooth level surface ready for finishing.

3.07 FINISHING

A. Medium Broom Finish: Typical on slabs unless otherwise noted on drawings.

1. Wood float surface as specified above.
2. Draw a stiff bristled broom not less than 18 inches wide across floated concrete surface.
3. Broom perpendicular to direction of travel unless shown otherwise on Drawings.
4. Finished broom surface shall be free from irregularities, depressions and rough spots and shall match accepted field sample.

B. Apply curing compounds on exposed surfaces in accordance with manufacturer's instructions.

C. Apply sealant over joint fillers. Remove keyed joint form cap and apply sealant over keyed joint forms. Coordinate application of sealant with finishing and curing of concrete surfaces performed under this Contract and under separate contract; do not remove keyed form joint caps or apply sealant before concrete sealing operations are complete.

3.08 FIELD QUALITY CONTROL

A. Field testing will be performed by the Owner’s Testing Laboratory.

B. The Owner’s testing laboratory will:

1. Test concrete for compressive strength in accordance with CBC State Chapter 19, Section 1905A.6.
   a. Take 3 standard compression test cylinders from each day's placing for each class of concrete in accordance with ASTM C31.
   b. Store and cure cylinders, and test cylinders in accordance with ASTM C39 at 7 and 28 days. Hold one cylinder for future tests.

2. Test concrete for slump in accordance with ASTM C143.

3.10 PROTECTION

A. Protect installed work.

B. Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures and mechanical damage.
END OF SECTION
SECTION 05500
METAL FABRICATIONS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Provide complete, in place all miscellaneous metal work as shown on the Drawings, specified herein and required for a complete and proper installation. The work of this Section includes, but is not necessarily limited to:

1. Pipe railings, guardrails, handrails and rail brackets.
2. Shop protective coatings and field touch-up.

1.02 RELATED SECTIONS:

A. Coordinate work of this section with work included under the following sections:

1. Section 03300 - Cast-in-Place Concrete

1.02 REFERENCE SPECIFICATIONS:

A. NAAMM: Architectural Metals Handbook, unless otherwise indicated on the Drawings or specified herein.
D. Aluminum Association (AA) Standards.
F. Federal Specifications.
I. ICBO, International Conference of Building Officials.
J. SSPC, Steel Structure Painting Council, PS 8.01-82.
K. California Code of Regulations, Title 24, Part 2, Chapter 27, "Steel".

1.03 COOPERATION WITH OTHER TRades:

A. Carefully coordinate the work of this Section with that of all other trades to insure that the work will be carried out in an orderly and complete fashion.

1.04 QUALITY ASSURANCE:

A. Standards: Comply with standards specified in this Section.

B. Quality Control:

1. Conform to final approved Shop Drawings
2. Verify all dimensions prior to fabrication
3. Conform to AISC Manual and AWS Standards for ferrous metal work
4. Conform to AA Standards for aluminum work.
C. Qualifications of Manufacturers: Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of satisfactory production acceptable to the Architect.

D. Qualifications of Workers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section. Insofar as possible, the work shall be shop fitted and shop assembled ready for erection. Jointing and intersections shall be accurately made, be tightly fitted and be made in the true planes with adequate fastenings. Defective work in the shop or in the field will not be accepted.

E. Provide one skilled journeyman steelworker who shall be present at all times during execution of this portion of the work and who shall personally direct all work performed under this Section.

1.05 SUBMITTALS:

A. General: Comply with provisions of Division 01.

B. Shop Drawings: Prior to fabrication, prepare Shop Drawings of work and submit to and obtain Architect's approval thereof. Shop drawings shall be based on Drawings, Specifications and field measurements essential for proper fitting of miscellaneous metal with other construction and shall present complete information as to fabrication and erection.

1.06 PRODUCT HANDLING:

A. Transport, store and erect miscellaneous metal in a manner that will prevent damage or deformation. Store materials clear of the ground and protect from water and the elements. Metal that is bent or twisted during erection shall be promptly and properly straightened or replaced. Straightening, if permitted, shall be done without heating.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the District.

PART 2 – PRODUCTS

2.01 FERROUS METAL PRODUCTS:

A. Rolled Steel Shapes, Bars and Plates: ASTM A 36.

B. Steel Strip and Sheet: Genuine wrought iron (mild steel), of proper temper for required shaping, commercial grade or better.

C. Pipe: ASTM A 53, Schedule 80 for bollards, Schedule 40 elsewhere, galvanized or black, as designated or specified.

1. Rain Water Leaders:

   a. Pipe: ASTM A53, Schedule 40; diameter as shown on the Drawings or as specified.
2. Bollard Pipe: ASTM A53, Schedule 80; diameter as shown on the drawings or specified; Hot-dip galvanized after fabrication.
   a. Fixed Bollards: 42 inches high x 42 inches concrete embedded (10 inches plus pipe diameter), concrete filled, smooth trowel finish to shed water.
   b. Removable Bollards: as above; 4 inch diameter; welded cap in-lieu-of concrete: Bollard shall be sleeved and flanged to shed water, provide for padlock by others.

D. Tube: ASTM A 501 or A500, Grade B, seamless, galvanized or black, as designated or specified.


F. Handrail Brackets for Steel Pipe Handrails, Galvanized: Malleable iron brackets with concealed fasteners as follows or approved equal: Julius Blum; No. 1378; or J.G. Braun; No. 4595.

G. Arc Welding Electrodes: AWS A5.1 or A5.5, E60XX or E70XX, as applicable to joinery required.

H. Shop Galvanizing for all exterior Metal Fabrications: Hot dip galvanized; ASTM A 123 for structural shapes, 1.8 ounces psf; ASTM A525 for plate stock, 1-1/4 to 1-1/2 ounces psf; ASTM A 53, Grade A, for pipe and tubing.

I. Galvanizing Repair Compound: "Hot Bar" method, finished free of whiskers or touch up with "Galvicon" by Galvicon Corp., or "Drygalv" by Anchor Brand Co., or "Tot-Rust" (with aluminum color added) by Wilbur & Williams Co.

J. Galvanized Steel Handrail: Handrail shall be engineered to take a 200 lb force in any direction. Design of handrail shall be modified in a manner not to change design if required to meet design loading.

2.02 FABRICATION

A. Preparation:
   1. Verify field measurements prior to fabrication and installation.
   2. As required for proper fabrication and use, straighten material by methods that will not damage material.
   3. Clean contact surfaces of materials of loose scale, rust, burrs, grease, oil, and other foreign material.

B. General:
   1. Fabricate products as indicated.
   2. Preassemble items in shop to 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 coordination of installation.
3. Use materials of size and thickness indicated, or if not indicated, of size and thickness necessary to produce strength and durability in the finished items for the use intended.

4. Fabricate items with joints secured and tightly fitted. Make exposed joints butt tight, flush, and hairline.

5. Grind weld spatter and sharp edges smooth. Grind welds that will be exposed to view in the finished Work flush and smooth with adjacent finished surface. Ease exposed edges to small uniform radius.

C. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of structure, except where specifically noted otherwise.

D. Make exposed joint butt tight, flush, and hairline.

E. Supply components required for anchorage of metal fabrications. Fabricate anchorage and related components of same material and finish as metal fabrication, except where specifically noted otherwise.

F. Connections:
   1. Shop Connections: Welded whenever possible, unless otherwise indicated. Welds that will be exposed to the weather or damp conditions shall be continuous and watertight.
   2. On-Site Welding: Eliminate such as much as possible.
   3. Shop and Field Welding:
      a. Perform in accordance with AWS D1.1, using method approved by AWS for the particular materials and conditions. If sizes of fillet welds are not indicated, use AWS minimum weld size, but not less than 3/16-inch fillets.
      b. Faulty and Defective Welding: Welding showing cracks, slag inclusion, lack of fusion, bad undercut, or other defects detected by visual or other means of inspection, shall be chipped out and properly replaced.

PART 3 - EXECUTION

3.01 INSPECTION:

   A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

   B. Preparatory Provisions: Before commencing work, the measurements, lines, grades, elevations, locations and details of the existing job conditions shall be verified as to their accuracy and correlation to the Drawings. Metal shall be fabricated in the exact section, shapes, thicknesses, sizes, weights and details of construction indicated on the Drawings. However, because of his standard shop practice or his stock on hand, the miscellaneous metal subcontractor may suggest changes if submitted with design calculations. These changes may be made only with the expressed consent of the Architect.

3.02 FERROUS METAL FABRICATION:
A. Cutting: Cut stock neat and square; remove sharp edges and cutting bead.

B. Quality:

1. Accurately form and assemble sections to precise shapes detailed. Fabricate curved, bent and twisted or flattened shapes to exact radii, diameter, form and dimensions indicated. Provide items free of kinks, twits, burrs, and open joints. Do not use damaged or distorted materials.

2. Perform welding in accordance with AWS D1.1 Code for shielded arc method. Make exposed joints close-fitting and at concealed locations where practicable. Grind joints, corners, exposed portions of welds, edges of metal where cut; leave in clean and well formed and neat condition.

3. Unless otherwise indicated, bolt and screw heads shall be flat, countersunk where exposed. Cut off bolts, where exposed, 1 thread above nuts and peen flush.

4. Touch up galvanized surfaces resulting from welding or other construction operations in the field using galvanizing repair compound.

C. Priming: Remove grease, rust, scale and other deleterious matter. Apply one coat pre-treatment wash to galvanized finish scheduled or specified to receive paint finish; and one coat of red oxide primer to exposed non-galvanized steel. After erection, touch-up all burred or abraded areas.

D. Hot-Dipped Galvanized: See Drawings for fabricated items to be entirely hot-dipped galvanized. All exposed or exterior metal shall be galvanized.

3.03 ERECTION:

A. General: Erect work plumb, level, square, true, in-plane and in proper alignment and relationship to other work, free from waves, buckles, sags or other defects.

B. Protection: Protect from damage and staining during erection and until acceptance of the project.

C. Dissimilar Metals: Separate dissimilar metals, and separate metal work from products or materials containing lime or other substances damaging to metal. Back-paint metal with bituminous paint, cut to edges, prior to installation. Leave protective coating and wrapping in place as long as possible. Upon completion of adjoining work, remove coatings and wrappings, and clean and polish exposed faces.

D. Provide anchors and fastenings as indicated or required to secure miscellaneous metal items in place. Anchorage not otherwise specified or indicated shall include expansion shields and powder driven fasteners when approved for concrete or masonry, machine and carriage bolts for steel; and through bolts, lag bolts and screws for wood.

3.04 SPECIFIC ITEMS:

A. Refer to Project Drawings for materials, sizes, arrangement, or other criteria. Conform to approved Shop Drawings.
B. Handrails: Galvanized finish. Fabricate from pipe with radius end returns to wall, extending 12 inches beyond top nosing and 12 inches plus the tread width beyond the bottom tread nosing. Secure to wall with detailed brackets.

C. Pipe Sleeves for Guardrails and/or Railings: Fabricate from steel pipe with I. D. one size larger than O.D. of pipe to be inserted therein. Plug one end of sleeve and weld on rebar hairpin or straight anchors as indicated.

D. Guardrails and Railings: Galvanized finish. Fabricate from pipe sizes as shown; all welded construction. Join top rails of failing sections with pipe sleeves as indicated on the Drawings. Terminal ends (not against walls or where similarly protected) and corners projecting into pedestrian traffic shall be radiused. Mitered square sharp corners are prohibited. Secure in place as detailed. Where verticals are supported within pipe sleeves, provide hot-dip galvanizing to the verticals and secure in place with nonshrink grout compounds recommended for this purpose.

3.05 CLEANING UP:

A. Upon completion of work remove excess debris, materials, equipment, apparatus, tools and the like and leave premises clean, neat and orderly.

END OF SECTION
SECTION 06100
ROUGH CARPENTRY

PART 1 GENERAL

1.01 WORK INCLUDED
A. Provide miscellaneous wood framing members, blocking and backing as indicated and as required for completion of Project as indicated.
C. Provide miscellaneous wall, floor, and ceiling framing where required.
D. Preservative treat wood members as indicated.

1.02 RELATED SECTIONS
A. Section 06200: Finish Carpentry.
B. Section 06400: Architectural Woodwork.
C. Section 09250: Gypsum Board Assemblies

1.03 QUALITY ASSURANCE
A. Lumber: Provide visible grade stamp of an agency certified by NFPA.
B. Lumber Standard: Comply with US Product Standard PS20 for each indicated use, including moisture content and actual sizes related to indicated nominal sizes.
C. Plywood Standard: Comply with PS1 (ANSI A199.1).

1.04 REFERENCES

1.05 SUBMITTALS
A. Submit under provisions of Division 01.
B. Product Data: Wood treatment certification and instructions for proper use of each type of treated material.
C. Certification documentation from certifying organization

1.06 DELIVERY, STORAGE AND HANDLING
A. Packing and Shipping: Provide waterproof covers for preservative treated wood during shipment.
B. Storage and Protection: Store preservative treated wood off the ground and protected from the Weather.
PART 2   PRODUCTS

2.01  WOOD MATERIALS

A. Framing: Framing shall be Douglas Fir Coast Region, conforming to West Coast Lumber Inspection Bureau Standard Grading and Dressing Rule No. 17, as amended to date.

1. 2x, 3x, 4x, plates, joists, purlins, studs, blocking and beams, No. 1 and better, unless noted otherwise on the drawings.
2. 2x, 3x, 4x, joists, purlins and beams, Select Structural, where noted on the drawings.
3. 6x beams, No. 1.
4. 2x, 3x, 4x ledgers, No. 1, unless noted otherwise on the drawings.
5. 4x4 posts, No. 1, unless noted otherwise on the drawings.
6. 4x6 posts, No. 1, unless noted otherwise on the drawings.
7. 6x6 and larger posts, Dense No. 1.
8. 2x6 or larger studs and blocking, No. 1 (1000F-b), Para. 123-b.
9. The moisture content of all lumber 4x or greater shall be verified by the project inspector at the time of framing.
10. Foundation Plates, Pressure Treated Douglas Fir.

B. All framing lumber 6" or larger in the least dimension shall be F.O.H.C.

C. Moisture Content shall not exceed 19% for roof support structural members. Use “dry” lumber for wall structural members (ie: headers, top plates, sill plates, studs and posts). Alternatively, an engineered lumber material may be substituted if approved by the Structural Engineer and the Division of the State Architect.

D. Blocking Certified: Boards and dimensional lumber graded in accordance with NFPA Grading Rules; Construction Grade, Douglas Fir/Larch; minimum S-Dry.

E. Veneer Core Plywood Sheathing: APA grade marked for conformance with PS-1, Structural I, Exterior Type,; all plies shall be Douglas Fir, Grade CC, thickness as shown on the Drawings.

2.02  ACCESSORIES

A. Hardware:

1. All exterior hardware and accessories shall be hot-dipped galvanized, unless otherwise noted.


4. Washers: Washers for bearing against wood shall be provided under all bolt heads and nuts. Malleable iron or steel plate having an area equal to 16 times the area of bolt or lag screw. Steel washers shall have a thickness of not less that 1/10 the length of the washer's longest side. Malleable iron washers shall have a thickness of not less that one-half the bolt or lag screw diameter and having a bearing surface for the nut or head equal in diameter to not less than the long diameter of the nut or head.

5. Framing Connectors: Fabricated sheet metal timber framing connectors shall be manufactured from hot-dipped galvanized steel by Simpson Company of San Leandro, Universal Anchors Company of San Francisco, and/or Timber Engineering Company, or approved equal, as identified on the Drawings. Connectors shall be a least 16-gage.
B. Fasteners: Provide fasteners as required for complete, secure installation of miscellaneous rough carpentry.

1. Solid Masonry of Concrete: Expansion shield and "wedge anchors stud type with wedge clips.

2. Steel: Bolts or powder activated type.

2.03 WOOD PRESERVATIVE

A. Treat lumber and plywood to comply with applicable requirements of American Wood Preservers Association (AWPA) Standard C1 and according to the following standards for indicated end use. Grade and species shall comply with the requirements above.

1. Lumber: C2
2. Plywood C9

B. Fire Retardant Treatment: Comply with AWPA standards for pressure impregnation with fire-retardant chemical to achieve flame-spread rating of not more that 25 in accordance with ASTM E84 or UL Test 723.

1. Treat blocking and plywood panel boards; comply with AWPA C20 and C27, Interior Type A, and identify with FRTW.
   a. Exterior Type: Where indicated for exterior applications, provide fire treated wood passing ASTM D2898 rain text.

2. Provide UL label on each piece of fire-retardant wood and plywood.

3. Kiln-dry treated items to maximum moisture content of 19 percent.

C. Complete fabrication of treated items prior to treatment, wherever possible; if cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.

D. Inspect each piece after drying and discard damaged and defective pieces.

PART 3 EXECUTION

3.01 PLACEMENT

A. Place rough carpentry true to lines and levels.

B. Correlate location so attached work will comply with design requirements and be properly located.

C. Construct members of continuous pieces of longest possible lengths.

D. Fit carpentry work to other work; scribe and cope as required for accurate fit.

E. Shim with plastic, metal or slate for bearing on concrete and masonry.

F. Securely attach carpentry work to substrates by anchoring and fastening as required by recognized standards.
1. Provide washers under bolt heads and nuts in contact with wood.

G. Wood Blocking: Provide blocking of S4S lumber not less than 1 1/2" wide and of thickness required to provide adequate support or to properly locate attached material.

1. Provide attachment to other work; form to shapes shown.
2. Countersink bolts and nuts flush with surfaces.
3. Remove temporary blocking when no longer needed.
4. Anchor to formwork before concrete placement.

H. Plywood Structural Sheathing:

1. plywood thickness and nailing shall be as required on the Drawings. All nails shall be common wire nails.
2. Block all unsupported edges of plywood sheets; blocking shall be minimum 2 x 3 between framing members.
3. Minimum sheet width shall be 16 inches.

END OF SECTION
SECTION 06200
FINISH CARPENTRY

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for furnishing, installing and finishing various finish carpentry items, including, but not limited to the following:

1. New door and window trim, casing, sills and miscellaneous wood trim.
2. Replacement and patching of existing door, window trim, casing, sills and miscellaneous wood trim where damaged.

B. Related Sections:

1. Section 06100 – Rough Carpentry for backing and blocking
2. Section 09900 – Painting for priming of exterior finish carpentry.

1.02 SUBMITTALS

A. Finish samples:

1. Submit four samples of each cut and species of wood to be used, minimum size of 6" x 12" for lumber and 12" x 12" for plywood.

1.03 ENVIRONMENTAL QUALITY ASSURANCE

A. Materials, fabrication, and installation of products shall meet the quality standards specified herein, as applicable to the standards specified in the current edition of WI (Woodwork Institute) “Manual of Millwork,” unless otherwise indicated.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Division 01.

B. Deliver and store products when the building is completely enclosed, the relative humidity not less than 25 percent nor more than 55 percent, all "wet" Work has dried, and the heating or air conditioning system, as applicable, is on and functioning.

C. Protect stored products from extreme heat and dryness, humidity and moisture, sudden changes in temperature, and direct sunlight.

1.05 ENVIRONMENTAL CONDITIONS

A. Painting and other "wet" work in areas in which products will be installed shall be complete and thoroughly dry prior to start of installation.

PART 2 - PRODUCTS
2.01 MATERIALS

A. Wood for Interior Millwork and Trim, of Sizes and Configurations Indicated:
   1. Lumber to Receive Transparent Finish: WI Premium Grade Vertical-grain Fir to receive shop- or field-applied clear finish specified in Section 09900.
   2. Lumber to Receive Opaque Finish: WI Economy Grade finger jointed western softwood species to receive shop- or field-applied opaque finish specified in Section 09900.

B. Wood for Exterior Trim, of Sizes and Configurations Indicated:
   1. Lumber to Receive Transparent Finish: No. 2 Redwood, with tight knots to receive shop- or field-applied transparent finish specified in Section 09900. Note: trim shall be primed (six sides) with cuts primed prior to installation.

C. Furring and Stripping (Concealed): of any WI Grade western softwood, preservative-treated when intended for installation against concrete or concrete masonry units.

D. Preservative Treatment for Wood: Non-arsenic, Non-chromium type: Wolman E Copper Azole by Arch Treatment Technologies, Inc. or approved equal.
   1. Material: Paintable.
   2. Moisture Content: After treatment, re-dry wood to moisture content the same as prior to treatment.
   3. Use: For wood intended for installation against concrete or concrete masonry units. Retreat all field cut ends and surfaces.

E. Other materials not indicated or specified shall conform to the specified WI quality standard as applicable to each product.

F. Accessories:
   1. Anchors, Nails and Screws: Select material, type, size, and finish required by each substrate for secure anchorage; provide toothed steel or lead expansion bolt screws for drilled-in-place anchors or as indicated.
   2. Adhesives: Interior Finished Carpentry and Millwork: Low emitting, FS MMM-A-125C, Type II, water and mold resistant. Use ASTM D3110, dry-use type for laminated and finger-joined members, certified in accordance with ASTM C557 and complying with required VOC regulations.
      a. Water based contact cement.

2.02 FABRICATION - GENERAL

A. Fabricate products as indicated, and in conformance with WI, unless otherwise specified, and the following Sections of the WI manual, unless otherwise indicated or specified:
   1. Wood Trim:
b. Interior Trim: Sections 9 and 10.

B. Fabricate products in longest lengths practical for transporting and handling. Assemble units fabricated in more than one piece in such manner that unit becomes structurally and visually a whole.

C. Backpriming of exterior wood is specified in Section 09900.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are suitable for the installation of finish carpentry. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 PREPARATION

A. Remove products from their protective wrappings as near the areas of installation as possible.

B. Allow products to acclimate to conditions in the areas of installation for 72 hours minimum prior to installation.

C. Prime paint surfaces of wood that will be in contact with cementitious materials in the finished work.

3.03 INSTALLATION

A. Install finish carpentry products where indicated, in accordance with the applicable section of the WI Manual.

B. Install products straight, plumb, level, and square; securely attach to substrate. Completely fill nail and screw holes; sand, and leave smooth and flush with adjacent surfaces; fastening shall not be visible.

C. Install running and standing trim in longest lengths practical or as indicated. Miter cut running joints tight and flush on exposed faces and edges. Miter or cope inside corner joints; miter outside corners. Miter and return exposed ends. Returns less than one inch longer than thickness shall be drilled, glued and nailed.

D. Remove and replace products damaged beyond repair or stained beyond cleaning.

E. Following completion of installation, remove dirt and other foreign materials from installed products.

F. Disposal of preservative treated wood to be at an approved dump site.

END OF SECTION
SECTION 06400
ARCHITECTURAL WOODWORK

PART 1. GENERAL

1.01 SUMMARY

A. Section Includes, Special Fabricated
   1. Plastic Laminated casework
   2. Hardware, typically furnished by the woodwork manufacturer

B. Related Sections
   1. Rough carpentry, wood blocking and grounds within finished walls and above finished ceiling
   2. Wood doors

1.02 REFERENCES

A. Minimum standards for work within this section shall be in conformity with the MANUAL OF MILLWORK, latest edition, Standards of the Architectural Millwork Industry as adopted by the WOODWORK INSTITUTE.

1.03 SUBMITTALS

A. Submit shop drawings in conformance to MANUAL OF MILLWORK - SECTION 1, “Basic Requirements for Architectural Millwork Shop Drawings”.

B. Furnish a WOODWORK INSTITUTE - CERTIFIED COMPLIANCE LABEL on the first page of shop drawings.

C. Shop drawings:
   1. Submit two copies, one of which will be returned with reviewed notations, make corrections noted (if any) and distribute required copies prior to commencement of work.

D. Finish samples:
   1. Submit four samples of each cut and species of wood to be used, minimum size of 6” x 12” for lumber and 12” x 12” for plywood.
   2. Submit four additional samples of what will be used to painting trade for preparation of paint samples.
   3. Submit a sample of each item of cabinet hardware, in the job specified finish, visible at exposed surfaces when the cabinet doors and drawers are closed.

1.04 QUALITY ASSURANCE

A. Performance shall be in accordance with [ Economy, Custom, Premium or Laboratory ] GRADE of the WOODWORK INSTITUTE - MANUAL OF MILLWORK, latest edition.
   1. If provisions for the GRADE specified are in conflict with, or modified by the drawings and/or specifications, the modifications shall govern.

B. Select one of the following WOODWORK INSTITUTE - Quality Control Options:
   1. CERTIFIED COMPLIANCE PROGRAM (CCP)
a. BEFORE DELIVERY TO THE JOB-SITE, THE MILLWORK SUPPLIER

- LICENSEES of the WOODWORK INSTITUTE: SHALL ISSUE A CERTIFIED COMPLIANCE CERTIFICATE INDICATING THE MILLWORK PRODUCTS BEING FURNISHED FOR THIS PROJECT, AND CERTIFYING THAT THESE PRODUCTS AND THEIR INSTALLATION, IF APPLICABLE, WILL FULLY MEET ALL THE REQUIREMENTS OF THE GRADE OR GRADES SPECIFIED.

- NON-LICENSEES of the WOODWORK INSTITUTE: SHALL PROVIDE EVIDENCE THAT THEY HAVE ARRANGED FOR INSPECTION BY A WOODWORK INSTITUTE INSPECTOR AFTER COMPLETION OF FABRICATION AND INSTALLATION. IF ALL CONDITIONS ARE FOUND TO BE COMPLIANT, THE INSPECTOR WILL ISSUE A CERTIFIED COMPLIANCE CERTIFICATE INDICATING THE MILLWORK PRODUCTS FURNISHED FOR THIS PROJECT, AND CERTIFYING THAT THESE PRODUCTS AND THEIR INSTALLATION, IF APPLICABLE, FULLY MEET ALL THE REQUIREMENTS OF THE GRADE OR GRADES SPECIFIED.

b. EACH ELEVATION OF CASEWORK SHALL BEAR A CERTIFIED COMPLIANCE LABEL.

C. Qualifications:

1. Contractors and their personnel engaged in the work shall be able to demonstrate successful experience with work of comparable extent, complexity and quality to that shown and specified.

2. Fabricator shall be a member/licensee in good standing of the WOODWORK INSTITUTE.

3. Installer shall be a member/licensee in good standing of the WOODWORK INSTITUTE.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials only when the project is ready for installation and the general contractor has provided a clean storage area as defined in the MANUAL OF MILLWORK.

1.06 SEQUENCING AND SCHEDULING

A. Coordinate all fabrication, delivery and installation work with the general contractor and other applicable trades.

PART 2. PRODUCTS

2.01 COMPONENTS

B. Casework shall be MANUAL OF MILLWORK - Construction Style A – Frameless and Construction Type I - Multiple Self Supporting Units.

C. Semi-exposed surfaces shall be In Accordance With MANUAL OF MILLWORK Requirement. Interior surfaces in open cabinets or behind glass doors shall be in accordance with MANUAL OF MILLWORK Requirements or Match the Exposed Surfaces.

D. Door and drawer front style shall be Flush Overlay and match MANUAL OF MILLWORK door and drawer edge type.
E. Adjustable shelves shall be in accordance with MANUAL OF MILLWORK requirements subject to a 50 pound per square foot uniformly spaced load not to exceed 200 pounds per shelf.

F. Casework shall have 4” high Concealed toe spaces.

G. Casework hardware shall be the desired type, manufacturer, and finish listed as follows or be at the option of the manufacturer from the WOODWORK INSTITUTE’s most current listings of approved products, except in the case of pre-engineered drawer box systems which shall only be permitted by specific specification and/or approval.
   1. Pulls shall be: reuse existing
   2. Hinges shall be: 5-knuckle, overlay
   3. Locks shall be: Schlage CL100PB, key alike to room door.

H. LAMINATED PLASTIC CASEWORK
   1. Exposed plastic laminate shall be selected from WilsonArt brand, of their Wood Grain colors; laid up on ¾” plywood core with 3 mm PVC edge. Wood grain shall run and match existing.
   2. Door fronts and edges of cabinets in Multi-Use room, cabinet 5 on sheet A9.01, shall be Formica Envision custom graphic plastic laminate, or equal. Graphic to be provide by Architect.

I. COUNTERTOPS
   1. Plastic laminate shall be selected from WilsonArt brand, of their Special Finish colors with matte finish; laid up on ¾” plywood core with No-drip Bullnose edge.
   2. Back splash shall be Integral Cove with a Square self-edge, 4” high, except as noted, off the deck surface.
   3. Sinks shall be Stainless Steel with Top mount of size indicated on the plans.
      a. Sink drain pipes shall be 2” outside diameter.

PART 3. EXECUTION

3.01 EXAMINATION

A. Verify the adequacy and proper location of any required backing or support framing.

B. Verify that mechanical, electrical, plumbing and other building items (supplied by others) effecting work in this section are in place and ready.

3.02 INSTALLATION

A. Install all work in conformance with MANUAL OF MILLWORK Custom GRADE.

B. All work shall be secured in place, square, plumb and level.

C. All work abutting other components shall be properly scribed.

D. Mechanical fasteners at exposed and semi-exposed surfaces, excluding installation attachment screws and screws used for attaching cabinets end to end, shall be countersunk.

E. Equipment cut-outs within countertops indicated on plans shall be cut by installer.

F. Method of attachment, including the type, size, frequency, and/or spacing of anchoring devices and fasteners shall comply to MANUAL OF MILLWORK minimum requirements or be as indicated in the plans or specifications.
G. All installation including attachment of casework and countertops shall be in compliance with MANUAL OF MILLWORK minimum requirements.

H. This job shall comply with the requirements of the STATE OF CALIFORNIA ADMINISTRATIVE CODE and/or CUBC (California Uniform Building Code), TITLE 24.

3.03 ADJUSTING

A. Before completion of the installation, the installer shall adjust all moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Upon completion of the installation, the installer shall clean all items installed of pencil or ink marks and broom clean the area of his operations, depositing debris in containers provided by the general contractor.
PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work Included: Provide all building insulation, complete, in place, as shown on the Drawings, specified herein, and required for a complete and proper installation. The work of this Section includes, but is not necessarily limited to:

1. Flexible batt/blanket thermal insulation at:
   a. All new interior ceiling assemblies.

A. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 09510 Acoustical Ceilings.

1.02 COOPERATION WITH OTHER TRADES:

A. Carefully coordinate work of this Section with that of all other trades to insure that the work will be carried out in an orderly and complete fashion.

1.03 REFERENCED STANDARDS:


D. UL 181 - Standard for Factory-Made Air Ducts and Air Connectors; 1996.

1.04 QUALITY ASSURANCE:

A. Qualifications of Manufacturers: Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of satisfactory production acceptable to the Architect. Obtain each type of building insulation from a single source with resources to provide products complying with requirements indicated without delaying the Work.

B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated on Drawings or specified elsewhere in this Section as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1.06 SUBMITTALS:
A. Product Data: submit:

1. Manufacturer's literature and other data necessary to demonstrate compliance with the specified requirements.
2. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.

1.07 PRODUCT HANDLING:

A. Deliver materials to the site in the original sealed wrapping bearing manufacturer's name and brand designation, specification number, type, grade, R-value and class. Store and handle to protect materials from damage. Do not allow insulation materials to become wet or soiled. Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 - PRODUCTS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering insulation products that may be incorporated in the work include, but are not limited to, the following:

1. Glass Fiber Insulation:

2. Substitutions: approved equal products per Division 1.

2.02 APPLICATIONS:

A. On top of ceiling tiles: Batt/blanket insulation: R-30, Friction fit with no separate vapor retarder.

2.03 MATERIALS:

A. Batt/Blanket Insulation: Flexible, unfaced blankets made of inorganic glass fibers bonded with formaldehyde-free thermosetting resin, complying with ASTM C 665 and with glass fiber portion classified as noncombustible when tested in accordance with ASTM C 136.

2. Thermal Resistance (R-value): as indicated for application.
3. Size: 16 by 96 inches, for pressure fit without fasteners.
4. Surface Burning Characteristics: Flame spread index of 25 or less; smoke developed index of 50 or less; when tested in accordance with ASTM E 84 with specified facing.
5. Recycled Content: Certified by Scientific Certification Systems to contain minimum of 18 percent post-consumer and 7 percent pre-consumer recycled glass product, on average of manufacturer's products.
6. Air Erosion Resistance: Satisfactory up to 1,000 ft/min (5.08 m/s) when tested in accordance with UL 181.

2.04 ACCESSORIES:
   A. As recommended by the insulation manufacturer.

2.05 OTHER MATERIALS:
   A. All other materials, not specifically described but required for a complete and proper installation of the work of this Section, shall be as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 INSPECTION:
   A. Examine the areas and conditions under which work of this Section will be performed. Surfaces shall be clean, dry, and free of any projections. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION OF BATT INSULATION:
   A. Installation at ceiling installations: Size insulation to the width of the ceiling grid. Avoid gaps and bulges in insulation during installation. Do not place insulation closer than 3 inches from the sides of recessed lighting fixtures and heat producing devices or within 24 inches of the top of such fixtures and devices.

3.04 VERIFICATION:
   A. Upon completion of the installation in each area, visually inspect and verify that all insulation is complete and properly installed.

3.06 CLEANING UP:
   A. Upon completion of work, remove excess debris, material, equipment, apparatus, tools and the like and leave premises clean, neat and orderly.

END OF SECTION
SECTION 07460
FIBER-CEMENT PANEL

PART 1 - GENERAL

1.01 SUMMARY
A. Section Includes: Fiber-cement panels and fiber-cement planks.
B. Related Sections:
   1. Section 07900: Sealants for sealing of joints.
   2. Section 09900: Painting for finishing of panels and planks.

1.02 REFERENCES:
A. ASTM E-136 – Non-Combustible construction.
B. ASTM E84 – Smoke Density

1.03 SUBMITTALS
A. Product Data: Submit manufacturer’s descriptive literature including dimensions, profiles, textures, colors and installation instructions for each type of panel.
B. Samples
   1. Samples for Initial Selection: Submit samples of fiber cement plank and panel showing the full range of texture.
   2. Samples for Verification: Submit two units of each type of panel or plank required.
   3. Refer to Section 01340 for number and manner of submittals.

1.04 QUALITY ASSURANCE
A. Fire Performance Characteristics: Provide products that are identical to those tested and labeled or listed for the specified fire and wind resistance characteristics by UL or other testing and inspecting organizations acceptable to the State Fire Marshal.

1.05 DELIVERY, STORAGE AND HANDLING
A. Deliver materials to project site in manufacturer’s unopened bundles or containers with labels intact.
B. Panels should be laid flat on a smooth level surface. Edges and corners should be protected from chipping. Keep panels dry prior to installing. If panels should become wet, allow to dry thoroughly before installing.

1.06 WARRANTY
A. Guarantee: Provide standard one year guarantee as required in the General Conditions, and product warranty as described below.
B. Product Warranty: In addition to the guarantee specified above, submit a written warranty, executed by the manufacturer, agreeing to repair or replace fiber cement panels that fail in materials or workmanship within 50 years from date of "Notice of Completion". Failures include, but are not limited to, deformation or deterioration of panels beyond normal weathering.

1.07 MAINTENANCE

A. Extra Materials: Submit 2 percent of each type and texture of panel used in the Work. Deliver extra materials in unopened, labeled bundles to the District upon completion of the Work. Refer to Section 01700.

PART 2 - PRODUCTS

2.01 FIBER-CEMENT PANEL

A. Fiber cement exterior panel material: Grade II, Type A non-asbestos fiber-cement flat sheets complying to ASTM Standard Specification C1186. ¼” thickness, 1.9 pounds per square foot, 48” wide panels, smooth finish, primed for painting on 3 sides.

B. Flame-spread rating of 0.

C. Smoke-density rating of 5 when tested by ASTM E84.

D. Acceptable products include, but are not limited to the following:
   1. James Hardie Building Products; "Hardipanel"

2.02 FIBER CEMENT PLANK

A. Fiber cement exterior panel material: Grade II, Type A non-asbestos fiber-cement flat sheets complying to ASTM Standard Specification C1186. ¼” thickness, 1.9 pounds per square foot, 9 1/4” wide planks (8” exposure), smooth finish, primed for painting on 3 sides.

B. Flame-spread rating of 0.

C. Smoke-density rating of 5 when tested by ASTM E84.

D. Acceptable products include, but are not limited to the following:
   1. James Hardie Building Products; "Hardiplank"

2.03 UNDERLAYMENT AND ACCESSORIES

A. Underlayment: ASTM D 4869 or ASTM D226, Type I, 15 pound asphalt saturated organic felt, 36 inches wide, 2 layers minimum.

B. Nails for fiber cement plank and panel siding:
   1. Minimum 0.089” shank x 0.221” HD x 2” long.

C. Primer for touch-up of cuts at panels: Provide primer as recommended by panel manufacturer to match factory primer.
D. Self-Adhered membrane waterproofing at window openings and miscellaneous applications indicated: specified in Section 07100.

E. Metal Flashing: specified in Section 07600.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for installation of fiber cement panels. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 APPLICATION OF UNDERLAYMENT

A. Underlayment: Apply 2 layers of underlayment parallel with sill plate, beginning with a 19 inch wide starter course and overlapping with a full 36 wide course. Apply the following felts as full 36 inch wide sheets overlapping preceding courses 19 inches so that at least 2 courses cover the entire wall surface. Secure underlayment to the plywood wall panels with sufficient fasteners to hold it in place until plank or panel is installed.

B. Install Self-Adhered membrane waterproofing as specified in other specification section.

3.03 INSTALLATION

A. General - apply materials in conformance with ASTM Standard Specification C1186, CBC, the manufacturer’s printed instructions, and as indicated.

B. Fiber Cement Panels:
   1. Coordinate installation with all related work. Do not begin installation until all work to be concealed is complete.
   2. Prime all cuts prior to installation of panels. Apply primer as directed by panel manufacturer.
   3. Apply panels to framing members spaced up to 16" O.C. with the long panel dimension perpendicular to the framing. Install unprimed surface toward framing; primed surface exposed.
   4. Install fasteners with a minimum 3/8" edge distance and minimum 2" clearance from corners. Evenly space and align all fasteners.

C. Fiber Cement Plank:
   1. Install 1/4" lath starter strip to ensure consistent plank edge.
   2. The first course of any wall should be installed over a 1/4" lath strip.
   3. There should be a minimum 1-1/4" overlap between two planks.
   4. Prime all cuts prior to installation of planks.
   5. Stagger vertical joints between planks to avoid stacked planks.
   6. Install fasteners 1” down from the top of plank. Fastener heads should fit snug against plank without cracking plank. Evenly space and align all fasteners.
   7. Joints should be fastened at abutting plank edges with a maximum 1/8" gap and should be caulked.

D. Tolerances:
1. There shall be no measurable variation in any two-foot direction in fiber cement panel application, nor a maximum variation exceeding 1/8” in ten feet when a straight edge is laid on the surface in any direction.
2. Planes of abutting sheets shall not exceed a 1/16” offset.

3.04 COMPLETION

A. Completed installation shall be clean and free from chips, cracks, holes, misaligned or improperly made joints, stains, discoloration and other defects and damage. Replace panels exhibiting damage or defects.

END OF SECTION
SECTION 07513
BUILT-UP BITUMINOUS ROOFING MODIFICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION
A. Section Includes: Requirements performing built-up bituminous roofing modifications necessary to accommodate flashing and gutter modifications.

1.02 SUBMITTALS
A. Comply with requirements of Section 01300.

1.03 QUALITY ASSURANCE
A. Hold a pre-application meeting prior to commencement of roofing modification work.
B. Comply with requirements of Section 01200 for pre-application meeting.

1.04 DELIVERY, STORAGE, AND HANDLING
A. Comply with requirements of Section 01600.
B. Handle rolled goods to prevent damage to edges and ends. Store on end in a dry, well-ventilated place.
C. Protect materials, including aggregate, from moisture. If materials become wet, remove them from the site and replace with new, dry materials.

1.05 PROJECT CONDITIONS
A. Apply materials to dry surfaces; as applicable, materials shall be dry at time of application.
B. Apply materials during dry weather, with ambient air temperature a minimum of 40 degrees F.

PART 2 - PRODUCTS

2.01 GENERAL
A. Roofing System at Gutter and Flashing Modifications:
   1. Components of roofing system at gutter and flashing modifications shall all be the products of the same manufacturer, or shall be approved by the roofing system manufacturer for use on this Project. Roofing system components shall be manufactured by Manville, Genstar, Conglas, or equal; Manville system and products are specified as a standard of quality.
   2. System Type: Four-ply, built-up bituminous system consisting of one ply of base felt, four plies of finishing felts, five coats of asphalt, and aggregate surfacing; for application over concrete substrate.
B. Roofing components for use at new gravel stop installation shall be applicable materials specified for roofing system.

2.02 MATERIALS

A. Membranes:
   1. Base Felt: FS SS-R-620B, Type II, one ply.
   2. Finishing Felts: ASTM D 2178, Type IV, asphalt-coated fiberglass finishing felt, Manville "GlasPly IV".
   3. Flashing Felt: Manville "DynaKap" modified cap sheet consisting of polyester reinforced with fiberglass strands and coated with SBS modified asphalt and granules.

B. Bitumen:
   1. Primer: D41.
   2. Asphalt: ASTM D312, Type III.
   3. Asphalt Base Emulsion: ASTM D1227, Type II, Manville "Topgard," Type B.

C. Aggregate: To match existing in size and color.

D. Plastic Cement: ASTM D4586, Type II, Manville "Industrial Roofing Cement."

E. Other Materials: As recommended by the roofing system manufacturer for the conditions of application.

F. Flashing and Sheet Metal: Specified in Section 07600.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that Work which penetrates roof deck has been completed, and that penetrations have metal fittings in place.

B. Verify that products penetrating roof deck are securely anchored in place, and that roofing substrate is free of foreign materials, moisture, uneveness, and other conditions that could prevent proper application of roofing system.

C. Verify that other conditions are satisfactory for the performance of roofing system modifications. If unsatisfactory conditions exist, do not begin modifications until such conditions have been corrected.

3.02 PREPARATION

A. Protect existing construction and improvements from damage from roofing operations.
   1. Provide suitable protective coverings, lapped a minimum of six inches, and vented as required to prevent condensation on covered surfaces.
2. Secure protective coverings from blow-off, and leave protective coverings in place until completion of roofing work.

B. Sweep off loose gravel and spud off embedded gravel back 30 inches from roof edge; do not remove existing roofing membranes except where new gutters and flashings, and roof drain are being installed.

C. Apply asphalt primer at the approximate rate of one gallon per square to spudded area, then allow to dry.

3.03 APPLICATION

A. General: Apply materials in accordance with the manufacturer's printed instructions. As applicable, apply materials only when they are clean and dry; apply over firm, smooth, clean, dry surfaces.

B. Roofing at Flashing and Gutter Modifications:

   1. Apply materials evenly and uniformly, starting at farthest point from edge of roof, applying membranes so that appropriate surfaces will be completely in contact with adhesives and bitumen.


   3. Firmly and uniformly set each finishing felt into hot asphalt at temperature within 25 degrees F of the EVT, applied just before the felt at a nominal uniform rate of 23 pounds per square over entire surface.

   4. Seal around roof penetrations to avoid future dripping of bitumen into building.

   5. Protect roof construction already in place from damage from remaining roofing application and other construction operations. Haul materials and equipment only over protective planking.

   6. Repair damaged and defective roofing and flashing that adjoins new work.

   7. Complete both roofing and flashing application for each section of roof worked on each day.

   8. Do not leave unused membranes on the roof overnight and when roofing work is not in progress.

   9. Protect exposed terminations of roofing and flashing to prevent the entrance of moisture. Remove protection prior to continuing roofing work.

   10. During asphalt set time, minimize traffic over installed membranes.

   11. Provide additional flashing and sealing materials as necessary to assure waterproof installation of accessories.

   12. Interface with Existing Roofing:

      a. Bring new membranes to edge of existing roofing, but do not overlap.
b. Apply plastic cement to new and existing roofing, then embed finishing felt perpendicular to joint between new and existing; extend felt 12 inches on either side of joint.

c. Apply three additional plies of finishing felts in same manner as first ply, extending each additional felt a minimum of 6 inches on each side beyond previous ply on each roof.

13. Flood surface of modified roofing area with hot asphalt at the rate of approximately 60 pounds per square, completely covering juncture of existing roofing.

14. Embed aggregate in hot asphalt at the rate of approximately 400 pounds per square.

C. Roofing at New Gravel Stop Installation:

1. Set new gravel stop in continuous bed of plastic cement.

2. Flood surface of modified roofing area with hot asphalt at the rate of approximately 60 pounds per square, completely covering area of roofing modifications. Keep perforations in vertical surfaces of gravel stop clear of hot asphalt.

3. Embed aggregate in hot asphalt at the rate of approximately 400 pounds per square.

3.04 CLEANING

A. Remove spills and overruns of bitumen and other application materials.

3.05 PROTECTION

A. Provide and maintain special protection or avoid heavy traffic on completed roofing when ambient temperature is above 80 degrees F.
SECTION 08110

STEEL DOORS AND FRAMES TITLE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Steel doors.
B. Steel frames.
C. Steel sidelights and borrowed lights.

1.2 RELATED SECTIONS

A. Section 03300 - Cast-In-Place Concrete; Placement of anchors in concrete construction.
B. Section 08210 - Wood Doors.
C. Section 08710 - Door Hardware.
D. Section 08800 - Glazing
E. Section 09900 - Paints and Coatings.

1.3 REFERENCES

B. ASTM A591 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hop-Dip Process
C. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
E. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
F. ASTM A1011 - Standard Specification for Steel Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
G. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames.
H. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcings.
I. ANSI/SDI A250.6 Recommended Practice for Hardware Reinforcing on Standard
Steel Doors and Frames.


K. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.

L. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames (Formerly SDI-105).

M. DHI A115.1G - Installation Guide for Doors and Hardware.

N. SDI 111 - Recommended Standard Details for Steel Doors & Frames.

O. ANSI/NFPA 252 - Fire Tests of Door Assemblies.

P. ANSI/UL 10B - Fire Tests of Door Assemblies.

Q. ANSI/UL 10C - Positive Pressure Fire Tests of Door Assemblies.

R. ANSI/UL 1784 - Air Leakage Tests of Door Assemblies

S. UL - Building Materials Directory; Underwriters Laboratories Inc.

T. WH - Certification Listings; Warnock Hersey International Inc.


1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Submit manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Certificates:
   1. Provide manufacturer's certification that products comply with referenced standards as applicable.
   2. Provide evidence of manufacturer's membership in the Steel Door Institute.

D. Shop Drawings:
   1. Show all openings in the door schedule and/or the Drawings.
   2. Provide details of door design, door construction details and methods of assembling sections, hardware locations, anchorage and fastening methods, door frame types and details, anchor types and spacing, and finish requirements.
   3. Provide door, frame, and hardware schedule in accordance with SDI 111.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide all products from a single manufacturer who is a member of the Steel Door Institute.

B. Doors and frames shall conform to the requirements of ANSI A250.8-1998 (SDI-100) and other specifications herein named.
1.6 DELIVER Y, ST ORAE, AND HANDLING

A. Products shall be marked with Architect's opening number on all doors, frames, misc. parts and cartons.

B. Upon delivery, inspect all materials for damage; notify shipper and supplier if damage is found.

C. Protect products from moisture, construction traffic, and damage.
   1. Store vertically under cover.
   2. Place units on 4 inch (102 mm) high wood sills or in a manner that will prevent rust or damage.
   3. Do not use non-vented plastic or canvas shelters.
   4. Should wrappers become wet, remove immediately.
   5. Provide 1/4 inch (6 mm) space between doors to promote air circulation.

1.7 COORDINATION

A. Coordinate with door opening construction and door frame and door hardware installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Products shall be manufactured by a member of the Steel Door Institute, 30200 Detroit Road, Cleveland, Ohio 44145.   ASD. Tel: (440) 899-0010, Fax: (440) 892-1404. Steel Door Institute Members are as follows:
   1. Ceco Door Products.
   2. Republic.
   3. Steelcraft.

B. Substitutions: per Division 01.

2.2 MATERIALS

A. Doors, frames, frame anchors, and hardware reinforceings for each of the levels and models specified shall be provided to meet the requirements of the performance levels specified. The material used in manufacturing these products and components shall comply with ANSI/SDI A250.8. Hardware reinforcing on doors and frames shall comply with ANSI/SDI A250.6. The physical performance levels shall be in accordance with ANSI/SDI A250.4.

B. All steels used to manufacture doors, frames, anchors, and accessories shall meet at least one or more of the following requirements:
   1. Cold rolled steel shall conform to ASTM A1008 and A568.
   2. Hot rolled, pickled and oiled steel shall comply with ASTM A1011 and A568.
   3. Hot dipped zinc coated steel shall be of the alloyed type and comply with ASTM A924 and A653.
   4. Steel Sheet, Electrolytic Zinc-Coated shall conform to ASTM A591.

2.3 FRAMES
A. Provide Levels and Models in accordance with ANSI/SDI A250.8 as indicated in the door schedule.

B. Interior frames: Frame configuration and depth as indicated. Minimum thickness as follows:
   1. Level 3 Extra heavy-duty: For use with:
      a. Door Model 3, 0.067 inch (1.7 mm) minimum steel frame thickness.

C. Exterior frames: Provide in accordance with ANSI/SDI A250.8 in the frame configuration and depth as indicated on the Drawings. Minimum thickness as follows:
   1. Level 3 Extra heavy-duty: For use with:
      a. Door Model 3 (stile and rail design): 0.067 inch (1.7 mm) minimum steel frame thickness.

D. Provide units of galvanized steel in the following locations:
   1. Exterior openings, as noted on door schedule.

E. Provide face welded type frames unless otherwise indicated.

F. Provide frames with a minimum of three anchors per jamb suitable for the adjoining wall construction. Provide anchors of not less than 0.042 inch (1.0 mm) in thickness. Frames over 7 feet 6 inches (2286 mm) shall be provided with an additional anchor per jamb.

G. Base anchors shall be provided with minimum thickness of 0.042 inch (1.0mm).

H. Prepare all frames for all mortise template hardware and reinforced only for surface mounted hardware. Drilling and/or tapping shall be completed by others.

I. Minimum hardware reinforcing gages shall comply with Table 4 of ANSI/SDI A250.8.

J. Provide glazing stops and beads where glazed lights are indicated.

2.4 FABRICATION

A. Fabricate doors and frames in accordance with ANSI/SDI A250.8.

B. Prime finish: Doors and frames shall be thoroughly cleaned, and chemically treated to insure maximum paint adhesion. All surfaces of the door and frame exposed to view shall receive a factory applied coat of rust inhibiting primer, either air-dried or baked-on. The finish shall meet the requirements for acceptance stated in ANSI/SDI A250.10 "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames."

C. Factory applied finish: Meet the performance requirements and acceptance criteria as stated in ANSI/SDI A250.3. Color shall be:
   1. As selected from the manufacturers standard colors.
   2. Custom color as selected by the Architect.

D. Design clearances: Fabricate doors and frames to maintain the following clearances:
   1. The clearance between the door and frame shall be 1/8 inch (3.2 mm) in the case of both single swing and pairs of doors.
   2. The clearance between the meeting edges of pairs of doors shall be 3/16 inch (4.8 mm) plus or minus 1/16 inch (1.6 mm). For fire rated applications, the clearances between the meeting edges of pairs of doors shall be 1/8 inch (3.2 mm) plus or minus 1/16 inch (1.6 mm).
3. The clearance measured from the bottom of the door to the bottom of the frame (undercut) shall be a maximum of 3/4 inch (19.1 mm) unless otherwise specified. Fire door undercuts shall comply with ANSI/NFPA 80, "Fire Doors and Fire Windows."

4. The clearance between the face of the door and the stop shall be 1/16 inch (1.6 mm) to 3/32 inch (2.4 mm).

5. All clearances shall be, unless otherwise specified in this document, subject to a tolerance of plus or minus 1/32 inch (0.8 mm).

6. The clearance at the bottom shall be 5/8 inch (15.8 mm).

7. The clearance at the bottom shall be 3/4 inch (19.1 mm).

8. The clearance between the face of the door and doorstop shall be 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm).

9. All clearances shall be, unless otherwise specified, subject to a tolerance of plus or minus 1/32 inch (0.8 mm).

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are suitable before beginning installation of frames. Do not begin installation until conditions have been properly prepared.

1. Verify that completed openings to receive knock-down wrap-around frames are of correct size and thickness.

2. Verify that completed concrete or masonry openings to receive butt type frames are of correct size.

3. Verify that drywall construction walls are the correct thickness.

B. If opening preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

A. Install frames plumb, level, rigid, and in true alignment in accordance with ANSI A250.11 and DHI A115.1G.

B. Install fire rated doors and frames in accordance with NFPA 80.

C. All frames shall be fastened to the adjacent structure so as to retain their position and stability. Drywall slip-on frames shall be installed in prepared wall openings in accordance with manufacturer's instructions.

3.3 ADJUST AND CLEAN

A. Clean and restore soiled surfaces. Remove scraps and debris and leave site in a clean condition.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 SCHEDULE

A. Refer to Door and Frame Schedule appended to this section.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section includes interior aluminum-framed glass doors, solid panels and frames.

B. Related Requirements:
   1. Section 08 32 13 – Sliding Aluminum-Framed Glass Doors.
   2. Section 08 71 00 – Door Hardware.

C. References:
   1. AAMA 611: Anodized Architectural Aluminum
   2. ASTM B308: Aluminum-Alloy 6061-T6 Standard Structural Profiles
   3. ASTM C1048: Heat-Treated Flat Glass

1.2 ADMINISTRATIVE REQUIREMENTS

A. Field-verify dimensions and clearances for openings scheduled to receive work of this section.

B. Scheduling:
   1. Ordering and Delivery: Order products with sufficient lead time to avoid delays in project schedule.
   2. Installation: To extent practical, install work after surrounding finish work is complete.

1.3 SUBMITTALS

A. Product Data: Include fabrication details, frame finishes, glass types, installation details and operating instructions for each type of opening.

B. Shop Drawings: Include elevations, details, hardware, operational clearances and accessories. Include keying schedule for locksets.

C. Samples for Verification:
   1. Extrusions: 6 inches long, showing finish.
   2. Glass: 3 inches square.

D. Warranty: Submit sample of manufacturer’s standard warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

B. Executed warranty.

1.5 QUALITY ASSURANCE

A. Installer: Approved by manufacturer.
1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver products after space is enclosed and wet work is complete.

B. Acceptance: Inspect packaging and report noticeable damage to manufacturer within 48 hours of receiving.

C. Storage: Store in original packaging, up to ten degrees from vertical, on level floor surface.

D. Handling: Handle in accordance with manufacturer’s installation instructions and to prevent damage.

1.7 WARRANTY

A. Warranty: Manufacturer’s warranty agreeing to repair or replace components used in interior installations, excluding glass, that fail in materials or workmanship within three years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: The Sliding Door Company, Inc.
   20235 Bahama St., Chatsworth, CA 91311
   Toll Free: 888-433-1333;
   Email: tradepro@slidingdoorco.com;
   Web: www.slidingdoorco.com/tradepro

B. Provide complete system from single manufacturer.

C. Substitutions:
   1. Substitutions will be considered according to Division 01 Requirements.

2.2 COMPONENTS

A. Framing, General:
   1. Material: Aluminum extrusions, 6061 alloy.
   2. Finish:
      a. Clear Anodized Aluminum: AAMA 611, Class II.

B. Heads and Jambs:
   1. Profiles:
      a. Head and Jamb: 4 inches deep, with integral stops.
      b. Head and Jamb Trim: 1.5 inch sight line.

C. Stiles, Rails and Mullions:
   1. Stile and Rail Sightlines:
      a. 1.5 inch sight line, 0.051 inch minimum thickness.
   2. Door Bottom Rail: 10 inch sight line.
   1. Mullions:
      a. Built-In Mullions: 1.5 inch sight line.

A. Glass: Category II Safety Glazing per CPSC 16 CFR 1201.
   1. Monolithic Clear Tempered Glass: 5 mm thick, ASTM C1048, Kind FT.
   2. Solid Panels: ¼” solid EWC panel, “Drift” color.
2.3 HARDWARE
   1. Standard Handle (Brushed Silver - Aluminum) Double.

   B. Locks and Latches:
      1. Lever Lockset: Lever with thumb turn and key lock.
         a. Keying: Provide two keys per lockset, labeled to indicate door. Key locksets alike and key to existing master.

   C. Pivots: Top pivot hinge and bottom pivot.

2.4 FABRICATION AND ASSEMBLY
   A. Panel and Door Design:
      1. Trio: Divided horizontally into three lights.

   B. Factory Assembly: Fabricate doors, panels, and frame components to finished sizes in factory.

2.5 ACCESSORIES
   A. Silicone Adhesive: Clear, construction grade silicone adhesive.

   B. Fasteners: As indicated in shop drawings.

PART 3 - EXECUTION

3.1 EXAMINATION
   A. Verify that openings are acceptable for installation of work of this section.

3.2 INSTALLATION
   A. Install systems according to shop drawings and manufacturer’s product data and installation instructions.

3.3 ADJUSTING, CLEANING AND PROTECTION
   A. Adjust swinging doors for smooth operation.

   B. Comply with manufacturer’s written recommendations for cleaning and maintenance.

   C. Clean aluminum and glass surfaces immediately after installing doors and frames.

   D. Protect surfaces from impact and from contact with contaminating substances resulting from other construction operations.

   E. Clean immediately before substantial completion.

3.4 CLOSEOUT REQUIREMENTS
   A. Deliver keys directly to Owner.

   B. Deliver executed Warranty.

END OF SECTION
SECTION 08211

FLUSH WOOD DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:

1. Solid core doors with wood veneer faces.
2. Factory finishing of flush wood doors.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 6 Section "Finish Carpentry" for wood door frames.

1.03 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product data for each type of door, including details of core and edge construction, trim for openings and louvers, and factory-finishing specifications.

1.04 QUALITY ASSURANCE

A. Quality Standard: Comply with the following standard:

2. AWI Quality Standard: "Architectural Woodwork Quality Standards" of the Architectural Woodwork Institute for grade of door, core, construction, finish, and other requirements.

   a. Provide WIC Certified Compliance Certificate indicating that doors meet requirements of grades specified.
   b. Provide WIC Certified Compliance Certificate for installation.

B. Fire-Rated Wood Doors: Provide wood doors that comply with NFPA 80; are identical in materials and construction to units tested in door and frame assemblies per ASTM E 152; and
are labeled and listed by UL, Warnock Hersey, or another testing and inspection agency acceptable to authorities having jurisdiction.

1. Oversized, Fire-Rated Wood Doors: For door assemblies exceeding sizes of tested assemblies, provide manufacturer’s certificate stating that doors conform to all standard construction requirements of tested and labeled fire-door assemblies except for size.
2. Temperature Rise Rating: At stairwell enclosures, provide doors that have a temperature rise rating of 450 deg F (250 deg C) maximum in 30 minutes of fire exposure.
3. Temperature Rise Rating: At stairwell enclosures, provide doors that have a temperature rise rating of 250 deg F (139 deg C) maximum in 30 minutes of fire exposure.

C. Single-Source Responsibility: Obtain doors from one source and by a single manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's instructions.


B. Identify each door with individual opening numbers as designated on shop drawings, using temporary, removable, or concealed markings.

1.06 PROJECT CONDITIONS

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

B. Conditioning: Do not deliver or install doors until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during the remainder of the construction period to comply with the following requirements applicable to Project's geographical location:

1. AWI quality standard Section 100-S-11 "Relative Humidity and Moisture Content."
2. WIC quality standard Section 2 "General Information, Technical Bulletin 419-R."

1.07 WARRANTY

A. General Warranty: Door manufacturer's warranty specified in this Article shall not deprive the Owner of other rights the Owner 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 (6.35 mm) in a 42-by-84-inch (1067-by-2134-mm) section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) 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.

   a. Solid Core Exterior Doors: Two years.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering doors that may be incorporated in the Work include, but are not limited to, the following:

B. Manufacturer: Subject to compliance with requirements, provide doors by one of the following:

   1. Solid Core Doors:
      a. Haley Brothers, Inc.
      b. or equal.

2.02 INTERIOR FLUSH WOOD DOORS

A. Solid Core Doors for Transparent Finish: Comply with the following requirements:

   1. Faces: White birch, plain sliced.
   2. Grade: Premium.
   3. Grade: Custom.
   4. Grade: Economy.
   5. Construction: 5 plies.
   7. Core: Particleboard core.
   8. Core: Glued-block core.
   10. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.

2.03 LIGHT FRAMES

A. Wood Louvers: Door manufacturer's standard solid wood louvers, unless otherwise indicated, and of size indicated.

B. Metal Frames for Light Openings in Fire Doors: Manufacturer's standard frame formed of 0.0478-inch-(1.2-mm-) thick cold-rolled steel sheet, factory primed, and approved for use in doors of fire-rating indicated.

2.04 FABRICATION

A. Fabricate flush wood doors to comply with following requirements:

   1. In sizes indicated for job-site fitting.
   2. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels:
a. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 for fire-resistance-rated doors.

3. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame 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-rated doors.

B. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.
   1. Light Openings: Trim openings with moldings of material and profile indicated.

2.05 SHOP PRIMING

A. Transparent Finish: Shop-seal faces and edges of doors for transparent finish with stain (if required), other required pretreatments, and first coat of finish as specified in the following:
   1. Division 9 Section "Painting."

2.06 FACTORY FINISHING

A. General: Comply with referenced quality standard's requirements for factory finishing.

B. Finish wood doors at factory.

C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect, and sheen.
   1. Finish: Manufacturer's standard finish with performance requirements comparable to either AWI System TR-2 catalyzed lacquer or AWI System TR-4 conversion varnish.
   2. Staining: None required.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine installed door frames prior to hanging door:
   1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
   2. Reject doors with defects.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION
A. Hardware: For installation see Division 8 Section "Door Hardware."

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. Machine doors for hardware. Seal cut surfaces after fitting and machining.
   1. Fitting Clearances for Non-Fire-Rated Doors: Provide 1/8 inch (3.2 mm) at jambs and heads, 1/16 inch (1.6 mm) per leaf at meeting stiles for pairs of doors, and 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4-inch (6.4-mm) clearance from bottom of door to top of threshold.
   2. Fitting Clearances for Fire-Rated Doors: Comply with NFPA 80.
   3. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
   4. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) on lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at the job site.

3.03 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.

C. Protect doors as recommended by door manufacturer to ensure that wood doors will be without damage or deterioration at the time of Substantial Completion.

END OF SECTION
PART 1 GENERAL

1.01 Work Included

A. Furnish and install aluminum architectural storefront system complete with hardware and related components as shown on drawings and specified in this section.

B. All storefront systems shall be EFCO® System 401 Flush-Glazed Shear Block Storefront. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. A sample storefront system (size and configuration) as per requirements of architect.
   2. Test reports documenting compliance with requirements of Section 1.05.

C. Glass
   1. Reference Section 08800 for Glass and Glazing.

D. Single Source Requirement
   1. All products listed in Section 1.02 shall be by the same manufacturer.

1.02 Related Work

A. Section 08510 – Aluminum Windows

1.03 Laboratory Testing and Performance Requirements

A. Test Units
   1. Air, water, and structural test unit size shall be a minimum of two stories high and three lites wide.

B. Test Procedures and Performance
   1. Air Infiltration Test
      a. Test unit in accordance with ASTM E 283 at a static air pressure difference of 1.56 psf (75 Pa).
      b. Air infiltration shall not exceed .06 cfm/SF (.30 l/s•m²) of unit.
   2. Water Resistance Test
      a. Test unit in accordance with ASTM E 331.
      b. There shall be no uncontrolled water leakage at a static test pressure of 10.0 psf (479 Pa).
   3. Uniform Load Deflection Test
      a. Test in accordance with ASTM E 330.
      b. Deflection under design load shall not exceed L/175 of the clear span.
   4. Uniform Load Structural Test
      a. Test in accordance with ASTM E 330 at a pressure 1.5 times the design wind pressure in 1.05.B.3.b.
      b. At conclusion of the test, there shall be no glass breakage, permanent damage to fasteners, storefront parts, or any other damage that would cause the storefront to be defective.

1.07 Quality Assurance
A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.

B. Test reports shall be accompanied by the storefront manufacturer’s letter of certification stating that the tested storefront meets or exceeds the referenced criteria for the appropriate storefront type.

1.08 References

1.09 Submittals

A. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
   1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.

1.10 Warranties

A. Total Storefront Installation
   1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total storefront installation. This includes the glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
   2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. Window Material and Workmanship
   1. Provide written guarantee against defects in material and workmanship for ____ years from the date of final shipment.

C. Glass
   1. Provide written warranty for insulated glass units that they will be free from obstruction of vision as a result of dust or film formation on the internal glass surfaces caused by failure of the hermetic seal due to defects in material and workmanship.
   2. Warranty period shall be for 10 (ten) years.

D. Finish
   1. Warranty period shall be for 5 years from the date of final shipment.
   2. Provide organic finish warranty based on AAMA standard 2604.

PART 2 PRODUCTS

2.01 Materials

A. Aluminum
   1. Extruded aluminum shall be 6063-T6 alloy and temper.

B. Glass
   1. Insulated glass shall be 1” thick with a center of glass U-Factor of ___ constructed as follows:
      a. Exterior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).
      b. Air space of ½” inch.
      c. Interior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).

2.02 Fabrication

A. General
1. All aluminum frame extrusions shall have a minimum wall thickness of .080" (2 mm).
2. All exposed work shall be carefully matched to produce continuity of line and design with all joints. System design shall be such that raw edges will not be visible at joints.

B. Frame
1. Depth of frame shall not be less than 4 1/2" (114 mm).
2. Face dimension shall not be less than 1 3/4" (44 mm).
3. Frame components shall be shear block construction.

C. Glazing
1. All units shall be "dry glazed" with gaskets on both exterior and interior of the glass.

D. Finish
1. Organic
   a. Finish all exposed areas of aluminum windows and components with 50% PVDF Ultraflur™. Color shall be as indicated on drawings.

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<thead>
<tr>
<th>AA Description</th>
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<tr>
<td>AA-M12-C42-R1X</td>
<td>50% PVDF Ultraflur™</td>
<td>2604-98</td>
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</tbody>
</table>

PART 3 EXECUTION

3.01 Inspection

A. Job Conditions
1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.
2. Provide for manufacturer representation to conduct pre-installation site meeting.

3.02 Installation

A. Use only skilled tradesmen with work done in accordance with architect approved shop drawings and specifications.

B. Storefront system shall be erected plumb, true, and in proper alignment and relation to established lines and grades.

C. Entrance doors shall be securely anchored in place to a straight, plumb and level condition, without distortion. Weather stripping contact and hardware movement shall be checked and final adjustment made for proper operation and performance of units.

D. Furnish and apply sealing materials to provide a weather tight installation at all joints and intersections and at opening perimeters.

E. Sealing materials specified shall be used in strict accordance with the manufacturer’s printed instructions, and shall be applied only by mechanics specially trained or experienced in their use. All surfaces must be clean and free of foreign matter before applying sealing materials. Sealing compounds shall be tooled to fill the joint and provide a smooth finished surface.

3.03 Anchorage

A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.04 Protection and Cleaning
A. The general contractor shall protect the aluminum materials and finish against damage from construction activities and harmful substances. The general contractor shall remove any protective coatings as directed by the architect, and shall clean the aluminum surfaces as recommended for the type of finish applied.

END OF SECTION
SECTION 08510
ALUMINUM WINDOWS

PART 1 GENERAL

1.01 Work Included

A. Furnish and install aluminum architectural windows complete with hardware and related components as shown on drawings and specified in this section.

B. All windows shall be EFCO® Series 3500 Thermal AW-PG50-HS Horizontal Sliding. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. A sample window, 36" (914 mm) x 24" (610 mm) single unit, as per requirements of architect.
   2. Test reports documenting compliance with requirements of Section 1.05.

C. Glass and Glazing
   1. All units shall be factory glazed.

D. Single Source Requirement
   1. All products listed in Section 1.02 shall be by the same manufacturer.

1.02 Related Work

B. Section 08410 – Aluminum – Framed Entrances and Storefronts

1.03 Laboratory Testing and Performance Requirements

A. Test Units
   1. Air, water, and structural test unit shall conform to requirements set forth in AAMA/WDMA/CSA 101/I.S.2/A440 – 08 and manufacturer's standard locking/operating hardware and insulated glazing configuration.
   2. Thermal test unit sizes shall be 72" (1828 mm) x 48" (1219 mm). Unit shall consist of a single horizontal sliding window.

B. Test Procedures and Performances
   1. Windows shall conform to all AAMA/WDMA/CSA 101/I.S.2/A440 – 08 requirements for the window type referenced in 1.01.B. In addition, the following specific performance requirements shall be met.
   2. Life Cycle Testing
      a. Test in accordance with AAMA 910. There shall be no damage to fasteners, hardware parts, support arms, activating mechanisms, or any other damage that would cause the window to be inoperable. Air infiltration and water resistance tests shall not exceed specified requirements.
   3. Air Infiltration Test
      a. With window sash closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf (299 Pa).
      b. Air infiltration shall not exceed .10 cfm/SF (.50 l/s•m²) of unit.
   4. Water Resistance Test
      a. With window sash closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 15.0 psf (718 Pa).
      b. There shall be no uncontrolled water leakage.
   5. Uniform Load Deflection Test
a. With window sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 50.0 psf (2394 Pa), positive and negative pressure.
b. No member shall deflect over L/175 of its span.
6. Uniform Load Structural Test
a. With window sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 75.0 psf (3591 Pa), both positive and negative.
b. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the window to be inoperable.
7. Forced Entry Resistance
a. Windows shall be tested in accordance to ASTM F 588 or AAMA 1302.5 and meet the requirements of performance level 40.
8. Condensation Resistance Test (CRF)
   a. Test unit in accordance with AAMA 1503.1.
   b. Condensation Resistance Factor (CRF) shall not be less than ___ (frame) when glazed with ___ center of glass U-Factor. (See chart at end of section).
9. Condensation Resistance (CR)
   a. With ventilators closed and locked, test unit in accordance with NFRC 500-2010.
   b. Condensation Resistance (CR) shall not be less than ___ when glazed with ___ center of glass U-Factor. (See chart at end of section).
10. Thermal Transmittance Test (Conductive U-Factor)
    a. With ventilators closed and locked, test unit in accordance with NFRC 100-2010.
    b. Conductive thermal transmittance (U-Factor) shall not be more than ___ BTU/hr•ft²•°F (___ W/m²•K) when glazed with ___ center of glass U-Factor. (See chart at end of section).

<table>
<thead>
<tr>
<th>Glass</th>
<th>C.O.G.</th>
<th>U-Factor</th>
<th>Frame CRF</th>
<th>CR</th>
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<tr>
<td>1” IG</td>
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<td>1” IG</td>
<td>0.24</td>
<td>0.46</td>
<td>54</td>
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</tbody>
</table>

1U-Factor and Condensation Resistance (CR) are based on a nominal size of 59” (1500 mm) x 47” (1200 mm) with two lites of glass using NFRC-100, and 500 - 2010. 2Intercept® Spacer. 3Based on AAMA 1503.1

1.07 Quality Assurance
A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.
B. Test reports shall be accompanied by the window manufacturer’s letter of certification, stating the tested window meets or exceeds the referenced criteria for the appropriate window type listed.

1.08 Submittals
A. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
   1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.
B. An NFRC Component Modeling Approach (CMA) generated label certificate shall be provided by the manufacturer. The label certificate shall be project specific and will contain the thermal performance ratings of the manufacturer’s framing combined with the specified glass, and the
glass spacer used in the fabrication of the glass, at NFRC standard test size as defined in table 4-3 in NFRC 100-2010.

1.10 Warranties

A. Total Window Installation
1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total window installation which includes that of the windows, hardware, glass (including insulated units), glazing,anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. Window Material and Workmanship
1. Provide written guarantee against defects in material and workmanship for 5 years from the date of final shipment.

C. Glass
1. Provide written warranty for insulated glass units that they will be free from obstruction of vision as a result of dust or film formation on the internal glass surfaces caused by failure of the hermetic seal due to defects in material and workmanship.
2. Warranty period shall be for 10 (ten) years.

D. Finish
1. Warranty period shall be for 5 years from the date of final shipment.
2. Provide organic finish warranty based on AAMA standard 2604.

PART 2 PRODUCTS

2.01 Materials

A. Aluminum
1. Extruded aluminum shall be 6063-T6 alloy and tempered.

B. Hardware
1. Concealed plunger lock in the meeting rail with a flush mounted actuating handle.
2. Sash shall ride on steel ball bearing rollers and a raised track, so dirt will not interfere with normal operation.

C. Weather-Strip
1. All primary weather-strip shall be Q-Lon® or equal.

D. Glass
1. Insulated glass shall be 1” thick with a center of glass U-Factor of ___ constructed as follows:
   a. Exterior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).
   b. Air space of ½” inch.
   c. Interior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).

E. Thermal Barrier
1. All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. For purposes of this specification, a structural thermal barrier is defined as a system that shall transfer shear during bending and, therefore, promote composite action between the exterior and interior extrusions.
2. Sills are thermally broken with thermal struts, consisting of glass reinforced polyamide nylon, mechanically crimped in raceways extruded in the exterior and interior extrusions. Other
thermally broken members can use the latest technology in two-part, high-density polyurethane. A nonstructural thermal barrier is unacceptable.

2.02 Fabrication

A. General
1. All aluminum frame and sash extrusions shall have a minimum wall thickness of .062” (1.5 mm). Frame sill members shall have a minimum wall thickness of .094” (2.3 mm).
2. Depth of frame shall not be less than 3 1/4” (82 mm).
3. Mechanical fasteners, welded components, and hardware items shall not bridge thermal barriers. Thermal barriers shall align at all frame and vent corners.

B. Frame
1. Frame components shall be mechanically fastened.
2. Frame and sash shall have a continuous interlock at the meeting rail.

C. Sash
1. Sash vertical members shall telescope into the sash horizontals and be mechanically fastened.
2. The sash shall be single or double weather-stripped.

D. Screens
1. Half screens only shall be permitted. The screen shall not be surface mounted.
2. Screen frames shall be extruded aluminum.
3. Screen mesh shall be aluminum or fiberglass.

E. Glazing
1. All lites (both sash and fixed) of the horizontal sliding window shall be inside glazed and weeped.
2. All units shall be glazed with the manufacturer's standard sealant process provided the glass is held in place by a removable, extruded aluminum, glazing bead. The glazing bead must be isolated from the glazing material by a gasket.
3. All units shall be glazed with a minimum of 1/2” glass bit.

F. Finish
1. Organic
   a. Finish all exposed areas of aluminum windows and components with 50% PVDF Ultraflur™. Color shall as indicated on the drawings.

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PART 3 EXECUTION

3.01 Inspection

A. Job Conditions
1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.

B. Plumb and align window faces in a single plane for each wall plane, and erect windows and 08510-4 ALUMINUM SLIDING WINDOW
materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

C. Adjust windows for proper operation after installation.

D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Anchorage

A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.04 Protection and Cleaning

A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes plastic unit skylights.

B. Related Sections: The following Sections contain requirements that relate to this Section:

   1. Section 06100 – Rough Carpentry for wood curbs and nailers.
   2. Section 07600 – Flashing and Sheet Metal for metal flashing for skylights.
   3. Section 07610 – Metal Roofing.
   4. Section 07900 – Sealants.

C. Refer to roofing system Sections for roofing accessories to be built into the roofing system to accommodate Work of this Section.

1.03 SUBMITTALS

A. General: Submit the following according to the Conditions of Contract and Division 1 Specification Sections.

B. Product data for each type of skylight specified, including details of construction relative to materials, dimensions of individual components, profiles, finishes, and glazing light transmission and thermal characteristics.

C. Shop drawings showing fabrication and installation of skylights, including plans, elevations, sections, details of components, and attachments to other units of Work.

D. Samples for initial selection purposes in the form of manufacturer’s color charts showing a full range of colors available for each type of skylight glazing, retainer, frame, and curb indicated.

1.04 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide plastic sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.

   1. Self-Ignition Temperature: 650 deg F (343 deg C) or greater when tested per ASTM D 1929 on plastic sheets in the thickness intended for use.
2. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in the thickness intended for use.
3. Relative-Burning Characteristics: As follows, when tested per ASTM D 635:
   a. Acrylic: Burning rate of 2.5 inches (64 mm) per minute or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.
   b. Polycarbonate: Burning extent of 1 inch (25 mm) or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.

1.05 WARRANTY

A. General: Warranties specified in this Section shall not deprive the Owner of other rights the Owner 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. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weathertight and leak-free performance. “Defects” is defined as uncontrolled leakage of water and abnormal aging or deterioration.
   1. Warranty Period: 5 years from date of Substantial Completion.

C. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. “Defects” is defined as abnormal aging or deterioration.
   1. Warranty Period for Acrylic: 5 years from date of Substantial Completion against yellowing.
   2. Warranty Period for Polycarbonate: 5 years from date of Substantial Completion against breakage.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
   1. Bristolite Skylights.
   3. O'Keeffe's, Inc.
   4. Regal Plastics Supply Company.
   5. Skyline Products, Inc.

2.01 MATERIALS

A. Aluminum Sheets: ASTM B 209 (ASTM B 209M) for Alclad alloy 3005-H25 or alloy and temper required to suit forming operations and finish requirements. Mill finish unless indicated otherwise.
B. Extruded Aluminum: ASTM B 221 (ASTM B 221M) alloy 6063-T52 or alloy and temper required to suit structural and finish requirements. Mill finish unless indicated otherwise.

C. Plastic Sheets: Monolithic, formable, transparent (colorless and tinted) or translucent (white) sheets with good weather and impact resistance.
   1. Acrylic: ASTM D 4802, thermoformable, cast or continuous-cast acrylic (methacrylate), Category C-1 or C-2, Type UVA (formulated with ultraviolet absorber), with Finish 1 (smooth or polished), unless otherwise indicated.

D. Wood Curbs and Nailers: Softwood lumber, pressure-treated with waterborne preservatives for above-ground use, complying with AWPA C2; not less than 1-1/2 inch (38 mm) nominal thickness.

E. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.
   1. Where removal of exterior exposed fasteners affords access to building, provide nonremovable fastener heads.

F. Operable Skylight Gaskets: Manufacturer's standard tubular or fingered design of neoprene or EPDM, or block design of sponge EPDM or neoprene.

G. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil (0.4 mm) dry film thickness per coating.

H. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

I. Elastomeric Sealant: Generic type recommended by unit manufacturer that is compatible with joint surfaces. ASTM C 920; Type S; Grade NS; Class 25; and Uses NT, G, A, and (as applicable to joint substrates indicated) O.

J. Roofing Cement: ASTM D 4586, nonasbestos-fibrated, asphalt cement designed for trowel application or other adhesive compatible with roofing system.

2.02 FINISHES

A. General: Comply with NAAMM "Metal Finishes Manual" recommendations for application and designations of finishes.

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

C. Class I, Color-Anodized Finish: AA-M12C22A42/A44 (Mechanical Finish: as fabricated, nonspecular; Chemical Finish: etched, medium matte; Anodic Coating: Class I Architectural, film thicker than 0.7 mil (0.02 mm) with integral color or electrolytically deposited color) complying with AAMA 606.1 or AAMA 608.1.
1. Color: Dark bronze.

2.03 PLASTIC SKYLIGHT UNITS

A. General: Factory-assembled unit consisting of plastic glazing, extruded aluminum glazing retainer, gasketing, inner frame that may be incorporated into the curb, and integral curb with self-contained roof flashing flanges.

B. Curb: Self-flashing, self-supporting double-wall, formed or extruded (or combination) aluminum curb, minimum 0.040-inch (1.0-mm) wall thickness, enclosing minimum 1-inch (25-mm) glass-fiber board (or equivalent) insulation and with minimum 3-inch (75-mm) roof flanges, with welded or sealed mechanical joints at corners.

1. Height: 3 inches (75 mm) above roofing.

E. Condensation Control: Fabricate skylight units with integral internal gutters and nonclogging weeps to collect and dispose of condensation.

F. Thermal Break: Fabricate skylight units with thermal barrier separating interior metal framing from materials exposed to outside temperature.

G. Shape and Size: Rectangular, as indicated.

H. Glazing: Thermoformed acrylic.

1. Profile: Double dome, 25 percent rise.

   a. Outer Glazing Color: Colorless, transparent acrylic, 92 percent visible light transmittance.
   b. Inner Glazing Color: Colorless, transparent acrylic, 92 percent visible light transmittance.

2. Glazing Gaskets: Manufacturer's standard glazing system of EPDM or neoprene, closed-cell sponge neoprene, or EPDM, or of partially vulcanized butyl tape or liquid-applied elastomeric sealant.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Comply with manufacturer's instructions and recommendations. Coordinate with installation of roof deck and other substrates to receive skylight units. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that each element of the work performs properly and that combined elements are waterproof and weathertight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

1. Except as otherwise indicated, install roof skylights according to construction details of "NRCA Roofing and Waterproofing Manual."
B. Isolation: Where metal surfaces of units are to be installed in contact with incompatible metal or corrosive substrates, including wood, apply bituminous coating on concealed metal surfaces, or provide another permanent separation.

C. Flange Seals: Except as otherwise indicated, set flanges of accessory units in a thick bed of roofing cement to form a seal.

D. Cap Flashing: Where cap flashing is required as component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counterflashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

E. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.

3.02 CLEANING AND PROTECTION

A. Clean exposed metal and plastic surfaces according to manufacturer’s instructions. Touch up damaged metal coatings.

B. Clean and polish plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion.

END OF SECTION
PART 1 - GENERAL

1.01 WORK INCLUDED

A. Provide hardware for new doors.

B. Provide cylinders to match existing for doors fabricated with hardware.

1.02 QUALITY ASSURANCE

A. Fire Rated Doors: Comply with requirements of NFPA 80 and applicable codes for fire rated door hardware; provide hardware bearing Underwriters Laboratory (UL) labels.

   1. Doors indicated in fire rated partitions and walls shall be positive latching and self closing, with smoke gaskets.

B. Access for Persons with Disabilities: All doors shall comply with California Code of Regulations, Title 24, and Americans with Disabilities Act Accessibility Guidelines (ADAAG). Adjust doors to minimum force necessary to close properly with maximum door closer pressures following:

   1. Interior doors: 5 lbs
   2. Exterior doors: 5 lbs
   3. Fire Doors: Provide the minimum force to close and latch door, up to 15 lbf maximum force.

C. Supplier: Recognized builders hardware supplier with minimum five years successful experience in scheduling and furnishing hardware.

   1. Provide services of architectural hardware consultant to supervise hardware supply.

1.03 REFERENCES

A. ANSI A115 and A115W Series: Door and Frame Preparation Standards.

B. ANSI A156.1 through A156.20: Standards for various hardware items.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Shop Drawings: Indicate locations and mounting heights of hardware.

   1. Supply templates to door and frame manufacturers for proper and accurate sizing and locations of cut-outs for hardware.

C. Product Data: Submit catalog cuts for each type of hardware.

D. Samples: Indicate required style and finish.
1.06 OPERATION AND MAINTENANCE DATA

A. Provide manufacturer's parts list and maintenance instructions for each type of hardware supplied and necessary wrenches and tools required for proper maintenance of hardware.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver hardware in manufacturer's original packages, marked for intended opening and use.

B. Pack complete with necessary screws, bolts, keys, instructions, and installations template, if necessary, for spotting mortising tools.

C. Upon delivery, furnish complete list of hardware for checking, clearly marked to correspond with marking on each package.

   1. Review list for completeness and accuracy.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Hinges:

   1. Hager Hinge Co.
   2. McKinney Products Co., Division of Essex Industries.
   3. Stanley Hardware Division of Stanley Works.
   4. Substitutions: Refer to Section 06130.

B. Locksets, Latchsets:

   1. Von Duprin, Inc. (Locksets, latchsets)
   2. Corbin Co. (Cylinders)
   3. Schlage Lock Co. (Locksets, latchsets)

C. Closers:

   1. LCN Closers Division Schlage Lock Co./4000 Series
   2. Norton Division, Yale Security, Inc./7500 Series

D. Thresholds, Stops, Trim and Miscellaneous Hardware:

   1. Glynn-Johnson Co.
   2. H.B. Ives.
   6. National Guard Products, Inc.
   7. Substitutions: Refer to Section 01630.

E. Hardware Schedule: Manufacturers listed in Hardware schedule, with reference to catalog numbers and designations, are acceptable.

2.02 MATERIALS
A. Templates: Furnish templates or physical hardware items to manufacturers concerned sufficiently in advance to avoid delay in Work.

B. Reinforcing Units: Furnished by door manufacturer, coordinated by hardware manufacturer.

C. Fasteners: Furnish as recommended by manufacturer and as required to install secure hardware.
   1. Finish: Match hardware.
   2. Furnish screws sufficiently long to provide solid connection to framing or backing.

2.03 HARDWARE ITEMS

A. Review Drawings for hardware group locations and door types; where not fully covered in Hardware Schedule, comply with following general requirements; inform Architect where conflicts occur.
   1. Provide hardware items with accessories completed to function as intended.

B. Hinges and Butts: ANSI A156.1; comply with following unless otherwise indicated.
   1. Doors 1-¾” Thick: 4-½” heavy weight, extra heavy weight ball or oilite bearing where over 40” wide.
   2. Provide width sufficient to clear trim projection when door swings 180 degrees.
   3. Provide minimum 3 hinges to 90” high, 4 hinges to 120” high for each door leaf, unless otherwise indicated.
   4. Provide nonferrous butts with non-removable pins all doors, non-rising at interior doors; stainless steel where labeled; steel butts at labeled interior doors.
   5. Provide ball bearing or oilite bearing hinges at door with closers.

C. Locksets and Latchsets: Provide of metal matching specified finish; interior parts of steel and zinc-dichromate plating, to resist rusting and corrosion; do not supply plastic, die-cast or aluminum mechanisms.
   1. Type: ANSI A156.13, Series 1000, Grade 1, Mortise type with 6 pin tumbler cylinders, except where otherwise indicated in Hardware Schedule.
      a. Provide cylinders extruded brass bar material to match cylinders in existing building to remain.
   2. Design: Solid over lever with rose, as selected by Architect.
   4. Strikes: Furnish standard strikes with extended lips where required to protect trim from being marred by latch bolt; verify type of cutouts provided in metal frames.

D. Keys and Keying: Hardware Manufacturers shall provide for grand master, master key alike or key different keying as directed by Owner to match existing.
1. Provide construction cylinders for doors requiring locking during construction; construction cylinders shall be removed and replaced just prior to Owner occupancy.

2. Submit keys for final use to Owner.

3. Hardware manufacturers shall key and register lock cylinders.

E. Closers: ANSI A156.4, furnish products of one manufacturer, full rack and pinion type with steel spring and non-freezing hydraulic fluid.
   1. Provide controls for regulating closing, latching, speeds and back check.
   2. Supply parallel - arm, heavy duty type closers at all doors.
   3. Mount closers on room side or pull side unless otherwise indicated.
   4. Sizes: Adjustable to following maximum door operating pressures:
      a. Interior Doors: 5 pounds.
      b. Exterior Doors: 5 pounds.
      c. Fire Rated Doors: Minimum force necessary to close door, up to 15 pounds.
      d. Make labeled doors self-closing.
      e. Closers shall be adjusted by factory representative.
   5. Design: ANSI Modern Type Cover, unless otherwise indicated.

F. Through Bolts: Through Bolts and grommet nuts shall used on all closers, but on other hardware shall be avoided on door faces in highly visible areas, unless no alternative is possible, as directed and approved, and shall not be used for solid wood core doors.

G. Weatherstripping and Gaskets: Provide continuous weatherstripping at top and sides of exterior doors, fire rated gaskets at top and sides of fire rated doors.

H. Silencers: Provide on hollow metal frame where weatherstripping and gaskets are not used.

2.04 FINISHES

A. Provide following finishes except where otherwise indicated.

B. Typical: BHMA 626, satin chromium plated.

C. Closers: Metal cover finished to match door operating hardware.

D. Thresholds: (US26B) clear anodized aluminum (slip resistant finish).

E. Other Items: Provide manufacturers standard finishes to match similar hardware types on same door, and maintain acceptable finish considering anticipated use.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install finish hardware specified under this section; coordinate with manufacturer and installation of doors and frames.
B. Fit hardware prior to painting, then remove for painting of doors and frames before final installation of hardware.

C. Install hardware in accordance with manufacturer's instructions.

D. No extra cost will be allowed because of changes or corrections necessary to facilitate installation of hardware.

3.02 MOUNTING POSITIONS

A. Heights given are center line heights from finished floor.

1. Locks and Latches: 38" to center of lever.

2. Door Pulls: 42" to center of grip.

3. Push Plate: 42"; coordinate will pull location.

4. Push-Pull Bar: 42" to center of bar.

5. Top Hinge: To jamb manufacturer's standard, but not greater than 10" form head of frame to center line of hinge.

6. Bottom Hinge: To jamb manufacturer's standard, but not greater than 12-1/2" from floor to center line of hinge.

7. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.

8. Hinge Mortise on Door Leaf: 1/4" to 5/16" from stop side of door.

9. Dead Bolt: Not more than 44" from floor to operating lever.

B. Comply with recommendations of Builders Hardware Manufacturers Association, subject to approval, for heights of items not indicated.

3.03 ADJUSTMENT

A. After air supply is turned on, qualified hardware supplier's or manufacturer representatives shall inspect installation and make adjustments.

1. Adjust closers, locks, and critical operational hardware.

2. Deliver instructions for maintenance and future adjustments to Owner's representative.

3.04 HARDWARE SCHEDULE

A. The Hardware Schedule establishes a type and standard of quality.

B. Examine Drawings and Specifications and furnish proper hardware for door openings, whether listed or not.

C. Bring omissions to attention of Architect prior to bid opening for instructions; otherwise, list will be considered complete; no extras will be allowed.
D. Hardware Schedule:

**Interior:**

**GROUP 1:**

<table>
<thead>
<tr>
<th>Qty</th>
<th>Item</th>
<th>Product No.</th>
<th>Manuf.</th>
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<th>Notes</th>
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<td>Closer</td>
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<td>LCN</td>
<td>689</td>
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<tr>
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<tr>
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END OF SECTION
SECTION 09250

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:

1. Non load-bearing steel framing members for gypsum board and ceramic tile wall, ceiling, and soffit assemblies.
2. Gypsum board assemblies attached to steel framing.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 7 Section "Firestopping" for firestopping systems and fire-resistance-rated joint sealants.
2. Division 9 Section "Ceramic Tile" for backer board and ceramic tile products used over steel framing.

1.03 DEFINITIONS

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA-505 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.04 ASSEMBLY PERFORMANCE REQUIREMENTS

A. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those of assemblies whose STC ratings were determined according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

B. Fire Resistance: Provide gypsum board assemblies with fire-resistance ratings indicated.

1.05 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of product specified.

C. Product certificates signed by manufacturers of gypsum board assembly components certifying that their products comply with specified requirements.

1.06 QUALITY ASSURANCE
A. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer, unless otherwise indicated.

B. Single-Source Responsibility for Panel Products: Obtain each type of gypsum board and other panel products from a single manufacturer.

C. Single-Source Responsibility for Finishing Materials: Obtain finishing materials from either the same manufacturer that supplies gypsum board and other panel products or from a manufacturer acceptable to gypsum board manufacturer.

D. 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: As indicated by GA File Numbers in GA-600 "Fire Resistance Design Manual" or design designations in UL "Fire Resistance Directory" or in the listing of another testing and inspecting agency acceptable to authorities having jurisdiction.

2. Gypsum board assemblies indicated are identical to assemblies tested for fire resistance according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

3. Deflection and Firestop Track: Top runner provided in fire-resistance-rated assemblies indicated is labeled and listed by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction.

E. Industry Standards: Work shall comply with the applicable requirements of Gypsum Association (GA) publication GA-216, "Recommended Specifications for the Application and Finishing of Gypsum Board."

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.

B. 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. Neatly stack gypsum panels flat to prevent sagging.

1.08 PROJECT CONDITIONS

A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.

B. Room Temperatures: For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F. For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F for 48 hours before application and continuously after until dry. Do not exceed 95 deg F when using temporary heat sources.

C. Ventilation: Ventilate building spaces as required to dry joint treatment materials. Avoid drafts during hot, dry weather to prevent finishing materials from drying too rapidly.

PART 2 - PRODUCTS

2.01 MANUFACTURERS
A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Steel Framing and Furring:
   a. Clark Steel Framing, Inc.
   b. Consolidated Systems, Inc.
   c. Dale Industries, Inc.
   e. National Gypsum Co.; Gold Bond Building Products Division.
   f. Unimast, Inc.

2. Grid Suspension Assemblies:
   a. Armstrong World Industries, Inc.
   b. Chicago Metallic Corp.
   c. USG Interiors, Inc.
   d. Worthington Steel Company.

3. Gypsum Board and Related Products:
   a. Domtar Gypsum.
   b. Georgia-Pacific Corp.
   c. National Gypsum Co.; Gold Bond Building Products Division.
   d. United States Gypsum Co.

2.02 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS

A. General: Provide components complying with ASTM C 754 for conditions indicated.

B. Wire Ties: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, thickness as indicated.

C. Wire Hangers: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, thickness as indicated.

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: 2 inches deep, 590 lb/1000 feet, unless otherwise indicated.
   2. Furring Channels: ¾ inch deep, 300 lb/1000 feet, unless otherwise indicated.
   3. Finish: Rust-inhibitive paint, unless otherwise indicated.

E. Steel Rigid Furring Channels: ASTM C 645, hat shaped, depth of 7/8 inch, and minimum thickness of base (uncoated) metal as follows:
   1. Thickness: 0.0329 inch, unless otherwise indicated.

F. Steel Resilient Furring Channels: Manufacturer's standard product designed to reduce sound transmission, fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M) to form ½-inch-deep channel of the following configuration:
   1. Double-Leg Configuration: Hat-shaped channel with 1-½-inch-wide face connected to flanges by double-slotted or expanded-metal legs (webs).
2.03 STEEL FRAMING FOR WALLS AND PARTITIONS

A. General: Provide steel framing members complying with the following requirements:


B. Steel Studs and Runners: ASTM C 645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch-wide minimum lip (return), and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:

1. Thickness: 16 gauge, unless otherwise indicated.
2. Depth: 3-5/8 inches, unless otherwise indicated.

C. Deflection Track: Manufacturer's standard top runner designed to prevent cracking of gypsum board applied to interior partitions resulting from deflection of the structure above fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M). Thickness as indicated for studs, and width to accommodated depth of studs.

D. Steel Resilient Furring Channels: Manufacturer's standard product designed to reduce sound transmission, fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M) to form ½-inch-deep channel of the following configuration:

1. Double-Leg Configuration: Hat-shaped channel with 1-½-inch-wide face connected to flanges by double-slotted or expanded-metal legs (webs).

E. Steel Channel Bridging: Cold-rolled steel, 0.0598-inch minimum thickness of base (uncoated) metal and 7/16-inch-wide flanges, 1-½ inches deep, 475 lb/1000 feet, unless otherwise indicated.

F. Steel Flat Strap and Backing Plate: Steel sheet for blocking and bracing complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M), length and width as indicated, and with a minimum base metal (uncoated) thickness as follows:

1. Thickness: 16 gauge, unless otherwise indicated.

G. Fasteners for Metal Framing: Provide fasteners of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.

2.04 GYPSUM BOARD PRODUCTS

A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.

B. Gypsum Wallboard: ASTM C 36 with 100% recycled paper and 20% recycled gypsum content, and as follows:

1. Comply with ASTM Standard C36 (Fed Spec SS-L-30D), in 48” widths and in such lengths as will result in a minimum of joints.

2. Regular Wallboard at all locations unless otherwise indicated: Type III, grade R, class 1, 5/8 inch thick.
a. DensArmor® Paperless Interior Drywall by Georgia-Pacific Gypsum LLC  
b. DensArmor Plus® Paperless Interior Drywall by Georgia-Pacific Gypsum LLC

3. Fire-retardant Wallboard at all fire-rated assemblies: Type III, grade X, class 1, 5/8 inch thick.
   a. SHEETROCK® Brand FIRECODE® Core Gypsum Panel by USG

4. Water-resistant Wallboard at all restrooms, serveries, and as indicated: Type VII, grade W or X as required, class 2 (ASTM C630), 5/8 inch thick.
   a. SHEETROCK® Brand HUMITEK® FIRECODE® Core Gypsum Panel by USG  
b. SHEETROCK® Brand Water-Resistant FIRECODE® Core Gypsum Panel by USG

5. Sound-resistant Wallboard as indicated: Type VII, grade X as required, class 2 (ASTM C630), 5/8 inch thick with tapered and wrapped long edges.
   a. Serious Materials, Quietrock 527 gypsum panels compatible with UL Assembly V464 for an STC rating of 55 for a 4-7/8” thick wall, or approved equal

2.05 TRIM ACCESSORIES

A. Accessories for Interior Installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047 and requirements indicated below:

1. Material: Formed metal with metal complying with the following requirement:
   a. Steel sheet zinc coated by hot-dip process or rolled zinc.

2. Shapes indicated below by reference to Fig. 1 designations in ASTM C 1047:
   a. Cornerbead on outside corners, unless otherwise indicated. Provide angle shapes with wings not less than 1-1/8” wide and perforated for nailing and joint compound.
   b. LC-bead with both face and back flanges; face flange formed to receive joint compound. Use LC-beads for edge trim, unless otherwise indicated.

2.06 JOINT TREATMENT MATERIALS

A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.

B. Joint Tape for Gypsum Board: Paper reinforcing tape, unless otherwise indicated.

1. Use pressure-sensitive or staple-attached, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.

C. Joint Tape for Cementitious Backer Units: As recommended by cementitious backer unit manufacturer.

D. Drying-Type Joint Compounds for Gypsum Board: Factory-packaged non-vinyl-based (non-V.I.P.) products complying with the following requirements for formulation and intended use.
1. Ready-Mixed Formulation: **Low-VOC** Factory-mixed product all-purpose compound formulated for both taping and topping compounds. Lime compound or all-purpose joint and texturing compound containing inert fillers and natural binders.

2. National Gypsum Company Proform® Brand Ultra Ready Mix joint compound or approved equal.

### 2.07 ACOUSTICAL SEALANT

A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following requirements:

2. Product is effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

B. Available Products: Subject to compliance with requirements, acoustical sealants that may be incorporated in the Work include, but are not limited to, the following:

1. Acoustical Sealant for Exposed and Concealed Joints:
   
   a. PL Acoustical Sealant; ChemRex, Inc.; Contech Brands.
   b. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
   c. SHEETROCK Acoustical Sealant; United States Gypsum Co.

### 2.05 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.

B. Laminating Adhesive: Special adhesive or joint compound recommended for laminating gypsum panels.

C. Spot Grout: ASTM C 475, setting-type joint compound recommended for spot-grouting hollow metal door frames.

D. Fastening Adhesive for Metal: Special adhesive recommended for laminating gypsum panels to steel framing.

E. Steel drill screws (nails are not acceptable) complying with ASTM C 1002 for the following applications:

1. Fastening gypsum board to steel members less than 0.033 inch thick.
2. Fastening gypsum board to gypsum board.
3. Fastening gypsum board accessories and trim.

F. Steel drill screws complying with ASTM C 954 for fastening gypsum board to steel members from 0.033 to 0.112 inch thick.

G. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.

H. Foam Gaskets: Closed-cell vinyl foam adhesive-backed strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit metal stud size indicated.

I. Polyethylene Vapor Retarder: ASTM D 4397, thickness and maximum permeance rating as follows: 4 mils 0.19 perms
K. Vapor Retarder Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Ceiling Anchorages: Coordinate installation of ceiling suspension systems with installation of overhead structural assemblies to ensure that 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.

B. Where offset anchor plates are required, provide continuous units fastened to building structure not more than 24 inches on center.

3.03 INSTALLING STEEL FRAMING, GENERAL

A. Steel Framing Installation Standard: Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.

B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with recommendations of gypsum board manufacturer or, if none available, with United States Gypsum Co.'s "Gypsum Construction Handbook."

C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement. Comply with details shown on Drawings.

   1. Where building structure abuts ceiling perimeter or penetrates ceiling.
   2. Where partition framing and wall furring abut structure, except at floor.

      a. Provide slip- or cushioned-type joints as detailed to attain lateral support and avoid axial loading.
      b. Install deflection track top runner to attain lateral support and avoid axial loading.
      c. Install deflection and firestop track top runner at fire-resistance-rated assemblies where indicated.

D. Do not bridge building control and expansion joints with steel framing or furring members. Independently frame both sides of joints with framing or furring members as indicated.

3.04 INSTALLING STEEL FRAMING FOR SUSPENDED AND FURRED CEILINGS

A. Screw furring members to wood framing.
B. Suspend ceiling hangers from building structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.

4. Secure flat, angle, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure as well as for type of hanger involved, and in a manner that will not cause them to deteriorate or otherwise fail.

5. Do not attach hangers to steel deck tabs or to steel roof deck. Attach hangers to structural members.

6. Do not connect or suspend steel framing from ducts, pipes, or conduit.

C. Sway-brace suspended steel framing with hangers used for support.

D. Install suspended steel framing components in sizes and at spacings indicated, but not less than as indicated.

E. Installation Tolerances: Install steel framing components for suspended ceilings so that cross-furring 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.

F. Wire-tie or clip furring members to main runners and to other structural supports as indicated.

G. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

3.05 INSTALLING STEEL FRAMING FOR WALLS AND PARTITIONS

A. Install runners (tracks) at floors, ceilings, and structural walls and columns where gypsum board stud assemblies abut other construction.

B. Installation Tolerances: Install each steel framing and furring member so that fastening surfaces do not vary more than 1/8 inch from the plane formed by the faces of adjacent framing.

C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

1. Cut studs ½ inch short of full height to provide perimeter relief.

2. For STC-rated and fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid structural surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks,
as needed, to support gypsum board closures needed to make partitions continuous from floor to underside of solid structure.

D. Terminate partition framing at suspended ceilings where indicated.

E. Install steel studs and furring in sizes and at spacings indicated. Single-Layer Construction: Space studs 16 inches o.c., unless otherwise indicated.

F. Install steel studs so flanges point in the same direction and leading edge or end of each gypsum board panel can be attached to open (unsupported) edges of stud flanges first.

G. Frame door openings to comply with GA-219, and with applicable published recommendations of gypsum board manufacturer, unless otherwise indicated. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

1. Install 2 studs at each jamb, unless otherwise indicated.
2. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint.
3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

DELETE BELOW IF NO FRAMED OPENINGS OTHER THAN DOORS, OR REVISE TO SUIT PROJECT. FRAMING INSTALLATION FOR LARGE OPENINGS SHOULD BE FULLY DETAILED.

H. Frame openings other than door openings to comply with details indicated or, if none indicated, as required for door openings. Install framing below sills of openings to match framing required above door heads.

I. Install polyethylene vapor retarder where indicated to comply with the following requirements:

1. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with mechanical fasteners or adhesives. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those filled with loose mineral-fiber insulation.
2. Seal vertical joints in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners 16 inches o.c.
3. Seal joints in vapor retarders caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor retarder tape.
4. Repair any tears or punctures in vapor retarder immediately before concealing it with the installation of gypsum board or other construction.

3.06 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.

B. Install sound-attenuation blankets, where indicated, prior to installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
D. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

E. Locate both edge or end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Avoid joints other than control joints at corners of framed openings where possible.

F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

G. Attach gypsum panels to framing provided at openings and cutouts.

H. Form control and expansion joints at locations indicated and as detailed, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.

I. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases that are braced internally.

   1. Except where concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
   2. Fit gypsum panels around ducts, pipes, and conduits.
   3. Where partitions intersect open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch-wide joints to install sealant.

J. Isolate perimeter of non load-bearing gypsum board partitions at structural abutments, except floors, as detailed. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

K. Where STC-rated gypsum board assemblies are indicated, seal construction at perimeters, behind control and expansion joints, openings, and penetrations with a continuous bead of acoustical sealant including a bead at both faces of the partitions. Comply with ASTM C 919 and manufacturer’s recommendations for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.

L. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer’s recommendations.

3.07 GYPSUM BOARD APPLICATION METHODS

A. Single-Layer Application: Install gypsum wallboard panels as follows:

   1. On ceilings, apply gypsum panels prior to wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
   2. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated, and provide panel lengths that will minimize end joints.
   3. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless parallel application is required for fire-resistance-rated assemblies. Use maximum-length panels to minimize end joints.
a. Stagger abutting end joints not less than one framing member in alternate courses of board.
b. At stairwells and other high walls, install panels horizontally.

4. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

B. Single-Layer Fastening Methods: Apply gypsum panels to supports as follows:
1. Fasten with screws.

3.08 INSTALLING TRIM ACCESSORIES

A. General: For trim accessories with back flanges, fasten to framing with the same fasteners used to fasten gypsum board. Otherwise, fasten trim accessories according to accessory manufacturer’s directions for type, length, and spacing of fasteners.

B. Install corner bead at external corners.

C. Install edge trim where edge of gypsum panels would otherwise be exposed. Provide edge trim type with face flange formed to receive joint compound, except where other types are indicated.
   1. Install LC-bead where gypsum panels are tightly abutted to other construction and back flange can be attached to framing or supporting substrate.

D. Install control joints according to ASTM C 840 and manufacturer’s recommendations and in specific locations approved by Architect for visual effect.

3.09 FINISHING GYPSUM BOARD ASSEMBLIES

A. General: Treat gypsum board joints, interior angles, flanges of corner bead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.

B. Prefill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.

C. Apply joint tape over gypsum board joints and to flanges of trim accessories as recommended by trim accessory manufacturer.

D. Levels of Gypsum Board Finish: Provide Level 4 finish for all gypsum board surfaces exposed to view, unless otherwise indicated. Comply with GA-214.

E. Use one of the following joint compound combinations as applicable to the finish levels specified:

F. Use the following joint compound combination as applicable to the finish levels specified:

G. For Level 4 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories.
Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration.

I. Base for Acoustical Tile: Where gypsum board is indicated as a base for adhesively applied acoustical tile, install joint tape and a 2-coat compound treatment, without sanding.

3.10 CLEANING AND PROTECTION

A. Promptly remove any residual joint compound from adjacent surfaces.

B. Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION
SECTION 09310
CERAMIC TILE - THINSET

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for furnishing and installing thinset ceramic tile and associated accessories at floors and walls of toilet rooms, corridors, and lobbies.

1.02 SUBMITTALS

A. Submit the following to comply with requirements of Section 01300.

B. Samples:
   1. Ceramic Tile:
      a. Wall Tile: Two panels for each type, pattern, and color required, with a minimum of four tiles per panel; tiles shall be mounted on plywood. Furnish matching trim shapes.
      b. Ceramic Mosaic Floor Tile: Two panels of minimum 8 inches square size for each type, pattern, and color required.

   2. Grout: Samples showing manufacturer's standard color range.

C. Manufacturer's Data: Manufacturer's printed instructions for application of manufactured products.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Section 01600.

B. Deliver tile in manufacturer's original cartons, grade-sealed by manufacturer in accordance with ANSI A137.1, and with grade seals unbroken.

C. Manufactured mortars and grouts shall bear hallmarks certifying compliance with referenced standards.

D. Handle ceramic tile carefully to avoid chipping and breakage.

1.04 PROJECT CONDITIONS

A. Ambient temperature shall be at least 50 degrees F and rising, when setting and grouting with portland-cement mortar. Follow manufacturer's recommendations when setting and grouting with other than portland-cement mortar.

B. Moisture conditions for storage and installation shall be in accordance with the materials manufacturers' recommendations.

1.05 EXTRA MATERIALS

A. Furnish additional ceramic tile at the rate of two percent, to the nearest full carton, for each type, size, pattern, and color installed.
B. Extra materials shall be from the same production lots as the installed materials. Furnish extra materials factory-packaged and labeled, with each package identified with Owner's and Project's names, and location of installation in the project.

C. Deliver extra materials prior to time of Substantial Completion; store where directed by Architect. Furnish written certification that extra materials supplied have been inspected and confirmed to be the same as those installed. Furnish complete written inventory with delivery.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Ceramic tile is intended for use in new accessible toiletrooms and existing toiletrooms remodeled for accessibility.

B. Ceramic Tile:

1. General: ANSI A137.1, Standard Grade, factory-made units; manufactured by Dal-Tile, or equal. Where new tile is to be set adjacent to existing tile the new tile shall match the existing as closely as possible with respect to color and size.

2. Unglazed Ceramic Mosaic Floor Tile: 2" x 2" x 1/4" thick with matching trim units of same thickness with nonslip texture. Color will be selected by Architect from manufacturer's standard, intermediate-priced line. Dal-Tile or approved equal.

3. Glazed Ceramic Tile: 4-1/4" x 4-1/4" x 1/4" units. Furnish matching trim shapes, including 2-inch x 6-inch bullnose, internal and external corners, and end pieces. Color will be selected by Architect from manufacturer's standard, intermediate-priced line. Dal-Tile Semi-Gloss Series or approved equal.

C. Waterproof Membrane: May be either of the following:


2. Sheet Type for walls at wet locations: 4 mil polyethylene film.

D. Installation Materials:


2. Grout: Premixed, latex-portland cement type; color will be selected from manufacturer's standard range.

E. Backer Board at new walls: 5/8" Glass fiber reinforced cementitious boards as substrate with 2" glass fiber mesh tape embedded in skim coat of mortar over joints and corners.

F. Sanitary Sealant: Specified in Section 07900.

G. Miscellaneous Materials: Furnish all miscellaneous materials and fasteners required for a complete installation, whether or not such products are specifically shown or specified.

PART 3 – EXECUTION

[this includes furring & backer board. You may have to retrieve mat'l specs from Fremont USD Restroom renovation project specs]
3.01 BACKER BOARD FURRING INSTALLATION

A. Install metal framing systems in accordance with manufacturer's printed instructions.


C. Place framing not more than 2" from abutting members and at each side of openings; connect to tracks using expansion anchors, in accordance with manufacturer's instructions.

D. Install intermediate studs each side of openings to match or wall furring spacing.

E. Install cross furring for attachment of items anchored to walls.

F. Install furring between studs for attachment of mechanical and electrical items.

G. Erect furring, brace, and reinforce to develop full strength.

H. Assure framing provides true and flat surfaces, ready to receive finish, with maximum variance of 1/8" in 10' - 0. Provide shims as necessary to comply with flatness requirements.

I. Touch-up protective coating damaged during handling and installation.

1. Use zinc-rich galvanizing repair paint for galvanized surfaces.

3.02 BACKER BOARD INSTALLATION

A. Nail or screw panels to structural members. Adhere & screw panels to masonry backing. Fasteners at 8" on center maximum. Leave a space of 1/8" to 3/16" between panels both horizontally & vertically. Edges of panels parallel to framing members shall be continuously supported. Provide additional blocking when necessary to permit proper panel attachment.

B. Where two panels abut on a stud, insert nail or screw between panels, through washer.

C. Install panels with horizontal and vertical joints staggered.

D. Joint treatment: fill spaces solid between panels with mortar. Embed joint reinforcement tape in mortar over joints, including corners.

3.01 EXAMINATION

A. Verify that grounds, anchors, plugs, hangers, and mechanical and electrical Work which will, in the completed work, be in or behind products specified herein, have been installed prior to starting installation of specified products.

B. Inspect to verify that surfaces on which products specified herein will be installed are smooth, firm, free of projections, dry, clean, and free of oil, grease, and other materials which could prevent successful installation.

C. Verify that other conditions are satisfactory for the installation of ceramic tile. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 PREPARATION

A. Protect surfaces adjoining those to receive ceramic tile prior to start of installation.
B. If required by project conditions, apply specified leveling compound to concrete substrate.

C. Prime concrete substrate to receive waterproof membrane, if recommended by waterproof membrane manufacturer.

3.03 INSTALLATION

A. General: Install manufactured products in accordance with the requirements of the manufacturers' printed instructions for the conditions of installation.

B. Waterproof Membrane:
   1. Apply reinforced liquid membrane type with methods and in amounts recommended by manufacturer.
   2. Apply primer and mastic to substrate, securely bonding waterproof membrane, and lapping joints for dimension recommended by manufacturer.

C. Ceramic Tile:
   1. Install in accordance with the requirements of the specified ANSI and TCA references.
   2. Do not start floor tile installation occurring in spaces to receive both floor and wall tile until wall tile installation has been completed.
   3. Lay from centerline of floor outward, adjusting as necessary at junctions of other surfaces.
   4. Set to produce solid bedding, smooth and even surfaces, with 1/16-inch joints, accurately and symmetrically aligned.
   5. Do not use tiles of less than half size. Cut tile neatly, and grind rough exposed edges.
   6. Terminate at centerlines of doors, unless otherwise shown.
   7. Omit tile where floor or wall surface is covered by permanently built-in fixtures and equipment.
   8. Install tile on floors and walls with latex-portland cement mortar in accordance with ANSI A118.4, and install tile on floors in conformance with TCA Method F122, and on walls in conformance with TCA Method W244.
   9. Prior to grouting, replace damaged and defective tile.
   10. Grout: Apply in accordance with ANSI A108.10, forcing a maximum amount of grout into joints so that joints are full and integral with setting bed. Before grout sets, strike or tool joints of tile to depth of cushion edges, or flush with face of tile having square edges, as applicable, filling gaps. Reinspect, and repoint defects encountered. Damp cure in accordance with the manufacturer's printed instructions.

3.04 CLEANUP

A. Clean adjacent surfaces free from mortar, grout, and other application materials as Work progresses, and upon completion of installation.

B. Clean surfaces of installed ceramic tile as recommended by manufacturers; do not use acid, harsh abrasives, or metal cleaning tools.

3.05 COMPLETION

A. Completed installations shall be clean and free from scratches, broken and chipped units, cracks, misaligned or improperly made joints, and stains, discoloration, and other defects and damage.
B. Ceramic tile shall be flush and level across adjoining faces, with joints straight and free from staggars and offsets.

C. Units shall be fully bonded into place, free from hollow sounds when inspected by tapping.

3.06 PROTECTION

A. Keep horizontal surfaces free from traffic and construction loads for a minimum of three days after installation of ceramic tile.

B. If use of newly-installed floors is unavoidable, protect installation with boards for a minimum of three days.

END OF SECTION
SECTION 09510

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Provide standard suspended acoustical ceiling systems, with suspended metal grid system including trim.
B. Provide adhered acoustic tile ceiling system including acoustical units, and associated accessories.

1.02 RELATED WORK

A. Division 1 Section "Waste Management".
B. Division 9 Section, “Gypsum Board Assemblies” for adhered.
C. Division 15 Section for mechanical devices installed in acoustical ceilings.
D. Division 16 Sections for Electrical Devices installed in acoustical ceilings.

1.03 QUALITY ASSURANCE

A. Installer: Firm with minimum three years successful experience in projects of similar type and scope; acceptable to manufacturer of acoustical units.
B. Fire Performance Characteristics: Provide products listed by Underwriters Laboratories. (UL)
1. Flame Spread/Smoke Generation: Provide products meeting code requirements for maximum 25 flame spread and maximum 25 smoke generation.
C. Seismic Requirements: Comply with state and local code requirements for seismic bracing of ceiling suspension system.

[Schools]
1. Suspension system installation shall comply with Division of the State Architect Interpretation of Regulations 25-3: Drywall Ceiling Suspension, Conventional Construction – One Layer.
2. Fasteners shall comply with Division of the State Architect Interpretation of Regulations 19-1: Post-Installed Anchors in concrete for Anchorage Devices.

[Not Schools]
1. Ceiling Struts: Provide struts as detailed on Drawings and as required by code, placed maximum 12'-0" on center in both directions and within 6'-0" of each wall.
2. Slack Wires: Provide safety slack wires, two per fluorescent fixture on diagonally opposite corners and a single wire for each recessed down light.

D. Source quality control:

1. Test reports: Manufacturer will provide test certification for minimum requirements as tested in accordance with applicable industry standards and/or to meet performance standards specified by various agencies.
2. Changes from system: System performance following any substitution of materials or change in assembly design must be certified by the manufacturer.
E. Installer shall comply with requirements of regulatory agencies: Codes and regulations of authorities having jurisdiction.

F. [greenest] Provide acoustical ceiling panels complying with the Collaborative for High Performing Schools (CHPS) 01350 requirements for low-emitting materials with no formaldehyde.

F. [green] Provide acoustical ceiling panels complying with the Greenguard requirements for low-emitting materials with no formaldehyde.

1.04 REFERENCES

A. ASTM C635: Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.


E. ASTM C423: Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.


1.05 SUBMITTALS

A. Shop Drawings:

1. Ceiling plans: Clearly indicate layout arrangement of ceiling design, dimensions and locations of related integrated lighting and air distribution components.

2. Installation drawings: Detail complete installation including suspension system, installation of related lighting and air distribution components, access requirements, sound absorption requirements, and fire rating requirements when applicable.

B. Product Data: Submit manufacturer's catalog cuts or standard drawings showing details of system with project conditions clearly identified and manufacturer's recommended installation instructions.

D. Samples:

1. Set of 6 inch square samples for each ceiling panel unit required, showing full range of exposed color and texture to be expected in completed work.

2. Set 6 inch long samples of each exposed suspension system track and molding.

1.06 SITE CONDITIONS

A. Installation of acoustical panels shall not begin until permanent heating and cooling equipment is in operation, and dust generating activities have terminated.

B. Coordination with other work:
1. Electrical work: Installation of conduit above ceiling shall be complete before installation of ceiling components.

2. Fire protection work: Fire protection lines and/or equipment occurring above ceiling shall be completed and tested before ceiling components are installed.

C. Allow wet work to dry prior to commencement of installation. Do not begin installation until residual moisture from plaster, concrete or similar work has dissipated.

D. Maintain uniform temperature of minimum 60 to 85 degrees F and humidity of 20% to 40% prior to, during and after installation.

E. Protection: Protect completed work above ceiling system from damage during installation of ceiling components. Coordinate work with protection of installed ductwork to prevent migration of dust.

1.07 DELIVERY AND STORAGE OF MATERIALS

A. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements.

B. Ceiling material storage time at the jobsite should be as short as possible, and environmental conditions should be as near as possible to those specified for occupancy. Cartons should be removed from pallets and stringers to prevent distortion of material.

C. Damaged or deteriorated materials should be removed from the premises. Immediately before installation, to stabilize ceiling panels, store them at a location where temperature and humidity conditions duplicate those ambient during installation and anticipated for occupancy.

1.08 EXTRA MATERIALS

A. Furnished additional acoustical units in quantity equal to not less than one percent of total installed area for each type, size, and color unit, except not less than one full carton for each unit.

B. Extra materials shall be from the same production lots as the installed units; furnish in factory-packaged and labeled cartons, with each carton identified with the Owner’s and Project’s names, and location of installation in the Project.

C. Deliver extra materials prior to time of Substantial Completion, and store where directed by the Owner. With delivery, furnished written certification that extra materials supplied have been inspected and confirmed to be the same as those installed. Furnish complete typed inventory with delivery.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Suspension System:
   1. Chicago Metallic Corp.
   2. USG, Interiors, Inc.

B. Acoustic Ceiling Units:
   1. Armstrong World Industries, Inc.
2. USG Interiors, Inc.
3. Celotex Corporation

C. Exposed Fiber Acoustic Ceiling Units:

1. Tectum Inc.: Ceiling Tile: [1][1-\(\frac{1}{2}\)]\(\text{inches}\), 24x24, 24x48, painted white.
2. Tectum Inc.: Tonico ceiling Tile [1][1-\(\frac{1}{2}\)]\(\text{inches}\), 24x24, 24x48, painted white.
3. Tectum Inc.: V-line Panels: [1],24x24-144, painted white.
4. Tectum Inc.: Designer Lay-In Panel: [1][1-\(\frac{1}{2}\)]\(\text{inches}\), 24x24, 24x48, 24x96, painted white.
5. Tectum Inc.: Security Ceiling System: [1][1-\(\frac{1}{2}\)]\(\text{inches}\), 24x24, painted white.

D. Substitutions: Refer to Section 01630.

2.02 MATERIALS

A. Suspension System: Comply with ASTM C635, as applicable to type of suspension system required for type of ceiling units indicated.

1. Grid System: Direct hung, aluminum or steel "T" exposed grid system.
2. Attachment Devices: Size for 5 times design load indicated in ASTM C635, Table 1, Direct Hung.
3. Hanger Wires: Galvanized carbon steel, ASTM A641, soft temper, prestretched, yield-stress load of at least three time design load, but not less than 12 gauge.
4. Straps, Tubes and Angles: Provide galvanized steel as required to meet state and local requirements for seismic design loads.
5. Structural Class: Intermediate-duty system.
6. Edge Molding: Manufacturer's standard angle molding for edges and penetrations of ceiling, with single flange of molding exposed. Manufacturers standard snap-on molding edge where noted.
   a. At lay-in exposed fiber acoustic ceiling provide "Contura CA-8" extruded aluminum trim with 3/4 inch wall angles as manufactured by Gordon Architectural Aluminum Specialties.
7. Finish of Exposed Items: Manufacturer's standard white baked enamel.

B. Lay-In Ceiling Acoustic Units:

1. Wet-formed mineral fiber panels, angled tegular (20 degree) lay-in.
2. Standard factory-applied latex, washable white painted finish.
3. Finish/Type: White
   a. Armstrong / "Cirrus" or USG / "000".
4. Size: 2'-0" x 4'-0" x 3/4", except where otherwise indicated on Drawings.
5. Size: 2'-0" x 2'-0" x 3/4", except where otherwise indicated on Drawings.
6. NCR Rating: minimum 0.65

Other Types:

Armstrong Ceilings [http://www.armstrong.com/commceilingsna/fiber-ceilings.jsp]

General ceiling tile: no-Formaldehyde + recycled – best to worst:

- CIRRUS Second Look®: 0.65 NCR
- CIRRUS®: 0.70
- CIRRUS Profiles: 0.65
- ULTIMA™: 0.70
### Special Ceiling tile: no-Formaldehyde + recycled – best to worst:

<table>
<thead>
<tr>
<th>Brand</th>
<th>NCR Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULTIMA Open Plan</td>
<td>0.75</td>
</tr>
<tr>
<td>CIRRUS Open Plan</td>
<td>0.75</td>
</tr>
<tr>
<td>School Zone™ FINE FISSURED</td>
<td>0.70</td>
</tr>
<tr>
<td>CERAMAGUARD® (unperforated)</td>
<td>?</td>
</tr>
</tbody>
</table>

### USG Ceilings

#### General ceiling tile: low-VOC + recycled – best to worst

<table>
<thead>
<tr>
<th>Brand</th>
<th>NCR Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orion 270 ClimaPlus</td>
<td>0.80</td>
</tr>
<tr>
<td>Eclipse ClimaPlus</td>
<td>0.70</td>
</tr>
<tr>
<td>Millenia ® ClimaPlus</td>
<td>0.70</td>
</tr>
<tr>
<td>Mars ClimaPlus</td>
<td>0.70</td>
</tr>
<tr>
<td>Orion 210 ClimaPlus</td>
<td>0.65</td>
</tr>
</tbody>
</table>

### Lay-In Ceiling Exposed fiber Acoustic Units:

1. "Tonico" exposed fiber panels, square edge.
2. Finish/Type: Natural
3. Size: 1" x 2'-0" x 4'-0", except where otherwise indicated on Drawings.
4. NCR Rating: minimum 0.65

### Adhered Acoustical Tile System

1. Tiles: High density mineral-fiber units, 12" x 12" x \( \frac{3}{4} \) " size, with square edges, K4C4 with splines or T&G; factory finished with manufacturer’s standard, washable, white vinyl latex paint finish.
   a. Finish/Type: USG/ “Eclipse Clima Plus.”
2. Adhesive: Nontoxic Low-Voc acoustical tile adhesive recommended by tile manufacturer; materials approved by California State Fire Marshal.

### PART 3 - EXECUTION

#### 3.01 INSPECTION

A. Examine areas to receive acoustical suspension systems for conditions that will adversely affect installation. Provide written report of discrepancies.

B. Do not start work until unsatisfactory conditions are corrected.

C. Work to be concealed: Verify work above ceiling is complete and installed in a manner that will not affect layout and installation of acoustical suspension systems.

D. Beginning of installation shall signify acceptance of conditions in areas to receive acoustical suspension systems.

#### 3.02 PREPARATION

A. Furnish layouts for inserts, clips and other supports required to be installed by other trades for support of acoustical ceilings.
1. Install inserts, clips and supports where not previously installed and where additional supports are required for complete installation.

B. Allow acoustical units to adjust to temperature and humidity conditions installation spaces for three days minimum, with cartons opened and stripped sufficiently to allow units to stabilize to ambient conditions.

C. Measure ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling; do not use less than half width units at borders.

D. Coordinate with other work supported by or penetrating through ceilings, including light fixtures.

3.03 INSTALLATION – Suspended Ceilings

A. Install suspended acoustical ceiling systems in accordance with manufacturer’s recommendations and ASTM C636. Comply with CBC chapter 25 and DSA IR 25-3 & IR 19-1.

1. Finished Ceilings: True to lines and levels and free from warped, soiled or damaged grid or acoustical units. At radius ceilings install main tees at varying heights noted, snapping cross tees into main tees to complete shallow radius installation.

B. Install ceiling systems in a manner capable of supporting superimposed loads, with maximum permissible deflection of 1/8" in 10'-0".

C. Install after major above-ceiling work is complete; coordinate location of hangers with other work.

1. Ensure suspension system is located to accommodate fittings and units of equipment which is to be placed after installation of ceiling grid.

D. Where ducts or other equipment prevent regular spacing of hangers, reinforce nearest adjacent hangers and related carrying channels as required to span required distances.

E. Install ceiling suspension system to resist seismic loads as required by state and local codes, including extra hanger wires and compression supports for ceilings and light fixtures.

F. Hang system independently of walls, columns, ducts, pipes, and conduit. Where suspension system members are spliced, avoid visible displacement of the longitudinal axis or face plane of adjacent members.

G. Do not support lighting fixtures from or on main runners or cross runners if weight of fixture causes total dead load to exceed deflection capability.

1. Support fixture loads independently or provide supplementary hangers located within 6" of each corner.

H. Do not install fixtures so main runners and cross runners are eccentrically loaded; where fixture installation would produce rotation of runners, provide stabilizer bars.

I. Install edge moldings at intersection of ceiling and vertical surfaces, using maximum lengths, straight, true to line and level; miter corners. Install edge molding in 2'-0" lengths where radiused ceiling abuts wall.

1. Provide edge moldings at junctions with other ceiling finishes.
2. Provide manufacturers standard 4” tall x 9/16” snap-on molding edge over main tee at suspended free edge of radiused ceiling.

J. Where required form expansion joints to accommodate movement and maintain visual closure without distorting system.

K. Lay-In Ceilings: Fit acoustic units in place, free from damaged edges or defects detrimental to appearance and function.

1. Lay directional patterned units one way with pattern as directed.
2. Fit border units neatly against abutting surfaces.
3. Install units level, in uniform plane and free from twist, warp, and dents.
4. Install hold-down clips where required by applicable codes and where ceiling is within 20'-0" of an exterior door.
5. Adjustment: Adjust sags or twists which develop in ceiling system and replace any part which is damaged or faulty.

3.04 INSTALLATION – ADHERED ACOUSTICAL CEILING

A. Adhered Acoustical Units:
   1. Install acoustic ceiling system in accordance with manufacturer’s recommendations and approved shop drawings.
      a. Adhere tile with minimum four spots for each full tile and no less than two spots for partial units.
      b. Joints: tight and flush, in accurate alignment; use splines to maintain finished surface flat.
      c. Finished ceiling tiles: true to lines and levels and free from warped, solid or damaged acoustical units.

B. Upon completion, acoustical ceiling shall be level, with acoustical units square, accurately aligned, and with neat, closely fitted, flush joints.

3.05 EXPOSED FIBER ACOUSTIC UNITS INSTALLATION

A. Install exposed fiber acoustic units in accordance with manufacturer’s recommendations and true to lines and levels and free from warped, soiled or damaged acoustical units.

B. Install after major above-ceiling work is complete; coordinate location of fasteners with other work.

C. Do not support lighting fixtures from exposed fiber acoustic units.

D. Install exposed fiber acoustic units: Fit acoustic units in place, free from damaged edges or defects detrimental to appearance and function.

   1. Cut acoustic units to length and lay as indicated.
   2. Fit units neatly against abutting surfaces and against each other.
   3. Install units tight to framing members and free from twist, warp, and dents.
   4. Screw units to framing members and furring strips.

E. Screws shall penetrate framing members or furring by a minimum of 1 inch. Touch-up screw heads to match panel color.
3.06 CLEANING

A. Final Cleaning: Wash finished surfaces as recommended by manufacturer.

B. Repainting: Spray a thinned nonbridging vinyl-acrylic flat wall paint as recommended by manufacturer. Repainting plastic coated surfaces with a nonbridging vinyl-acrylic flat enamel or other nonbridging paint, properly formulated to retain natural semi-gloss appearance.

C. Acoustical units shall be clean and free from scratches, dents, tool marks, stains, discoloration, and other defects and damage.

END OF SECTION
PART 1 GENERAL

1.01 WORK INCLUDED

A. At New Wing Provide linoleum resilient sheet flooring with accessories as required for complete installation.

B. Install owner supplied linoleum at existing building

1.02 QUALITY ASSURANCE

A. Flamability: Provide materials tested under ASTM E648, Flooring Radiant Panel Test, with results of 0.45 watts/cm² or higher.

   1. Smoke Developed: Less than 450, ASTM E662.

B. Slip Resistance: Maximum 0.6 tested in accordance with ASTM D2047.

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Product Data: Furnish manufacturer’s product literature.

C. Samples: Submit each color and pattern selected of each type of flooring and exposed accessory.

1.04 SITE CONDITIONS

A. Ensure floor surfaces are smooth and flat with maximum variation of 1/8" in 10'-0".

B. Ensure concrete floors are dry (maximum 7 percent moisture content) and exhibit negative alkalinity, carbonizing and dusting.

C. Maintain minimum 70 degree F air temperature at flooring installation area for 3 days prior to, during, and for 24 hours after installation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Special Resilient Sheet Flooring: Marbeleized linoleum consisting of oxidized linseed oil and natural resins mixed with wood or corkflour, limestone and pigments, conforming to FS LLL - F 1238A.

   1. Acceptable Manufacturers*
      a. Forbo Industries, Inc./Marmoleum Real - Fresco.
      b. Substitutions: Refer to Section 01630.

   2. Physical Characteristics:
      a. Width: Nominal 6' - 6" (200 cm).
b. Thickness (Gage): Nominal 2.4 mm.
c. Backing: Jute.

3. Colors and Patterns: As selected by Architect from manufacturer's full range of available colors and patterns.

C. Edge Strips: Homogeneous rubber, tapered or bullnose edge, color as selected by Architect to be compatible with flooring. Provide units of maximum available length, to minimize number of joints.

1. Sheet Flooring to Concrete: #633 Tile Reducer by BurkeMercer Flooring Products or #22 Reducer Strip by Roppe Corporation.
2. Ceramic Tile to Sheet Flooring: #632 Tile Reducer by BurkeMercer Flooring Products or #48 Reducer Strip by Roppe Corporation.
3. Carpet to Sheet Flooring: #150 Tile-Carpet Joiner by BurkeMercer Flooring Products.
4. Approved equal.

D. Adhesives: Low-VOC, water-resistant, mildew-resistant, non-staining type to suit products and subfloor conditions indicated and to comply with flammability requirements for installed carpet tile as recommended by carpet tile manufacturer.

E. Sealer and Wax: Type recommended by flooring manufacturer for material type and location.

F. Wall Base: Top-set 4 inch rubber base by "Burke" or "Roppe."

1. Exterior Corners: Premolded.
2. Interior Corners: Premolded.
3. Color and Pattern: As selected by Architect from manufacturer's full range of colors produced for rubber wall base complying with requirements indicated.

G. Heat weld sticks: Match sheet color, from manufacturer.

PART 3 – EXECUTION

3.01 PREPARATION

A. Remove subfloor ridges and bumps and clean substrate.

B. Prepare subrate in accordance with manufacturer's recommendations and ASTM F710.

3.02 INSTALLATION

A. Install sheet flooring in accordance with manufacturer's recommendations and installation instructions for type of following and substrates indicated.

B. Spread cement evenly in quantity recommended by manufacturer to ensure adhesion over entire area of installation.

C. Set flooring in place press with heavy roller for full adhesion.

D. Lay flooring with minimum seams, with pattern parallel to building lines to produce symmetrical pattern.

E. Heat weld joints.

F. Terminate resilient flooring at centrline of door openings where adjacent floor finish is
disimilar.

G. Install edge strips at unprotected or exposed edges where flooring terminates.

H. Scribe flooring to walls, columns, floor outlets and othr appurtenances, to produce tight  joints.

I. Integral Cove Base (at wet areas): Provide integral coed base including cove suport strip or
filler and tip edge strip.
   1. Install top edge strip level with floor lines, with tightly butted joints, mitered corners.
   2. Use longest top edge pieces available, maintain minimum measurement of 48" between
      joints.

J. Joints aligned with door openings are not acceptable.

3.03 RESILIENT BASE INSTALLATION

A. Inspect substrates to ensure thay are plumb, even, free of improper or deleterious materials,
   free of protrusions or gaps that could impair installation of resilient base. Starting installation
   of base shall signify that Contractor has inspected substrate and found substrate to be
   acceptable.

B. Install tight to flooring with hairline butt joints at abutting pieces. Joints shall be neatly cut,
   straight and plumb. Apply adhesive recommended by resilient base manufacturer. Install pre-
   formed external corner pieces at all external corners. Do not bend resilient base. Use longest
   lengths practicable. Wherever possible, provide on continuous length of base, without joints.
   Provide resilient base lengths no shorter than 12 inches unless required by wall length is less
   than 12 inches.

3.04 CLEAN-UP AND PROTECTION

A. Remove excess adhesive from floorm base ans wall surfaces without causing damage.

B. Clean, seal and wax floor surfaces in accordance with manufacturer's recommendations.

C. Prohibit traffic from floor for 48 hours after installations.

END OF SECTION
SECTION 09690

CARPET TILE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes carpet tile and installation.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 2 Sections for removing existing flooring.

1.03 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of carpet tile material and installation accessory specified. Submit manufacturer's printed data on physical characteristics, durability, fade resistance, and fire-test-response characteristics. Submit methods of installation for each type of substrate.

C. Shop Drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tile. Indicate the following:

1. Existing flooring materials to be removed.
2. Existing flooring materials to remain.
3. Carpet tile type, color, and dye lot.
4. Locations where dye lot changes occur.
5. Type of installation.
6. Pattern type, location, and direction.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.

D. Samples for initial selection in the form of manufacturer's color charts or Samples of materials showing the full range of colors, textures, and patterns available for each type of carpet tile indicated.

E. Samples for verification of the following products, 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. Label each sample with the manufacturer's name, material type, color, pattern, and designation indicated on Drawings and carpet tile schedule. Submit the following:

1. Full-size sample of each type of carpet tile required.
2. 12-inch (300-mm) Samples of each type of exposed edge stripping and accessory item.

F. Schedule of carpet tile using same room designations indicated on Drawings.

G. Maintenance data for carpet tile to include in the operation and maintenance manual specified in Division 1. Include the following:

1. Methods for maintaining carpet tile, including manufacturer's recommended frequency for maintaining carpet tile.
2. Precautions for cleaning materials and methods that could be detrimental to finishes and performance. Include cleaning and stain-removal products and procedures.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who is certified by the Floor Covering Installation Board (FCIB) or who can demonstrate compliance with FCIB certification program requirements.

B. Single-Source Responsibility: Obtain each type of carpet tile from one source and by a single manufacturer.

C. Fire-Test-Response Characteristics: Provide carpet tile with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet tile with appropriate markings of applicable testing and inspecting agency.

2. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm per ASTM E 648.
3. Critical Radiant Flux Classification: Class II, not less than 0.22 W/sq. cm per ASTM E 648.
4. Flame Spread: 25 or less per ASTM E 84.
5. Smoke Developed: 450 or less per ASTM E 84.

D. Mockups: Prior to installing carpet tile, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of Work.

1. Locate mockups on-site in the location and of the size indicated or, if not indicated, as directed by Architect.
2. Notify Architect one week in advance of the dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before start of final unit of Work.
5. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

   a. When directed, demolish and remove mockups from Project site.
   b. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.
1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with the Carpet and Rug Institute's CRI 104, Section 5: "Storage and Handling."

B. Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.

C. Store materials on-site in original undamaged packages, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, with continuous blocking off ground.

1.06 PROJECT CONDITIONS

A. General: Comply with CRI 104, Section 6: "Site Conditions."

B. Space Enclosure and Environmental Limitations: Do not install carpet tile until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.

C. Subfloor Moisture Conditions: Moisture emission rate of not more than 3 lb/1000 sq. ft./24 hours (14.6 kg/1000 sq. m/24 hours) when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55 deg F (12.7 deg C).

D. Subfloor Alkalinity Conditions: A pH range of 5 to 9 when subfloor is wetted with potable water and pHydron paper is applied.

1.07 WARRANTY

A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner 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 Carpet Tile Warranty: Submit a written warranty executed by carpet tile manufacturer and Installer agreeing to repair or replace carpet tile that does not meet requirements or that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to, more than 10 percent loss of face fiber, tile curling, snags, runs, and delamination.

C. Warranty Period: 5 years from date of Substantial Completion.

1.08 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.

1. Carpet Tile: Before installation begins, furnish quantity of full-size units equal to 5 percent of amount installed.
PART 2 - PRODUCTS

2.01 CARPET TILE

A. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the products specified below.

B. Products: Interface Flor or approved equal.

Performance requirements:
- Minimum 40% recycled content in the face fiber
- Minimum 100% recycled content for the backing
- Minimum 100% fully recyclable at the end of its useful life (not burning for energy)
- Yarn System - 100% Premium Branded Aquafil Invista/Blue Chip Nylon with Modification Ratio <2.5
- Dye Method - 100% Solution Dyed
- Antimicrobial - Non-metallic Intersept®, enabling product to pass ASTM E-2471
- Backing - Non-woven primary with GlasBacRE recycled vinyl
- Yarn Weight/Gauge - 18 oz. per yd. / 12th Gauge
- Non-directional pattern and texture?
- Product Size - 50cm x 50cm (19.69" x 19.69")
- Sustainable Carpet Assessment Standard - NSF-140 Platinum or Gold
- Indoor Air Quality - Green Label Plus Certified #GLP0820
- Shall not contain Styrene Butadiene latex backing.

2.02 INSTALLATION ACCESSORIES

A. Use a "floating floor" installation, which requires no adhesive and is easily removed or replaced such as InterfaceFlor TacTiles installation or equal.

B. Wall Base: Top-set 4 inch rubber base by "Burke" or "Roppe."

1. Exterior Corners: Premolded.
2. Interior Corners: Premolded.
3. Color and Pattern: As selected by Architect from manufacturer's full range of colors produced for rubber wall base complying with requirements indicated.

C. Edge Strips: Homogeneous rubber, tapered or bullnose edge, color as selected by Architect to be compatible with flooring. Provide units of maximum available length, to minimize number of joints.

1. Carpet to Sheet Flooring: #150 Tile-Carpet Joiner by BurkeMercer Flooring Products.
2. Carpet to Concrete: #705 Super Imperial Reducer by BurkeMercer Flooring Products.
3. Approved equal.

PART 3 - EXECUTION
3.01 EXAMINATION

A. Examine subfloors and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting performance of carpet tile. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Verify that subfloors and conditions are satisfactory for carpet tile installation and comply with requirements specified in this Section and those of carpet tile manufacturer.

3.02 PREPARATION

A. General: Comply with carpet tile manufacturer’s installation recommendations to prepare substrates indicated to receive carpet tile installation.

B. Level subfloor within ¼ inch in 10 feet (6 mm in 3 m), noncumulative, in all directions. Sand or grind protrusions, bumps, and ridges. Patch and repair cracks and rough areas. Fill depressions.

1. Use leveling and patching compounds to fill cracks, holes, and depressions in subfloor as recommended by carpet tile manufacturer.

C. Broom or vacuum clean subfloors to be covered with carpet tile. Following cleaning, examine subfloors for moisture, alkaline salts, carbonation, or dust.

D. Concrete-Subfloor Preparation: Apply concrete-slab primer, according to manufacturer’s directions, where recommended by carpet tile manufacturer.

E. Resilient-Flooring Substrate Preparation: Replace missing pieces of existing resilient flooring or patch to level. Cut out peaked seams and fill with latex underlayment as recommended by manufacturer. Repair depressions with material recommended by carpet tile manufacturer.

3.03 INSTALLATION

A. General: Comply with CRI 104, Section 13: “Carpet Modules (Tiles).”

B. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

C. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

D. Install borders parallel to walls.

3.04 CLEANING

A. Perform the following operations immediately after completing installation:

2. Remove surface blemishes using cleaner recommended by carpet tile manufacturer.
3. Remove protruding yarns from carpet tile surface.
3.05 PROTECTION

A. General: Comply with CRI 104, Section 15: “Protection of Indoor Installation.”

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure carpet tile is without damage or deterioration at the time of Substantial Completion.
PRODUCT DATA SHEET 1 - CARPET TILE

A. Carpet Tile Designation:  CT[#]  <INSERT NO. IN PLACE OF # WITHIN BRACKETS, REMOVE BRACKETS, AND USE THIS DESIGNATION ON DRAWINGS TO SHOW LOCATIONS WHERE CARPET TILE IS REQUIRED.>

B. Fiber Content:  <INSERT CONTENT BY PERCENTAGE.>

C. Face Construction:  [Level-loop pile.] [Cut pile.] [Cut-and-loop pile.]

D. Gauge:  <SPECIFY IN ENDS PER INCH (25.4 mm).>

E. Stitches:  <SPECIFY PER INCH (25.4 mm).>

F. Pile Height:  <SPECIFY IN INCHES (mm)> for finished carpet tile per ASTM D 418.

G. Surface Pile Weight:  <SPECIFY IN OZ./SQ. YD. (g/sq. m).  THIS DOES NOT INCLUDE WEIGHT OF BACKINGS.>

H. Total Weight:  <SPECIFY IN OZ./SQ. YD. (g/sq. m)> for finished carpet tile.

I. Primary Backing:  <MFR'S STANDARD MATERIAL.  SPECIFY WHERE REQUIRED.>

J. Secondary Backing:  <CHOOSE TO SUIT PROJECT.  SPECIFY WHERE REQUIRED.>

K. Performance Characteristics:  As follows:

1. Critical Radiant Flux Classification:  Class I, not less than 0.45 W/sq. cm per ASTM E 648.
2. Critical Radiant Flux Classification:  Class II, not less than 0.22 W/sq. cm per ASTM E 648.
3. Tuft Bind:  Not less than 10 lbf (44.5 N) per ASTM D 1335.
4. Dry Breaking Strength:  Not less than 100 lbf (445 N) per ASTM D 2646.
5. Delamination Strength of Secondary Backing:  Not less than 2.5 lbf (11.1 N/25.4 mm) per ASTM D 3936.
7. Colorfastness to Crocking:  Not less than 4, wet and dry, per AATCC-165.
8. Colorfastness to Light:  Not less than 4 after 40 AFU (AATCC fading units) per AATCC-16.
9. Static Resistance:  Not less than 500,000 ohms, nor more than 20,000 megohms, measured according to the test method for conductive flooring specified in Chapter 12 of NFPA 99.
10. Static Generation:  Less than 1.8 kv at 20 percent relative humidity, per AATCC-134 using step and scuff tests with neolite and chrome-tanned leather soles.
11. Antimicrobial Activity:  Not less than 2-mm halo of inhibition for gram-positive bacteria; not less than 1-mm halo of inhibition for gram-negative bacteria; no fungal growth; per AATCC-174.

L. Color and Pattern:  [As selected by Architect from the manufacturer's full range of colors and patterns produced for carpet tile specified.] [As specified with product designation below.]  <RETAIN 1 COLOR REQUIREMENT FROM 2 CHOICES.  IF SECOND CHOICE IS RETAINED, INCLUDE IN PARA BELOW EACH MFR'S DESIGNATION FOR COLOR AND PRODUCT ALONG WITH MFR'S NAME.>

M. [Available] Products:  <INSERT PRODUCT NAMES, WITH COLOR AND PATTERN OF EACH, AND MFR'S NAMES FOR EACH PRODUCT THAT FITS REQUIREMENTS RETAINED ABOVE; RETAIN WITH EITHER THE "AVAILABLE PRODUCTS" PARA OR THE "PRODUCTS" PARA IN PART 2 "CARPET TILE" ARTICLE.>
END OF SECTION
PART 1 GENERAL

1.1 SECTION INCLUDES
   A. Surface preparation and field painting of exposed interior items and surfaces, including mechanical and electrical equipment that do not have a factory-applied finish.
   B. Surface preparation and field painting of exposed exterior items and surfaces.

1.2 RELATED SECTIONS
   A. Section 05500 - Metal Fabrications: Shop priming ferrous metal.
   B. Section 06200 - Finish Carpentry: Shop priming architectural woodwork.
   C. Section 08110 - Steel Doors and Frames: Factory priming steel doors and frames.
   D. Section 09260 - Gypsum Board Assemblies: Surface preparation of gypsum board.

1.3 REFERENCES

1.4 DEFINITIONS
   A. General: Standard coating terms defined within Masters Painters Institute (MPI) manual.
      1. Gloss level 1 - Flat with a gloss range below 5 when measured at a 60-degree meter and 10 when measured at an 85-degree meter.
      2. Gloss level 2 - Low Sheen with a gloss range of 5 to 10 when measured at a 60 degree meter and 10 to 35 when measured at an 85 degree meter.
      3. Gloss level 3 - Eggshell with a gloss range between 10 and 15 when measured at a 60-degree meter and 10 to 35 when measured at an 85-degree meter.
      4. Gloss level 4 - Satin with a gloss range between 25 to 35 when measured with a 60 degree meter.
      5. Gloss level 5 - Semi-Gloss with a gloss range between 50 and 55 when measured at a 60 degree meter.
      6. Gloss level 6 - Gloss with a gloss range more than 70 when measured at a 60 degree meter.

1.5 SUBMITTALS
   A. Submit under provisions of Section 01300.
   B. Manufacturer's data sheets on each product to be used, including:
      1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
      2. Preparation instructions and recommendations.
      3. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
   C. Selection Samples: For each finish product specified, two complete sets of color chips
representing manufacturer’s full range of available colors and patterns.

D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

C. Paint exposed surfaces. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.

D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer’s original, unopened packages and containers bearing manufacturer’s name and label:

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer’s absolute limits.

D. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C), unless manufacturers instructions specifically state’s.

E. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).

F. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.8 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

B. Quantity: Furnish Owner with an additional three percent, but not less than 1 gal (3.8 l) or 1 case, as appropriate, of each material and color applied.
PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Kelly-Moore Paints, which is located at: 987 Commercial St.; San Carlos, CA 94070; Toll Free Tel: 888-MR PAINT; Tel: 888-kmcolor; Fax: 650-592-1215; Email: epatricio@kellymoore.com; Web: www.kellymoore.com

B. Requests for substitutions will be considered in accordance with provisions of Division 01.

2.2 PAINT MATERIALS - GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. VOC Classification: Provide materials, including primers, undercoats, and finish-coat materials, that meet local air quality management district regulations.

C. Color: Refer to Finish Schedule and Paint Legend for paint colors.

D. Application Rate: Coating thickness for primer, intermediate, barrier and finish coats shall be measured as Dry Film Thickness (DFT) and comply with manufacturer's published recommendations.

2.3 EXTERIOR METAL

A. Ferrous Metal:
   1. Primer:
      a. 1710 KEL-GUARD Alkyd Rust-Preventative Red Primer.
   2. Finish:
      a. 1250 ACRY-SHIELD 100 percent Acrylic Exterior Semi-Gloss Enamel.

2.4 EXTERIOR WOOD

A. Non-Staining Wood and Hardboard:
   1. Primer:
      a. 250 COLORSHEILD 100 percent Acrylic Exterior Primer-Sealer.
   2. Finish:
      a. 1245 ACRY-SHIELD 100 percent Acrylic Exterior Low Sheen Finish.

B. Wood Trim: Doors, Windows, and Shutters:
   1. Primer:
      a. 255 ACRY-SHIELD 100 percent Acrylic Exterior Wood Primer.
   2. Finish:
      a. 1250 ACRY-SHIELD 100 percent Acrylic Exterior Semi-Gloss Enamel.

2.5 INTERIOR GYPSUM WALLBOARD

A. Stipple Finish-Latex Systems:
   1. Primer:
      a. 966 KM PROFESSIONAL Interior PVA Primer/Sealer.
   2. Finish:
      a. 1510 ENVIRO-COAT Zero VOC 100 percent Acrylic Eggshell Enamel.

B. Smooth Wall Finishes:
   1. Primer:
      a. 973 ACRY-PLEX Zero VOC Interior Acrylic Wall Primer & Undercoat.
2. Finish:
   a. 1510 ENVIRO-COAT Zero VOC 100 percent Acrylic Eggshell Enamel.

### 2.6 INTERIOR WOOD, HARDBOARD

**A. Wood and Hardboard (Painted Finish):**

1. **Primer:**
   a. 973 ACRY-PLEX Interior Zero VOC Acrylic Wall Primer & Undercoat.

2. **Finish:**
   a. 1520 ENVIRO-COAT Zero VOC 100 percent Acrylic Semi-Gloss Enamel.

### PART 3 EXECUTION

### 3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

2. If a potential incompatibility of primers applied by others exists, obtain the following from the primer Applicator before proceeding:

   a. Confirmation of primer's suitability for expected service conditions.
   b. Confirmation of primer's ability to be top coated with materials specified.

### 3.2 PREPARATION

**A. General:** Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

**B. Cleaning:** Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

**C. Surface Preparation:** Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.

2. Provide barrier coats over incompatible primers or remove primers and reprime substrate.

3. **Wood Substrates:** Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Smoothly sand surfaces exposed to view and dust off.

   a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer, before applying primer.

   b. Immediately on delivery, prime edges, ends, faces, undersides, and backsides of wood to be coated.

   c. After priming, fill holes and imperfections in the finish surfaces with putty or
plastic wood filler. Sand smooth when dried.

d. Determine moisture content of surfaces by performing a moisture test. Do not coat if moisture content exceeds 15 percent.

4. Ferrous-Metal Substrates: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC recommendations.
   a. Touch up bare areas and shop-applied prime coats that have been damaged. Wire brush, solvent clean, and touch up with same primer as the shop coat.

D. Material Preparation: Carefully mix and prepare coating materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying coatings in a clean condition, free of foreign materials and residue.
2. Stir materials before applying to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into the material. Remove film and, if necessary, strain coating material before using.
3. Use only the type of thinners approved by manufacturer and only within recommended limits.
4. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

B. Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. The number of coats and film thickness required is the same regardless of application method.
2. Completed Work: Match approved Samples for color, texture, and coverage. Remove, refinish, or recoat work that does not comply with specified requirements.

3.4 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:

1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove non-complying paint from Project site, pay for testing, and repaint surfaces previously coated with the non-complying paint. If necessary, Contractor may be required to remove non-complying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

A. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION
A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

C. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces.

END OF SECTION
SECTION 10155
TOILET COMPARTMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY
A. This Section includes toilet compartments and screens as follows:
   1. Type: Steel, color-coated finish.
   2. Compartment Style: Overhead braced and floor anchored.
B. Related Sections include the following:
   1. Division 10 "Toilet and Bath Accessories" for toilet paper holders, grab bars, purse shelves, and similar accessories.

1.03 SUBMITTALS
A. Product Data: For each type and style of toilet compartment and screen specified. Include details of construction relative to materials, fabrication, and installation. Include details of anchors, hardware, and fastenings.
B. Shop Drawings: For fabrication and installation of toilet compartment and screen assemblies. Include plans, elevations, sections, details, and attachments to other work.
   1. Show locations of reinforcement and cutouts for compartment-mounted toilet accessories.
C. Samples for Initial Selection: Manufacturer’s color charts consisting of sections of actual units showing the full range of colors, textures, and patterns available for each type of compartment or screen indicated.
D. Samples for Verification: Of each compartment or screen color and finish required, prepared on 6-inch- (150-mm-) square Samples of same thickness and material indicated for Work.

1.04 REFERENCES (including but not limited to)
B. ANSI A117 - Specifications for Making Buildings and facilities Accessible to and Usable by Physically Handicapped People.
C. Title 24, California Code of Regulations
   1. CBC - Chapter 11B – requirements for Access
   2. CBC - Chapter 52 – requirements for toilet partitions


E. American Society for Testing and Materials:
   1. ASTM A167 – Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
   2. ASTM B221 – Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
   3. ASTM D 1929-77 – Self ignition Properties
      ASTM D 635-81 – Rate of Burn
      ASTM D 2843 – Smoke Density.

1.05 REGULATORY REQUIREMENTS

A. Conform to applicable sections of CBC and ADA for provisions for disabled access.

1.06 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions in areas of installation 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 dimensions and proceed with fabricating units without field measurements. Coordinate supports, adjacent construction, and fixture locations to ensure actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Bobrick Washroom Equipment, Inc.
   2. or equal.

2.02 MATERIALS

A. General: Provide materials that have been selected for surface flatness and smoothness. Exposed surfaces that exhibit pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections on finished units are unacceptable.

B. Steel Sheets for Color-Coated Finish: Provide mill-phosphatized steel sheet that is leveled to stretcher-leveled flatness complying with the requirements of standards indicated below:
1. Electrolytically Zinc-Coated Steel Sheet: ASTM A 591 (ASTM A 591M), Class C, of the following minimum thicknesses:
   
a. Panels and Screens: 0.0359 inch (0.9 mm).

C. Core Material for Metal-Faced Units: Manufacturer's standard sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) minimum for doors, panels, and screens and 1-1/4 inches (32 mm) minimum for pilasters.

D. Stirrup Brackets: Manufacturer's standard ear or U-brackets for attaching panels and screens to walls and pilasters of the following material:
   
1. Material: Chrome-plated brass.

E. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories of the following material:
   
1. Material: Chrome-plated brass.

F. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile in manufacturer's standard finish.

G. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum strip in manufacturer's standard finish.

H. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

2.03 FABRICATION

A. General: Provide standard doors, panels, screens, and pilasters fabricated for compartment system. Provide units with cutouts and drilled holes to receive compartment-mounted hardware, accessories, and grab bars, as indicated.

1. Provide internal reinforcement in metal units for compartment-mounted hardware, accessories, and grab bars, as indicated.

B. Metal-Faced Toilet Compartments and Screens: Pressure laminate seamless face sheets to core material and provide continuous, interlocking molding strip or lapped and formed edges. Seal corners by welding or clips. Grind exposed welds smooth.

C. Plastic-Laminate Compartments and Screens: Pressure laminate facing sheets to core material without splices or joints in facings or cores. Apply laminate to edges before broad surfaces to seal edges and prevent laminate from being pried loose. Seal exposed core material at cutouts to protect core from moisture.

D. Overhead-Braced-and-Floor-Anchored Compartments: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, fasteners, and anchors at pilasters to suit floor conditions. Make provisions for setting and securing continuous head rail at top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.
E. Floor-and-Ceiling-Anchored Screens: Provide pilasters and panels of same construction and finish as toilet compartments. Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with leveling adjustment at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.

2.04 ZINC- OR ZINC-ALLOY-COATED STEEL SHEET FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying finishes.

B. Color-Coated Finish: Provide manufacturer's standard baked finish complying with coating manufacturer's written instructions for pretreatment, application, baking, and minimum dry film thickness.

   1. Color: One color in each room as selected by Architect from manufacturer's full range of

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls. Secure units in position with manufacturer's recommended anchoring devices.

   2. Secure panels to walls and panels with not less than 2 stirrup brackets attached near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

B. Overhead-Braced-and-Floor-Anchored Compartments: Secure pilasters to floor and level, plumb, and tighten. Secure continuous head rail to each pilaster with not less than 2 fasteners. Hang doors and adjust so tops of doors are parallel with overhead brace when doors are in closed position.

3.02 ADJUSTING AND CLEANING

A. Hardware Adjustment: Adjust and lubricate hardware according to manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

B. Provide final protection and maintain conditions that ensure toilet compartments and screens are without damage or deterioration at the time of Substantial Completion.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for providing exterior and interior identifying devices for accessibility.

1. Provide accessibility signage with the raised number/braille text sign at each entry door to each room.
2. Provide building entry accessibility signage at all exterior entry doors, and as indicated.
3. Provide building entry identification signage with the raised number/braille text sign adjacent to all exterior entry doors, and as indicated.
4. Provide site accessibility signage as indicated, except accessible parking signage (see Section 10450)
5. Provide above-door signage at each corridor door.

1.02 SUBMITTALS

A. Comply with requirements of Section 01300.

B. Shop Drawings: Submit showing sizes, materials and details of fabrication and installation, as applicable.

C. Samples:
   1. Manufacturer's full range of colors, for Architect's selection.
   2. Actual sign, in colors and with graphics selected.

D. Manufacturer's Information: Printed installation instructions.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Section 01600.

1.04 REGULATORY REQUIREMENTS

A. 2010 California Building Code (CBC)
   1. Section 1011.3
   2. Chapter 11B

B. CCR Title 19 for evacuation signs in elevator lobbies

PART 2 - PRODUCTS

2.01 SIGNAGE SYSTEMS

A. Acceptable Manufacturers:

   1. ASI Sign Systems, 3890 W. Northwest Highway, Suite 102, Dallas, TX 75220; (214) 352 9140 telephone; (214) 352 9741 facsimile; (800) ASI-SPEC [274-7446]
   2. Substitutions: Submit in accordance with Section 01600.
B. Acceptable Product: ASI EmBoss™ ADA-Ready™ Sign System with requirements indicated for materials, thickness, finish colors, designs, shapes, sizes and details.

2.02 SIGN MATERIALS

A. Mounting Panel: Acrylic.

B. Face: Vacuum formed 1.5 mil, clear, scratch resistant PVC/vinyl acetate bonded to acrylic mounting panel.

C. Tactile Graphics and Text: Provide tactile copy and California grade 2 Braille raised 1/32 inch minimum from plaque surface using manufacturer’s vacuum-embossing process. Only domed Braille shall be acceptable. Cylindrical Braille shall not be acceptable.

1. Provide lettering and graphics precisely formed, uniformly opaque to comply with relevant ADA and Title 24 regulations and requirements indicated for size, style, spacing, content, position, and colors.

D. Colors: High contrast semi-matte integral colors for graphics. All integral resins are U.V. stabilized resins utilizing automotive grade pigments.

2.03 FABRICATION

A. Total Depth: 0.25-inch thickness. Provide 0.125 inch thick matt finished acrylic mounting panel to match surface material.

B. Panel appearance:

1. Selected from manufacturer's standard, high contrast, semi-matte color chart.

C. Surface Texture: Matte Non-Glare.

D. Letter style, size and layout position: Chosen from manufacturer's standard letter styles and color charts and complying with requirements indicated.

E. Text schedule: as indicated.

F. Sign Size: as indicated.

G. Sign Shape: Rectangular with Radiused Corners.

2.04 INSTALLATION METHOD

A. System SA: provide manufacturer’s recommended silicone adhesive compatible with signage and substrate required.

2.05 FABRICATION – GENERAL

A. General: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

B. Form panels to required size and shape. Comply with requirements indicated for design, dimensions, finish, color, and details of construction.
C. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

2.06 ACCESSIBILITY AND SIGNAGE TYPES

A. Comply with CBC accessibility requirements. Accessible signage, visual and tactile, materials, colors, and type styles shall meet the following criteria:

1. Finish & Contrast: Characters, symbols and their background shall have a nonglare finish. Characters and symbols shall demonstrate minimum contrast of 70% with their background, either light on a dark background or dark on a light background.

2. Visual characters on signs shall be selected from fonts where the width of the uppercase letter “O” is 60 percent minimum and 110 percent maximum of the height of the uppercase letter “I”. Stroke thickness of the uppercase letter “I” shall be 10 percent minimum and 20 percent maximum of the height of the character.

3. Characters on signs shall be sized according to the CBC Table1117B.5.4. The minimum height is measured using an uppercase letter “I”. Lowercase characters are permitted only on non-tactile sign. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Generally, accessible signage shall be set between 40 inches and 70 inches above the finished floor with a horizontal viewing distant less than 72 inches; therefore, provide a minimum character height of 5/8 inch.

4. Contracted (Grade 2) Braille must accompany raised text characters.

5. Contracted (Grade 2) Braille dots shall be 1/10 inch (2.54 mm) on center in each cell with 2/10-inch (5.08 mm) space between cells, measured from the second column of dots in the first cell to the first column of dots in the second cell. Dots shall be raised a minimum of 1/40 inch (0.635 mm) above the background. Braille dots shall be domed or rounded.

6. Raised Characters and Pictoral Symbols: comply with CBC 1117B.5.5:
   a. Character type. Characters on signs shall be raised 1/32 inch (0.794 mm) minimum and shall be sans serif uppercase characters accompanied by contracted (Grade 2) Braille complying with Section 1117B.5.6.
   b. Character size. Raised characters shall be a minimum of 5/8 inch (15.9 mm) and a maximum of 2 inches (51 mm) high.
   c. Pictorial symbol signs (pictograms). Pictorial symbol signs (pictograms) shall be accompanied by the verbal description placed directly below the pictogram. The outside dimension of the pictogram field shall be a minimum of 6 inches (152 mm) in height.
   d. Character placement. Characters and Braille shall be in a horizontal format. Braille shall be placed a minimum of 3/8 inch (9.5 mm) and a maximum of ½ inch (12.7 mm) directly below the tactile characters; flush left or centered. When tactile text is multilined, all Braille shall be placed together below all lines of tactile text.
   e. Proportions. Raised characters on signs shall be selected from fonts where the width of the uppercase letter “O” is 60 percent minimum and 110 percent maximum of the height of the uppercase letter “I”. Stroke thickness of the uppercase letter “I” shall be 15 percent maximum of the height of the character.

B. List of required signage:

1. International Symbol of Accessibility at all accessible entrances. See CBC Figure 11 B-6.
2. Directional signage at all non-accessible entrances, directing persons to the nearest accessible entrance.
3. Assistive Listening System (ALS) sign indicating availability of ALS, posted in a prominent place. See CBC Figure 11B-14C.
4. Tactile exit signage per CBC 1011.3
5. California restroom symbols (circle/triangle) on door leaf
6. Restroom identification sign on wall including raised letters, California Contracted Grade 2 Braille, and if desired, a gender pictogram, 6” min height.
7. Building directory or lobby signage informing building users the locations of accessible sanitary facilities
8. Enclosed stairway signage.
9. Elevator and elevator lobby signage.
10. Evacuation plans per CCR Title 19.
12. “Storage: Limit 50 pounds per square foot” signs at Bldg W rooms 013 and 014.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for installing identifying devices. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 INSTALLATION

A. General: Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer's instructions.

1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.

B. Wall and Door Mounted Signs: Attach panel signs to wall surfaces using the methods indicated below:

1. Interior, Wall Mounted: Apply adhesive to the middle of the back of the sign for alignment, secure sign to wall with bead of adhesive ½” from edge of sign. Adhesive shall be completely concealed behind sign. Any clean-up of exposed adhesive shall include touch-up painting around the sign at the direction of the architect.

2. Exterior, Plastic Sign: Tamper resistant screw mounting

3. Exterior Metal Sign: Shim Plate Mounting: Provide 1/8-inch-thick concealed aluminum shim plates with predrilled and countersunk holes, at exterior locations. Attach the plate with fasteners and anchors suitable for secure attachment to the substrate. Attach sign units to the plate using the method specified above.

C. Completed installation shall have signs securely installed, square, and free of scratches, dents, chips, discoloration and other defects.

END OF SECTION
SECTION 10800

TOILET ROOM ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY
   A. Section Includes: Requirements for furnishing and installing toilet room accessories.

1.02 SUBMITTALS
   A. Comply with requirements of Section 01300.
   B. Test data or certification that grab bars meet specified design criteria.

1.03 QUALITY ASSURANCE
   A. Regulatory Requirements: Accessories and installation shall conform to applicable accessibility requirements.

1.04 DELIVERY, STORAGE, AND HANDLING
   A. Comply with requirements of Section 01600.
   B. Framed mirror units shall have quality designation and guarantee label attached, or manufacturer's certification shall be submitted verifying that mirrors meet specified requirements.
   C. Keep protective coverings on units until completion and final cleanup of installation.

PART 2 - PRODUCTS

2.01 MATERIALS AND FABRICATION
   A. General: Manufacturers' names and model numbers scheduled are used as a standard of quality, utility, and appearance; equivalent products of other manufacturers will be considered, subject to conformance with specified requirements.
   B. Metal: Type 304 stainless steel with satin finish, unless otherwise scheduled or specified; polished chrome-plated brass, or other acceptable finish if accessory is not available in stainless steel. Weld corners and grind smooth; leave no open miters.
   C. Accessories: Refer to "Toilet Room Accessory Schedule" on Drawings.
   D. Attachment Devices: Furnish backing plates, brackets, anchors, fasteners, and other items necessary for a complete installation. Attachment devices shall be concealed and theftproof, unless otherwise specified or scheduled.
   E. Locks: Provide for standard lockable items. Key lockable dispensing units alike. Furnish three keys for each type and size lock.
PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for the installation of accessories. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 INSTALLATION

A. Install accessories in accordance with manufacturer's printed instructions and as indicated, securely anchoring to substrate.

B. Remove protective coverings in accordance with manufacturer's printed instructions.

C. Test accessories for proper operation; adjust as necessary.

D. Clean and polish exposed surfaces.

E. Deliver keys and maintenance and operating information to Owner.

3.03 COMPLETION

A. Completed installation shall have accessories securely attached, set plumb and level, and accurately aligned.

B. Exposed surfaces shall be clean and free from dirt, discoloration, stains, tool marks, and other defects and damage.

END OF SECTION
SECTION 12490

MANUAL ROLLER SHADES

PART 1 GENERAL

2.1 SUMMARY
A. Section Includes:
   1. Shade Type 1: Manually operated interior roller-screen solar shades where indicated on window schedule exterior window
B. Products Supplied But Not Installed Under This Section:
   1. Metal shade pockets or housings recessed into ceiling system or assembly.
C. Related Sections:
   1. Section 06100-- Rough Carpentry; blocking for support of window shade brackets or pocket assemblies.
   2. Section 09250-- Gypsum Drywall; substrate for window shade systems and installation of shade pockets, pocket closure and/or accessories supplied only under this section.
   3. Section 09510-- Acoustical Ceilings; installations of shade pockets, pocket closure and/or accessories supplied only under this section.

2.2 PERFORMANCE REQUIREMENTS
A. Fire: Provide shade fabrics tested in accordance with:
   1. 1989 NFPA 701 small scale Vertical Burn Test and rated "PASS."
   2. 1996 NFPA 701 small scale Vertical Burn (telephone booth test) and rated "PASS."
B. Toxicity: Provide shade fabrics tested in accordance with University of Pittsburgh Toxicity Protocol including LC50 analysis and toxicity characteristics.
C. Anti-microbial:
   1. ASTM G-22-80 results for ATCC6538 (Staphylocaoccus aureus) and ATCC13388 (Psuedomonas aeroginosa) indicating minimum 5mm (0.197 inches) 'No Growth Contact Area'.
   2. ASTM G-21-85 results for ATCC9642, ATCC9644, ATCC9348 and ATCC9645 indicating 'No Growth'.

2.3 SUBMITTALS
A. Product Data: Manufacturer’s product data sheets, performance data, and installation instructions for each item required.
B. Shop Drawings:
   1. Interior Elevations at 1:32 1/4” = 1'-0” scale min indicating shade layout, seam / batten locations and coordination with surrounding conditions.
   2. Floor plans or reflected ceiling plans showing overall arrangement of shades and control locations.
   3. Head, Jamb and sill details as necessary to coordinate work with surrounding conditions and construction.
   4. Shade schedule coordinating room number, window type, opening size(s), quantities and key to details.
C. Samples:
   1. Selection samples:
      a. 3” X 5” (76 mm x 127 mm) shadecloth fabric swatches for initial fabric color selection from manufacturer’s full range of available fabrics.
      b. Standard aluminum finish color samples from manufacturer’s range of standard colors.
D. Design Data, Test Reports, Certificates: Current reports from independent testing laboratories demonstrating compliance with article 1.2.
E. Manufacturers’ Instructions: Manufacturer’s standard installation instructions.

2.4 QUALITY ASSURANCE
A. Qualifications:
   1. Manufacturer: 20 years minimum experience manufacturing products comparable to those specified in this section.
   2. Installer: 5 years minimum experience installing products comparable to those specified in this section.
B. Do not fabricate shades without obtaining field dimensions for each opening. Coordinate construction of surrounding conditions to allow for timely field dimension verification.

2.5 DELIVERY, STORAGE, AND HANDLING
A. Storage and Protection:
B. Do not deliver items to the project until all concrete, masonry, plaster, painting and other wet work has been completed and is dry.
C. Deliver shades to project in labeled protective packaging. Uniquely labeled to identify each shade for each opening. Schedule delivery to prevent delays to completion of work but to minimize on site storage time.
D. Store materials in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic and all other potential damage.

2.6 WARRANTY
A. Special Warranty:
   1. Manual Operating Components: Provide Manufacturer’s warranty under provisions of Division 1 - General Requirements. Warranty period to be 10 years from Date of Substantial Completion and contain provisions that installation is to remain operational without fault for the warranty period and include all operating parts, including shadecloth, except for the bead chain which is not covered by the warranty and is deemed to be a maintenance / service item.
   2. Installation: Provide Contractor’s warranty under provisions of Division 1 - General Requirements that installation shall be free from defects for a period of not less than 1 year.
   3. In the event of a warranted product failure, the Shade Contractor will, at no cost to owner, facilitate acquisition and delivery of all necessary components to the owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Manufacturer: To establish a standard of quality, design and function desired, drawings and specifications are based on products by MechoShade Systems, Inc., Long Island City, NY., USA, Phone: 718-729-2020, Fax: 718-729-2941.
B. Alternate products complying with the performance criteria detailed in Section 2.2. must be approved by the Design Professional not less than ten days prior to bid date.
C. See Division 01 for instructions regarding submittal requirements for alternate or substitute products. If voluntary alternates are accepted, each bidder shall submit a base bid on the specified product and an alternate bid on an equivalent to the voluntary alternate.

2.2 COMPONENTS
A. Shadebands: Construction of shadeband includes the fabric, the hembar and hempocket, and the attachment of the shadeband to the roller tube:
   1. Visually Transparent Single-Fabric Shadecloth: MechoShade Systems, Inc., ThermoVeil group, single thickness non-raveling 0.030-inch (.762 mm) thick vinyl fabric, woven from .018-inch (.457 mm) diameter extruded vinyl yarn comprising of
21% polyester and 79% reinforced vinyl, in colors selected from manufacturer's available range.

a. Extra-Dense Linear Weave “0900 series”, 0-1% visually translucent linear weave pattern.

B. Manually Operated Hardware and Shade Brackets:
1. Provide for regular and offset drive capacity (chain fall at front or rear of bracket) on all shade drive end brackets.
2. Provide shade hardware system that allows for removal of shade roller tube from brackets without removing hardware from opening.
3. Provide shade hardware that allows for removal and re-mounting of the shade band without having to remove shade tube, drive or operating support brackets.
4. Provide hardware for installation of a removable fascia, regular or reverse roll, which shall be installed without exposed fastening devices of any kind.
5. Provide shade hardware system that allows for a removable regular and/or reverse roll fascia(s) to be mounted continuously across two or more shade bands without requiring exposed fasteners of any kind.
6. Provide shade hardware system that allows for operation of multiple shadebands by a single chain (Multi-banded shades) operator subject to manufacturer's design criteria. Connectors shall be offset to assure alignment from the first to the last shade band.
7. Provide shade hardware system that allows multi-banded manually operated shades to be capable of smooth operation when the axis is offset a maximum of 6° on each side of the plane perpendicular to the radial line of the curve (12° total offset).
8. Provide positive mechanical engagement of drive mechanism to shade roller tube. Friction fit connections for drive mechanism to shade roller tube shall not be accepted.
9. Provide shade hardware constructed of minimum 1/8” (3.18 mm) thick cadmium plated steel or heavier as required to support 150% of the full weight of each shade.
10. Provide only Delrin engineered plastics by DuPont for all plastic components of the shade hardware. Styrene polyester and ABS based plastics are not acceptable.
11. Drive Bracket/Brake Assembly:
   a. MechoShade Drive Bracket model 5 shall be fully integrated with all MechoShade Wide accessories and brackets, including but not limited to Fascia, Black Out channels center supports and connectors for multi-band shade operation etc.
   b. M5 bracket shall use the standard 1/8 inch (3.175mm) steel plate for mounting and support of the assembly. The drive sprocket and brake assembly shall rotate and be supported on a welded 3/8 inch steel pin (9.525mm).
   c. The brake means shall be an over running clutch design which shall disengage to 90% during the raising and lowering of a shade. The brake shall with stand a pull force of 50 lbs. (22kg) in the stopped position.
   d. The braking (patent pending) means shall be applied to a oil impregnated hub on to which the brake system is mounted. The oil impregnated hub design includes an articulated brake assembly which assures smooth, non-jerky operation in raising and lowering the shades. The brake assembly is warranted for the life of the system, which is in itself warranted to be fit for the use intended for 10 years.
   e. The entire MechoShade 5 assembly shall be fully mounted on the steel support bracket, and fully independent of the shade tube assembly, which may be removed and reinstalled with out effecting the roller shade limit adjustments.

C. Shade roller and shadecloth attachment:
1. Provide an extruded aluminum shade roller tube of diameter and wall thickness required to support shade fabric without (excessive) deflection. Roller tubes less than 1.55” in
diameter are not acceptable. Tube shall have two asymmetrical channels for mounting of the shade band spline.

2. Provide for positive mechanical engagement with drive / brake mechanism.

3. Provide for positive mechanical attachment of shade band to roller tube without the use of adhesives, adhesive tape, staples or rivets. Two sided pressure sensitive adhesive tape shall not be acceptable. Shade bands stapled to roller tubes shall not be acceptable. A mounting method that does not readily allow the shade band to be removed from the shade tube while installed shall not be acceptable.

4. Attach shadebands to tube in such a way that removal and replacement of a shadeband can be accomplished without removing either the tube from the brackets or without removing shade brackets. Shadebands must be replaceable on site without removing shade tube or brackets.

D. Drive Chain: #10 Qualified stainless steel chain rated to 90 pound (41 kg) minimum breaking strength.

2.3 ACCESSORIES

A. Regular Roll Fascia:
   1. Continuous removable extruded aluminum fascia (Design Professional to select color from manufacturer's standards) that attaches to shade mounting brackets without the use of adhesives, magnetic strips or exposed fasteners.
   2. Fascia shall be able to be installed across two or more shadebands in one piece.
   4. Chain drive shall fall behind the bottom return edge of the fascia without requiring notching of the fascia.

2.4 FABRICATION

A. Fabricate units to completely fill existing openings from head to sill and jamb to jamb, unless specifically indicated otherwise. Comply with Manufacturer’s edge clearance standards and recommendations.

B. Fabricate shadecloth to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or raveling. Fabricate unguided shadecloth to roll true and straight without shifting sideways more than 1/8 inch in either direction per 8 feet of shade height due to warp distortion or weave design.

C. Provide battens in non-railroaded shades as required by the Manufacturer to assure proper tracking and uniform rolling of the shadebands, in accordance with the manufacturer's published width x height shade fabrication guide and standards.

D. For railroaded shadebands, provide seams or battens in railroaded multi-width shadebands as required by Manufacturer to meet Width:Height ratios and size requirements. Unless specified elsewhere, manufacturer's standard seam / batten placements are acceptable to Design Professional. If custom placement of seams / battens is required, coordinate these locations with design requirements.

E. Provide batten pockets utilizing self-colored fabric front and back, RF welded into the shadecloth. Provide a self-colored opaque liner front and back to eliminate any see-through of the batten pocket and shall not exceed 1-1/2 inches (38 mm) high and be totally opaque. A see-through moiré effect which occurs with multiple layers of transparent fabrics are not acceptable. Reinforce batten pockets using coil coated, roll formed spring steel to insure flatness of shadebands in accordance with manufacturer's standards. Concave formed profile of batten stiffeners to be compatible with diameter of shade roller tube.

2.5 FINISHES

A. Aluminum Components: Design Professional shall select from Manufacturer's standard Powder coat in Manufacturer's standard RAL approved finishes.

B. Steel Components: Cadmium-plated, satin-finished, or bonderized prior to painting with Manufacturer’s standard baked-enamel finish.
PART 3 EXECUTION

3.1. EXAMINATION
A. Examine substrate and conditions for installation. Do not commence installation until conditions are satisfactory. Commencement of installation indicates acceptance of site conditions by Contractor. Notify the Design Professional upon inspection when the project conditions are unacceptable for shade installation. "Beginning of installation" means acceptance of substrate and project conditions.

3.2. INSTALLATION
A. Install units to comply with the Manufacturer's instructions for the type of mounting and operation required. Provide units plumb, true, and securely anchored in place with recommended hardware and accessories to provide smooth operation without binding.
B. Install units within the following tolerances:
   1. Maximum variation of gap at window opening perimeter: 1/4 inch, per 8 feet (+/-. 1/8 inch) of shade height. [6.35 mm, per 2438 mm, +/- 3.2 mm]
   2. Maximum offset from level: 1/16 inch per 5 feet of shade width. [1.587 mm per 1524 mm]

3.3. ADJUSTING
A. Adjust drive / brake mechanism of units for smooth operation. Adjust shade and shadecloth to hang flat without buckling or distortion. Replace any units or components which do not hang properly or operate smoothly.

3.4. CLEANING
A. Touch up damaged finishes and repair minor damage in order to eliminate evidence of repair. Remove and replace work that cannot be satisfactorily repaired.
B. Clean exposed surfaces, including metal and shadecloth, using non-abrasive materials and methods recommended by the Shadecloth Manufacturer. Remove and replace work which cannot be satisfactorily cleaned.

3.5. DEMONSTRATION
A. Demonstrate operation method and instruct Owner's personnel in the proper operation and maintenance of the window shade systems.

END OF SECTION
SECTION 02070

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Remove materials, systems, components, fixtures and equipment as designated and as required for completion of remodeling work indicated.

B. Coordinate selective demolition for remodeling with mechanical, structural and electrical demolition; cap and identify active utilities where not otherwise identified under Division 15 and 16 work.

C. Contractor shall make efforts to recycle demolished materials rather than landfill materials. Architect will provide a list of recycling companies and locations upon request.

1.02 RELATED WORK

A. Section 15100: General Mechanical.

B. Section 16010: Electrical General Provisions

1.03 QUALITY ASSURANCE

A. Perform demolition in conformance with ANSI A10.6.

1.04 EXISTING CONDITIONS

A. Site Surveys:

1. Prior to start of demolition operations, conduct survey of existing conditions. On such survey, list items specified and indicated to be salvaged.

2. Following performance of demolition, inspect and report defects and structural weaknesses of construction and improvements partially demolished, cut, and removed; of construction and improvements remaining; and of adjacent construction and improvements.

B. Protection: Protect the structural integrity of existing construction and improvements to remain.

1.05 PROTECTION

A. Maintain free and safe passage to and from all areas of the Work.

1. Cover and protect existing materials when demolition work is performed in areas where existing materials will not been removed. Provide particular care with protection of historic building fabric.
B. Prevent movement of adjacent construction, provide and place bracing and be responsible for
safety and support of adjacent construction.

1. Assume liability for such movement, damage and injury.

C. Cease operation and notify Architect immediately if safety of structure appears to be
endangered; take precautions to properly support structure.

1. Do not resume operation until safety is restored.

1.06 EXISTING SERVICES

A. Disconnect or remove utility services as required for completion of Project; disconnect, stub
off, and cap utility service lines not required for new construction.

1. Do not remove utilities discovered during demolition but not indicated without first
determining purpose for utility.

B. Place markers to indicate location of disconnected services; identify service lines and capping
locations on Project Record Documents.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:

1. Remove and recycle or dispose of items and materials not designated to be salvaged.
Disposal shall be at the legal dump site for the material to be disposed.

2. If, in the course of removing designated items and materials, the condition of other
materials or the structure so exposed appears to be damaged or of otherwise
questionable condition, immediately notify the Architect, who will determine if the other
materials or structure shall be removed, and if so to what extent.

3. Nothing to be removed from the site shall be stored, sold, or burned on the site.

4. Remove and recycle or dispose of all debris found in each unit at start of work.

B. Items to be Salvaged:

1. Carefully remove materials indicated to be retained by Owner; deliver and store where
directed.

a. Coordinate extent of existing materials to be retained by Owner with Owner's Representative
prior to beginning selective demolition.

2. Carefully disconnect, remove, and protect items indicated and designated to be salvaged,
as well as any additional items so directed by the Architect.

3. Package salvaged items that are in satisfactory condition for reinstallation in cardboard
and label as to contents. Should a question arise as to whether or not certain items are of
suitable condition for reinstallation, consult the Architect for determination.

4. Deliver salvaged items at time and to location directed by the Owner.

5. Reinstall salvaged items in locations indicated, or as designated by the Architect.

6. Salvaged items not indicated or designated for reinstallation in the Work shall remain in
storage.

02070 - 2  SELECTIVE DEMOLITION
7. Obtain approved list of items to be salvaged, prior to beginning demolition operations. Salvage the following items unless otherwise indicated or directed by the Architect, and transport items to storage site designated by the Contracting Officer:
   a. Exterior and interior doors and hardware; tag hardware and identify.
   b. Window operating hardware and hinges.
   c. Doors and hardware.

8. Salvaged items rejected by the Contracting Officer shall become the Contractor's property.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for beginning selective building demolition. If unsatisfactory conditions exist, do not begin demolition operations until such conditions have been corrected.

3.02 PREPARATION

A. Prior to start of demolition operations, prepare a proposed sequence for the Work; coordinate with related Work which requires cutting and sawing.

B. Review proposed sequence with the Owner and Architect prior to starting demolition operations.

C. Cap and protect utility lines prior to start of demolition operations.

3.03 GENERAL

A. As demolition progresses, continuously inspect for damage. Should signs of damage arise, immediately notify the Architect, and stop demolition operations in the affected location until advised as to how to proceed. Protect building fabric to remain in order to preserve historic building fabric.

B. Remove items designated for demolition, and as required for the performance of the Work. If in doubt as to whether an item is to be demolished, contact the Architect for a decision prior to proceeding with its demolition.

C. Remove items carefully; provide for neat and structurally sound junctions between existing and new materials.

D. As applicable, remove miscellaneous items and fastenings associated with items to be demolished.

E. Demolish concrete in small sections.

F. No blasting shall be permitted.

G. Clean surfaces affected by the demolition operations of all residual adhesives, bitumen, and other adhering materials, as required to afford suitable substrates for the application of new materials.

H. Demolish indicated appurtenances in an orderly and careful manner.
1. Use methods which do not damage materials indicated to remain.
2. Cut concrete and masonry using masonry saws and hand tools; provide sharp clean cuts requiring minimal patching for new construction.
3. Use impact tools only where specifically approved in advance for areas where operations do not disturb building occupancy.

I. Perform demolition in accordance with authorities having jurisdiction.

J. Remove demolished materials from site, unless otherwise directed.
   1. Remove from site, contaminated, vermin infested, and dangerous materials encountered and disposed of by safe means so as not to endanger health of workers or public.

K. Remove tools and equipment upon completion of work; leave area in condition acceptable to Architect.

3.04 CUTTING AND CORING
   A. Make new openings neat, as close as possible to profiles indicated, and only to the extent required to accommodate new Work.
   B. Do not cut or alter structural members without the prior written consent of the Architect.
   C. At concrete materials where edges of cuts and holes will remain exposed in the completed Work, perform cutting and coring with power equipment.

3.05 REPAIR
   A. Repair damage to adjacent construction caused as result of this work.

END OF SECTION
PART 1  GENERAL

1.01  WORK INCLUDED
  A. Miscellaneous Excavation and Backfill required for removal of existing plumbing fixtures and installation of new plumbing fixtures.

1.02  RELATED SECTIONS
  B. Section 02070 - Selective Demolition for removal of existing flooring and slabs.
  C. Section 02810 – Landscape Irrigation.

1.03  REFERENCES

1.04  QUALITY ASSURANCE
  A. Excavating, grading and compacting operations shall be done under observation of District's Soils Engineer.

1.05  SUBMITTALS
  A. Submit the following under provisions of Section 01300.
  B. Test Reports as indicated.

PART 2  MATERIALS

2.01  SOILS:
  A. Import material, if required, shall meet the requirements as specified and approved by the Geotechnical Engineer.

PART 3  EXECUTION

3.01  PREPARATION
  A. Maintain and protect existing utilities remaining which pass through work area.
  B. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Architect.
  C. Sequence operations so as to maintain safe working conditions and preserve existing work which is to remain.
3.02  SUBBASE

A. Excavate to depths required for removal, installation of plumbing fixtures and equipment.

B. Areas of subgrade found to be excessively wet shall be reworked and allowed to dry to optimum moisture and then compacted to required minimum.

C. Aggregate Base shall be spread and compacted in lifts as necessary. Application of water may be used to aid in obtaining compaction, however, caution shall be exercised to not apply excessive water to soften the subbase.

D. Aggregate Base shall be compacted to a minimum of 95 percent of maximum density as determined by ASTM D1557-78. Test shall be performed by a qualified testing laboratory or District's Soils Engineer.

E. Care shall be taken to prevent damage to plumbing lines.

F. If tests indicate work does not meet specified requirements, recompact. Cost of retest will be deducted from Contract Sum by Change Order.

3.01  PREPARATION:

A. Protect adjacent properties and structures from damage due to earthwork operations. Protect open excavations and trenches with fences, covers, or railings as required to maintain safe pedestrian and vehicular traffic.

B. Identify required lines, levels, contours, and datum.

C. Employ a competent instrument operator to properly lay out grades and stakes, using a professional instruments, and to be present on site during grading, excavating and filling operations.

D. Establish elevations, and set and protect stakes during earthwork operations.

E. Identify known underground, above ground, and aerial utilities. Stake and flag locations.

F. Notify utility company to remove and relocate utilities when required.

G. Protect above and below grade utilities which are to remain.

H. Protect trees, plant life, lawns, and other features remaining as a portion of final landscaping. Comply with requirements of Arborist Report.

I. Protect bench marks, sidewalks, paving, and curbs, either on-site or off-site, from damage due to construction, excavation equipment and vehicular traffic.

3.02  EXCAVATION:

A. Underpin adjacent structures that may be damaged by excavation work, including utilities and pipe chases.

B. Excavate subsoil required to accommodate trenching, slabs-on-grade, import fill, paving, and construction operations.

C. Control drainage in the vicinity of the Work to prevent water from accumulating or running into the excavation or into adjacent property. Provide shoring and bulk-heading necessary to hold the earth back.
C. When dust conditions exist, dampen the areas to prevent seepage of dust and transportation of debris into the buildings and onto adjacent property.

E. Prevent standing water from developing in excavated portions of the Work at all times.

F. Stockpile excavated material in areas designated on site or as directed by the Architect. Remove all excess material not being used, from site.

3.03 TRENCHING:

A. Notify the Architect and Arborist two days prior to trench commencement. After completion of layout and coordination with Owner’s Arborist, excavate to widths and depths shown on the Drawings. Excavations are subject to Arborist inspection.

B. Hand dig trenches in areas of tree roots as directed by Arborist. Hand trim trenches. Remove loose matter.

D. Correct unauthorized excavation at no cost to Owner.

E. Correct areas over-excavated by error or damaged by movement of the sides of the trench in accordance with this Section at no additional cost to the Owner.

3.04 BACKFILLING:

A. Use only engineered or approved fill materials for required backfill. Compact in accordance with the Drawings or other Specification sections. If not indicated on the Drawings or other Specification sections, compact materials to a minimum of 90 percent density.

B. Backfill areas to contours and elevations with approved materials.

C. Maintain optimum moisture content of backfill materials to attain required compaction densities stipulated in the Drawings.

D. Slope grade away from building minimum ¼” per foot, unless noted otherwise.

E. Make grade changes gradual. Blend slope into level areas.

3.05 SUBBASE

A. Excavate to depths required for removal, installation of new work.

B. Areas of subgrade found to be excessively wet shall be reworked and allowed to dry to optimum moisture and then compacted to required minimum.

C. Aggregate Base shall be spread and compacted in lifts as necessary. Application of water may be used to aid in obtaining compaction, however, caution shall be exercised to not apply excessive water to soften the subbase.

D. Aggregate Base shall be compacted to a minimum of 95 percent of maximum density as determined by ASTM D1557-78. Test shall be performed by a qualified testing laboratory or Owner’s Geotechnical Engineer.

E. Care shall be taken to prevent damage to existing utility lines.

F. If tests indicate work does not meet specified requirements, recompact. Cost of retest will be deducted from Contract Sum by Change Order.
3.06 COMPACTION:
   A. Preparation of engineered fill areas, selection and placing of engineered fill materials,
      shall be in conformance with the Drawings, and will be observed and tested by the
      Geotechnical Engineer.
   B. Notify Geotechnical Engineer two working days in advance of filling operations to permit
      required testing.
   C. Generally, compact subgrade to density requirements for subsequent backfill materials.

3.07 TOLERANCES:
   A. Rough Grade: Plus or minus .05 feet of design rough grade.
   B. Top Surface of Backfilling Under Paved Areas: Plus or minus .05 feet.
   C. Top Surface of General Backfilling: Plus or minus .05 feet.

3.08 FIELD QUALITY CONTROL:
   A. Field Density Test: The Geotechnical Engineer will test earthwork and compacted areas,
      at least one test per each 600 cubic yards or fraction thereof; minimum of two tests per
      layer in isolated areas. Where sheepsfoot rollers are used, tests will be taken in
      compacted materials below the disturbed surface.
   B. When the relative compaction is below the percentage specified in the Soils Report,
      recompaction will be required until the stipulated percentage level is achieved.
   C. Laboratory tests will be based on ASTM D1557 to determine conformance with the
      recommendations of the Soils Report.

3.09 ADJUSTING:
   A. Restore, to the satisfaction of the Architect/Arborist/Engineer, any street pavements,
      walks, curbs, gutters, and trees, which become damaged in the performance of the Work.
   B. After completion of the Work, remove rubbish and equipment from the site.

3.10 PROTECTION:
   A. Protect finished work.
   B. Recompact fills subjected to vehicular traffic.
   C. Leave fill material stockpile areas completely free of excess fill materials.
   D. Before working over backfill, verify that such work has been properly backfilled and
      compacted. Promptly notify the Architect/Engineer, in writing, of contrary conditions.

END OF SECTION
PART 1   GENERAL

1.01 WORK INCLUDED
   A. Provide new asphaltic concrete paving and aggregate base at existing playground area, as indicated.

1.02 RELATED SECTIONS
   A. Section 09900 - Painting for parking striping.

1.03 QUALITY ASSURANCE
   B. ASTM: standard test methods for materials and methods.
   C. Contractor shall guarantee construction of paved asphaltic concrete paving for a period of two years after final acceptance against any defects in workmanship including cracks and elevation irregularities exceeding tolerances and will immediately make necessary repairs upon notification.

1.04 SUBMITTALS
   A. Submit the following under provisions of Section 01300.
   B. Test Reports as indicated.

PART 2   MATERIALS

2.01 AGGREGATE BASE
   A. Class 2 aggregate as specified in Section III, and Section 26 of the State Standard Specifications (DOT). Aggregate Base Materials shall be free from vegetable matter and other deleterious substances, and shall be of such nature that it can be compacted with watering and rolling to form a firm, stable base.

2.02 ASPHALTIC CONCRETE PAVING
   A. Type B asphalt concrete, as specified in Section III, and Section 39 of the State Standard Specifications (DOT).

PART 3   EXECUTION

3.01 INSPECTION
A. Verify area and extents of repairs at site with Architect and Owner.

3.02 PREPARATION

A. Remove, off-haul and properly dispose of existing damaged asphalt paving at area of new work.

B. Excavate subgrade as required if unacceptable for reuse in new installation. Off-haul and properly dispose of materials required to be removed.

C. Import Aggregate Base Materials as required for new installation.

D. Import Asphalt Concrete Base Leveling Course material as required for new installation.

3.03 SUBBASE

A. Areas of subgrade found to be excessively wet shall be reworked and allowed to dry to optimum moisture and then compacted to required minimum.

B. Aggregate Base shall be spread and compacted in lifts as necessary. Application of water may be used to aid in obtaining compaction, however, caution shall be exercised to not apply excessive water to soften the subbase.

C. Aggregate Base shall be compacted to a minimum of 95 percent of maximum density as determined by appropriate ASTM Standard Method. Test shall be performed by a qualified testing laboratory.

D. At final compaction, the aggregate base shall be left in a smooth, even and uniform depth below finish grade and to a tolerance of 1/4 inch above the required grade as shown on the Contract Drawings.

3.04 ASPHALT CONCRETE BASE LEVELING COURSE

A. Prior to placement of asphalt concrete, a prime coat of liquid asphalt shall be applied to the areas to receive asphalt concrete as specified in Section 39, State Standard Specifications (DOT). Prime coat shall be applied at an approximate rate of 0.25 gallons per square yard of surface covered. The prime coat shall be allowed to thoroughly dry before asphalt concrete is installed.

B. Asphalt concrete shall be placed in two lifts, and each lift compacted by use of adequate equipment of size and weight to achieve 95 percent relative compaction as determined by appropriate ASTM Test Method. Asphalt concrete shall be placed only when the temperature is above 40 degrees F and the surface of the aggregate base is dry.

C. Asphalt concrete shall be placed with a paver equipped with tracks to insure and even spread to grade tolerance.

D. Asphalt concrete shall have a smooth, well sealed, tight mat finish surface, with no seams or ridges. Surface shall abut flush with existing surfaces and have continuous and even slopes between abutting areas.

E. Asphalt Concrete shall be delivered and deposited on aggregate base at temperatures between 250 degrees and 300 degrees F.

02500 - 2 ASPHALT PAVING
F. Allow asphalt concrete to cure a minimum of fourteen days before allowing access to traffic.

3.05 CLEANING

A. Clean areas of work per requirements of Section 01700.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Perform all work required to complete, as indicated by the Contract Documents and furnish all supplementary items necessary for the proper installation of Precast Concrete Pavers.

1.02 RELATED SECTIONS

A. 03320 - Concrete Topping

1.03 SYSTEM DESCRIPTION SUMMARY

A. System shall consist of precast concrete pavers installed on portland cement setting bed.

B. The pavers installation shall be absolutely rigid and even large slabs when subjected to vehicular traffic, shall not be displaced.

1.04 REFERENCES

A. Refer to Section 01090 - References Standards

B. American Society for Testing and Materials (ASTM)
   1. ASTM C 33: Specification for Concrete Aggregates
   2. ASTM C 150: Specification for Portland Cement
   3. ASTM C 67: Method of Sampling and Testing Brick and Structural Clay Tile
   4. ASTM C 140: Specification for concrete

C. T.C.A. Tile Council of America
   1. Installation Method Cement Mortar Bonded F101-93

1.05 SUBMITTALS

A. Submit the following in accordance with the Supplementary General Conditions:
   1. Manufacturer’s Literature: Materials descriptive literature, installation instructions and paver color selection chart.
   2. Test Reports: Three (3) copies, showing compliance with specified ASTM requirements.
   3. Shop drawings (optional):
      a. Layout drawings of each paved area showing the pattern of pavers, indicate pavers requiring cutting, indicate setting bed methods in each area, drainage patterns and drains. Include details of setting beds, noting all materials and their thickness, show details at curbs and vertical surfaces.
      b. Details of custom (nonstandard) curbs and stair tread/risers, include methods of installation
   4. Samples: Three (3) sample pavers of each manufacturer, type, size and color selected or specified.

1.06 QUALITY ASSURANCE
A. Manufacturer Qualifications:
   1. All products covered under this Section shall be produced by a single manufacturer unless otherwise specified.
   2. Manufacturer shall submit evidence of having not less than ten (10) years successful production of this product.
   3. The paver manufacturer shall demonstrate, either by proven field performance of the laboratory freeze-thaw test that the paving units have adequate durability if they are to be subjected to a freeze-thaw environment.
      a. Satisfactory field performance is indicated when units similar in composition and made with the same manufacturing process as those to be supplied to the purchaser, do not exhibit objectionable deterioration after at least 3 years.
      b. The units used as the basis for proven field performance shall have been exposed to the same general type of environment, temperature range and traffic volume as is contemplated for the units supplied to the purchaser.

B. Subcontractor Qualifications:
   1. Subcontractor shall submit evidence of skill and not less than five (5) years specialized experience with this product.

C. Pre-Installation Conference: As directed by the Architect.

1.07 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Do no work during freezing weather or on wet or frozen sub-base.

B. Mock-up Installation
   1. Prior to the start of precast concrete paver work construct mock-ups of each type of paver size and pattern area including precast curb for the Owner and Architect to review. The mock-ups will be at the project site at a location mutually agreed to by the Owner and Contractor.
   2. Construct the two (2) mock-up installations a minimum 8 foot x 8 foot area of typical precast concrete units and slabs with all setting beds, joints, edge and curb details as shown on the drawings.
   3. After review of the mock-ups, they should be retained and used as a standard of quality for the precast concrete paver work. At completion of the work remove the mock-up installations and related materials from the project site. If the mock-ups are incorporated in the actual construction, record their actual locations and sizes on the actual built record drawings for the project.

1.08 SEQUENCING AND SCHEDULING

A. Coordinate sequencing and scheduling of work with other supporting, adjacent, contiguous or otherwise related material trades.
PART 2 - PRODUCTS

2.02 MATERIALS

A. System source: Wausau Tile, Wausau WI, 1-800-388-8728

B. System Name: Thick Mortar Method - Pedestrian Installation

C. Precast Concrete Pavers
   1. Name: Terra-Pavers
   2. Size: As selected
   3. Finish and Color: To be picked from Type 1-Type 2-Type 3 finishes
   4. Reference Standard:
      a. Cementitious Materials: Materials shall conform to the following applicable ASTM Specifications
         1. Portland Cement: ASTM C 150 for Portland Cement
      b. Aggregates shall conform to these ASTM specifications, except that grading requirements shall not necessarily apply:
         1. Normal Weight: ASTM C 33 for Concrete Aggregates
      c. Other constituents: Coloring pigments, integral water repellents, finely ground silica, etc., shall be previously established as suitable for use in concrete and either shall conform to ASTM Standards where applicable, or shall be shown by test or experience not to be detrimental to the durability of the concrete.
   5. Performance Requirements:
      a. Compressive Strength: At the time of delivery to the work site, the average compressive strength shall not be less than 7,000 psi with no individual unit less than 6,500 psi per ASTM C 140.
      b. Absorption: The average shall not be greater than 5% per ASTM C140.
      c. Flexural Strength: Not less than 600 psi per ASTM 293.
      d. Load carrying capacity: Paver units shall have a tested center load capacity of 1,750 lbs.
      e. Portland Cement Mortar Mix: ASTM C 150, Laticrete 226, thick Bed Mortar Mix with 3701 Admix, or approved equal.
      f. Reinforcement: 2" x 2" - 16/16 welded galvanized wire mesh used in thick mortar bed.
      g. Water: Clean and free of deleterious acids, alkalis or organic materials
      h. Grout: Laticrete Grout with 3701 Grout Admix, color as selected or approved equal.
      i. Bond Slurry: Laticrete 4237 bond Coat or approved equal
      j. Sealant: As specified in Section 07920 -0 Sealants and Caulking
      k. Back-up: As specified in Section 07920 - Sealants and Caulking
      l. Bond Breaker: As specified in Section 07920 - Sealants and Caulking

2.03 MIXING

A. Mortar setting bed: As recommended by the manufacturer.

B. Grouting Mix: As recommended by manufacturer. Color as selected.

C. Carefully work in sufficient water to obtain desired consistency. Avoid use of excess water. Use caution in mixing to get complete wetting and homogeneity.

D. Rework mixes from time to time to maintain proper consistency, as recommended by manufacturer but do not add ingredients. Discard mortar that has reached its initial set.

PART 3 - EXECUTION

3.01 INSPECTION
A. Examine all surfaces to receive the parts of the work specified herein. Verify all dimensions of in-place and subsequent construction. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Installation of precast concrete pavers and associated construction constitutes acceptance of the adjacent and underlying construction.

B. Installation of Mortar bed as per TCA f101-94. All materials used follows instructions of manufacturer for use in mortar method.

C. Install precast concrete pavers

D. Grouting of pavers in strict accordance with grout manufacturer’s directions and instructions. Latex or acrylic additives of the same manufacturer as the grout.

E. All control and expansion joints to be installed as per TCA EJ 171-94. all joint materials used to follow manufacturer’s directions and instructions.

F. Field cut precast pavers in accordance with manufacturer’s recommendations for methods, equipment and precautions.

3.02 CLEANING AND PROTECTION

A. Remove and replace pavers which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment to eliminate evidence of replacement.

B. Cleaning: Remove mortar stains and all other types of soiling from exposed paver surfaces, wash and scrub clean.

C. Provide final protection and maintain conditions in a manner acceptable to installer, which ensures paver work being without damage or deterioration at time of substantial completion.
PART 1 - GENERAL

1.01 SUMMARY:

A. Section Includes:
   1. Concrete paving and topping slab for vehicular and pedestrian traffic, including driveway aprons, curbs, and sidewalks.
   2. Concrete curbs and gutters.
   3. Concrete patching of existing concrete to remain.

B. Related Documents
   1. Section 02000 – Earthwork for preparation of subgrade at paving on grade.
   2. Section 02500 – Asphalt Paving.
   3. Section 03300 – Cast-in-place Concrete for suspended slab substrate.
   4. Section 07120 – Fluid-applied Waterproofing.
   5. Section 07900 – Joint Sealants for traffic-rated sealants.
   6. Division 15 & 16 sections for plumbing and/or electrical devices placed in paving.

1.02 REFERENCES:

A. ASTM C 494-92 - Chemical Admixtures for Concrete
B. CALTRANS - Standard Specifications, July 1992

1.03 QUALITY ASSURANCE:

A. Mock-Ups: Provide sample panels not less than 20 square feet in size on the project site showing the proposed color range, texture, finish, and workmanship of each type of finish listed below. Upon approval, each panel shall become the standard of comparison for all concrete indicated to receive that finish.
   1. Broom finish concrete.
   2. Sandblast finish concrete with and without integral color.

B. Sample panels shall be approved before proceeding with the respective work. Sample panels, if approved, may be left in place as part of the completed construction.

C. Regulatory Requirements: Provide curb cuts and ramps meeting the accessibility requirements of California Code of Regulations (CCR) Title 24 Part 2, Chapter 11; and ADA Accessibility Guidelines for Buildings and Facilities, current edition.

PART 2 - PRODUCTS

2.01 MATERIALS:
A. Cement, Aggregate, Admixtures, Form Release Agents, Expansion Joint Fillers and Curing Materials: Conform to Section 03000.

B. Reinforcing Bars and Mesh: Conform to Section 03100. Furnish welded wire mesh in flat sheets, not rolls, unless otherwise acceptable to the Architect.

C. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement. Use flexible spring steel forms or laminated boards to form radius bends.

D. Color Hardener for Concrete Pavement
   1. Manufacturers: Color Hardener shall be as follows or equal approved in accordance with Section 01630:
      L.M. Scofield; Lithochrome Color Hardener
   2. Material Requirements: Streak-free, powdered, cementitious material containing special hard aggregate. Dry-Shake color hardener shall be completely free of calcium chloride.
      b. Limeproof and has maximum resistance to effect of ultra-violet light.
      c. Color: Blush Beige
      d. Coverage: 1-½ bags per 100 SF minimum, or as recommended by manufacturers

E. Curing Compound for Colored Concrete: Color curing compound shall be as follows or equal approved in accordance with Section 01030
   L.M. Scofield, Lithochrome Colorwax

2.02 MIXING

A. Provide mix designs for each class of concrete used in accordance with Section 03300. For concrete to receive color hardener, mix design shall have a minimum of 5-1/2 sacks (517 lbs.) of cement per cubic yard of concrete. Mix shall be uniform between loads.

B. Properties and Proportions:
   1. Proportion concrete to provide a minimum compressive strength at 28 days of 3000 psi for all site work concrete.
   2. Slump: Between 3 and 4 inches maximum. Slump shall be consistent for concrete to receive integral color.
   4. Air Content: 5 to 8 percent.

C. Mix concrete in accordance with the mixing requirements of Section 03000.

D. For concrete to receive integral color, do not use reactive aggregate, admixture or additive containing calcium chloride, waterproofing admixtures or superplastizer.

2.03 ACCESSORIES
A. Non-Shrink Grout: Packaged product; minimum 6000 psi; Burke # (324) 57-100, or equal product substituted under provisions of Section 01630.

B. Concrete Curing Compound: Conforming to ASTM C309 Type 1, Class A or B, and Standard Specifications Section 90-07; non-yellowing, non-staining liquid membrane forming type; VOC compliant.

C. Form Release Agent: Non-staining chemical form release agent free of oils, waxes, and other material harmful to concrete; VOC compliant.

B. Concrete Bonding Agent: high solids, acrylic polymer latex bonding agent and admixture that conforms to the ASTM C1059 Type I standard; Intralok Bonding Agent by W R Meadows or approved equal.


F. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer.

D. Compressible Joint Filler: ASTM D1751; pre-molded non-extruding asphalt impregnated fiberboard or felt, ¼ inch thick; tongue and groove profile.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION:

A. Scarify earth subgrade to a depth of not less than 6 inches and compact it to 95 percent of maximum density. Subgrade shall be well drained and have adequate and uniform load-bearing capacity. Subgrade shall be moist during concrete placement. Concrete shall not be placed over freestanding water, muddy or soft spots.

B. Suspended Slab: Complete installation of electrical and plumbing rough-ins in area to be paved. Complete installation of fluid-applied waterproofing. Protect waterproofing from damage. Moisten waterproofing for concrete placement. Concrete shall not be placed over freestanding water.

C. Abutting to Existing Concrete: Remove loose or cracked existing concrete. Clean abutting surfaces to remove oils, grease, dirt or other materials that would prevent a tight bond.

1. Mechanically abrade existing substrate to remove all unsound concrete, ensuring excessive force is not used.
2. Ensure substrate is structurally sound and free of grease, oil, dirt or any other contaminants that can adversely affect the bond.
3. Ensure prepared surface is dust-free and has a sufficient profile to ensure adequate mechanical lock.
4. Ensure substrate must be saturated surface dry (SSD) and free of standing water.
5. Apply Concrete Bonding Agent per manufacturer’s instructions.

D. Protect adjacent materials to remain.

3.02 FORM CONSTRUCTION:

A. Set forms to required grades and lines, braced and secured. Install forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement. Coat forms with a non-staining form release agent.
B. Check completed formwork for grade and alignment to following tolerances:

1. Top of forms not more than 1/8 inch in 10 feet.
2. Vertical face on longitudinal axis, not more than ¼ inch in 10 feet.

C. Clean forms after each use and coat with form release agent as required to ensure separation from concrete without damage.

D. Slope step treads ¼ inch per foot to drain.

3.03 CONCRETE PLACEMENT:

A. General: Comply with requirements of Section 03000, unless otherwise indicated.

B. Do not place concrete until subbase and forms have been checked for line and grade. Moisten subbase if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

C. Place concrete by methods that prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing and joint devices.

D. Deposit and spread concrete in a continuous operation between transverse joints as far as possible. If interrupted for more than ½ hour, place a construction joint.

3.04 INSTALLATION OF CURBS AND GUTTERS:

A. Construct concrete curbs and curb and gutters as indicated, with faces and backs formed for the full depth. Before removal of the forms finish the surface true to grade by means of a straightedge float, not less than 10 feet long, operated longitudinally over the surface of the concrete. Construct form clamps so as not to interfere with the operation of this float. Immediately after removing the front curb forms, trowel the face of the curb smooth to a depth of not less than 2 inches below the flow line or to the flow line of integral curb and gutter, and then finish with a steel trowel. Finish the top and gutter face and the front and back edges rounded unless otherwise indicated. Give the curb face a final fine brush finish with brush strokes parallel to the line of the curb. Give tops of curbs a smooth trowel finish.

B. Expansion Joints: Provide expansion joints at ends of curb returns and at maximum intervals of 60 feet on straight runs. Provide weakened plane joints at maximum intervals of 15 feet between expansion joints. Use preformed joint material as specified in Section 03100, and edge with a tool having a radius of not greater than ¼ inch. Construct weakened plane joints to a minimum depth of ½ inch by scoring with a tool which will leave the corners rounded and insure a free movement of the concrete at the joint.

C. Finish top and face of curbs and curb and gutters true and straight, of uniform width, and free from humps, sags or other irregularities. When a straightedge 10 feet long is laid on the top or face of the curb or gutter, the surface shall not vary more than ¼ inch from the edge of the straightedge, except at grade changes or curves.

D. Automatic machine may be used for curb and gutter placement at Contractor's option. If machine placement is to be used, submit revised mix design and laboratory test results that meet or exceed minimums specified. Machine placement shall produce curbs and gutters to...
required cross-section, lines, grades, finish, and jointing as specified for formed concrete. If results are not acceptable, remove and replace with formed concrete as specified.

3.05 INSTALLATION OF SIDEWALKS AND OTHER FLATWORK:

A. Placing: Place concrete in accordance with Section 03000. Strike off and compact the fresh concrete until a layer of mortar has been brought to the surface. Float the surface to grade and cross section with a float not less than 10 feet long and not less than 6 inches wide. Trowel surfaces to a uniform smooth texture free of trowel marks ready to receive final finish as specified below.

1. For concrete to receive color adjacent concrete surfaces shall be protected by plastic sheeting during application and finishing of the colored concrete.

B. Joints: Tool the surfaces of flatwork to provide weakened plane joints in accordance with patterns indicated. Where no pattern is indicated, mark flatwork into rectangles as indicated. Use a scoring tool that will leave the corners rounded. Form expansion joints ¼ inch wide at all returns and opposite expansion joints in curbs. Where curb is not adjacent, form expansion joints as indicated. Fill expansion joints with premolded expansion joint filler as specified in Section 03000.

1. For joints in concrete to receive color caulk all joints with Lithochrome Colorcalk in matching or blending color as selected by Architect.

C. Tolerances: The surface of flatwork shall not vary more than 0.02 foot from a 10 foot straight edge except at grade changes.

D. Broom Finish: After concrete has been troweled and joints have been formed, use a stiff fiber broom to provide a uniformly straight scored surface at right angles to the general flow of traffic to provide a medium broom finish.

E. Ramps: Finish surface in accordance with accessibility requirements of 2013 CBC Part 2, Chapter 11B; and ADA Accessibility Guidelines for Buildings and Facilities.

F. Curing

1. On colored concrete use pigmented curing compound in matching color and as recommended by color hardener manufacturer.

2. On all other concrete surfaces, use dissipating resin compound.

3.06 CLEAN-UP:

A. During the progress of the work and at the completion of the work, remove all trash, debris, etc., from the project site and leave the site clean and in orderly condition.

3.07 PROTECTION:

A. All special finishes of concrete surfaces shall be protected until final acceptance of the project.
PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Rubber tile playground surfacing system.
B. Related Sections: Division 2 Sitework Sections: Materials and Methods, Excavation, Asphalt Paving, Concrete Paving, Sub-Drainage, Storm Drainage, Fencing, Playground Equipment and Structures.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   8. ASTM D3389 Abrasion Testing.
   10. DIN 1835 Part 6-Permeability to Water.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide a single layer rubber tile playground surfacing system which has been designed, manufactured and installed to meet the following criteria:
   1. Shock Attenuation (ASTM F1292) - 2-1/2" meets 6' critical fall height, 4-1/4" meets 8' critical fall height.
      b. Head Injury Criteria - Less than 1000.
   2. Flammability (ASTM D2859) - Pass.
   3. Tensile Strength (ASTM D412) - 180 lbs/in² min.
   4. Water Permeability Rate: 0.034 cm/sec.
   5. Accessibility: Comply with requirements of ASTM F1951-08 - Pass.
   7. Void Volume: 42% min 2-1/2". 50% min 4-14".
   8. Coefficient of Thermal Expansion: .0011 in/ft° F.
   9. Wear Surface Density: 70 lbs/cu ft min.
   10. Abrasion Testing (ASTM D3389): Less than 0.010" lost or less than 1 g lost.
   11. Elongation At Break (ASTM D412): 70% min.
1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
B. Product Data: Submit manufacturer’s product data and installation instructions.
C. Verification Samples: Submit manufacturer’s standard verification samples of 9" x 9" (229 x 229 mm) minimum.
D. Quality Assurance/Control Submittals: Submit the following:
   1. Certificate of qualifications of the playground surfacing installer.
E. Closeout Submittals: Submit the following:
   1. Warranty documents specified herein.

1.05 QUALITY ASSURANCE

A. Qualifications: Utilize an installer having experience with projects of similar scope and complexity.

1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.
B. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.
C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 20 degrees F (-7 degrees C) and a maximum temperature of 100 degrees F (38 degrees C).

1.07 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain.

1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
B. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.
C. Proper drainage is critical to the longevity of the UltraTile surfacing system. Inadequate drainage will cause premature breakdown of the system in affected areas; and void the warranty.
   1. Warranty Period: 10 years from date of product shipment.

PART 2 PRODUCTS

2.01 RUBBER TILE PLAYGROUND SURFACING SYSTEM

A. Manufacturer: Surface America, Inc.
   1. Contact: PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, (716) 632-8413; Fax: (716) 632-8324; E-mail: info@surfaceamerica.com; website: http://www.surfaceamerica.com.
B. Proprietary Products/Systems. Rubber tile playground surfacing system, including the following:
   1. UltraTile:
a. Material: factory-molded surface composed 100% post-consumer SBR (Styrene Butadiene Rubber) tire rubber and EPDM colored granules bound together by a wear and weather resistant polyurethane and a 3 mm top wear layer with tapered, conical support legs.
b. Thickness and Weight: 2 1/2" (63.5mm) Carnival colors: 26 lb (12 kg).
c. Color:
   1. Carnival Colors: Caramel Corn.

2.03 ACCESSORIES

A. Provide accessory items as follows:
   1. Surface America PlayGrip Adhesive.

PART 3 EXECUTION

3.01 MANUFACTURER’S INSTRUCTIONS

A. Comply with the instructions and recommendations of the playground surfacing manufacturer.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify that substrate conditions are suitable for installation of the playground surfacing system.
B. Do not proceed with installation until unsuitable conditions are corrected.
C. Proper drainage is critical to the longevity of the UltraTile surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

3.03 PREPARATION

A. Surface Preparation: Ensure that the concrete or asphalt substrate is level or uniformly sloped since surface variations will be telegraphed through to the rubber tile surface.

3.04 INSTALLATION

A. Site Layout
   1. Sweep area clear of all dust and loose debris.
   2. Determine a starting point for the first course of tile to best suit the site area. For irregular site configurations, the best starting point is often in the center. This will ensure a symmetrical finish for tiles that require trimming along the perimeter. Other installations are best started in the corner or along the edge that represents the length or width dimension of the site.
   3. Mark two points on the base surface at an equal distance from the edge of the installation. These points should be located near the opposite ends of the site in the lengthwise direction.
   4. Snap a chalk line through the established points. When installing UltraTile over geotextile fabric, string lines must be used in place of chalk lines.
   5. Measure the length of the site along the chalk line. Mark a point at half the distance of the site.
   6. Using the 3-4-5 right triangle method, snap a chalk line to form a 90 degree angle to the previously established lengthwise chalk line. These perpendicular reference lines will serve as a guide for laying the first course of tile.

B. General Information

02790-3 RUBBER TILE SURFACING
UltraTile can be installed using a variety of installation methods. The most common and secure method is full adhesion of tiles and accessories side-to-side and directly to the substrates using Surface America PlayGrip, an easy-to-use one-part polyurethane adhesive.

C. Fully Adhered Installation
1. Follow the site layout instructions to prepare the site area for installation. The tiles, accessories and substrates must be dry before, during and 24 hours after the application of adhesive.

NOTE: Coverage rates for the PlayGrip adhesive are approximately 60 sq/ft on concrete, and 50 sq/ft on asphalt. PlayGrip is available in 2-gallon and 4-gallon pails.
2. Using a 1/8” square-notched trowel, apply the adhesive slightly wider than the tile being placed.
3. Place tile into fresh adhesive bed following pre-established lines. If applicable, place ramps into fresh adhesive in a similar manner.
4. Allow 24 hours for adhesive to cure before opening area for use.

D. Quad Blok Installation
NOTE: Installation of UltraTile by means of the Quad Blok system works only with 2 ½” tiles.
1. Follow the site layout instructions to prepare the site area for installation.
2. Once chalk lines are established, place the first tile at the intersection of two chalk lines, aligning adjacent edges of the tile with chalk lines.
3. Apply a continuous 3/8” diameter bead of PlayGrip adhesive along the center axes of all Quad Blok connectors. Working adhesive time is dependent upon environmental conditions.
4. Fit the first tile with four prepared Quad Blok connectors by lifting each tile corner slightly, sliding the connectors under each corner and engaging the four corner legs of each tile with the respective apertures in the Quad Blok. Continue to sequentially lay the tile and to set the Quad Blok connectors along one chalk line until the first course of tile is complete.

NOTE: In the field, cut the Quad Blok connectors in half to properly secure tile around the perimeter edge of surface area.
5. Complete the other three quadrants of the site area in a similar fashion.
6. Depending on manpower availability, one or more quadrants can be worked on simultaneously using the above method.
7. Allow 24 hours for adhesive to cure before opening area for use.

E. Cutting Tiles & Accessories
1. Avoid leaving a cut edge of a tile exposed to eyesight. To ensure a finished appearance, any tile that has its factory molded edge removed or cut for any reason should be positioned against a transition ramp, masonry or timber edging unless the edge is to be placed against a wall or other vertical member. Use either a silicone sealant or a permanently elastic urethane sealant/adhesive for filling gaps, if any, between cut edges and walls.
2. The most accurate cuts are made using a heavy-duty utility knife and a straight edge. A saber saw utilizing a 7-10 TPI wood cutting blade also does an acceptable job, especially for free-form cuts. A saw with a 3-3.5 amp rated motor having a 1” stroke with variable orbital setting will produce the best result.
3. When working beneath the play structure, it will be necessary to occasionally notch out portions of tiles so that the tiles will properly fit around the posts supporting the play equipment.
4. Cut tile so that the cutout is approximately ¼” larger in all dimensions than the support it will surround. The extra distance is to prevent binding of the tile around the support. Voids between the equipment supports and tile cuts should be filled in with silicone sealant or a permanently elastic urethane sealant/adhesive.
5. Tile cuts are normally laid out by referencing dimensions from the edges of tiles already in position. These dimensions are then transferred to and laid out on the tile to be cut.
6. A lead-in cutting line is extended from the tile edge to the portion to be cut. The lead-in cutting line chosen usually represents the shortest distance from the cutout area to an edge of the tile or the one that is least noticeable.
7. Reducers installed at the corners should be miter cut to allow reducers to fit together correctly, or use factory molded corner pieces available in 2 ½” thickness.

3.05 PROTECTION

A. Protect the installed playground surface from damage resulting from subsequent construction activity on the site.
SECTION 02810
LANDSCAPE IRRIGATION

PART 1 - GENERAL

1.1 CONDITIONS AND REQUIREMENTS

Refer to the General Conditions, Supplementary General Conditions and General Requirements.

1.2 DESCRIPTION

A. Furnish labor, tools, equipment, new materials, transportation, temporary storage facilities and perform operations necessary to properly execute and complete this contract in accordance with the Drawings and these Specifications. The intent is to accomplish the work of installing an irrigation system that will operate in an optimum manner.

B. Related work specified elsewhere (but not limited to):

   SECTION 02923 LANDSCAPE GRADING AND SOIL PREPARATION
   SECTION 02950 PLANTING AND PLANT MATERIALS
   SECTION 16050 ELECTRICAL
   SECTION 15400 PLUMBING SYSTEMS

1.3 QUALITY ASSURANCE

A. Reference Standards (but not limited to):

   1. ASTM: American Society for Testing and Materials

   2. NSF: National Sanitation Foundation

   3. AWWA: American Water Works Association

   4. CPC: California Plumbing Code
5. CEC: California Electric Code  
6. ANSI: American National Standards Institute  

B. Drawings:  

1. For purposes of clarity and legibility, drawings are essentially diagrammatic to the extent that many offsets, bends, unions, special fittings, and exact locations of items are not indicated, unless specifically mentioned or dimensioned.  

2. Exact routing of pipe and material locations is governed by structural conditions and obstructions. Make use of data in Contract Documents and any other necessary source (Underground Service Alert, etc.).  

3. Do not willfully install the irrigation system(s) as shown on the drawings when it is obvious in the field that; (1) unknown obstructions and grade differences or discrepancies in area dimensions might not have been considered in engineering; (2) there are conflicts and differences between Irrigation Drawings and other related drawings; and (3) other trade and construction changes would cause planting and irrigation changes. Immediately notify the Owner's Representative of obstructions, differences and changes. In the event this notification is not performed, assume full responsibility for any changes necessary.  

1.4 VISIT TO THE SITE  

Visit the construction site, take measurements and obtain any other information as may be necessary for a complete and conclusive bid.  

1.5 SUBMITTALS  

A. Substitutions:  

Submit any proposed changes to the installation and substitutions from materials listed on the plans or these specifications, in writing, to the Owner’s Representative. Submit shop drawings for any equipment not shown, indicated and detailed on drawings. Obtain written approval from Owner’s Representative prior to installation.  

B. Record Drawings:  

1. Provide record drawings (as-builts) in accordance with requirements of General Conditions and requirements..  

2. Maintain in good order at the construction site one complete set of record prints of Irrigation Drawings. In the event any work is not installed as indicated, mark and dimension accurately on record prints as changes occur. Dimension from two permanent points of reference (building corners, sidewalks, road intersections, etc.) the location of the following items:  

   a. Connection(s) to water source.  
   b. Connection(s) to electrical source.  
   c. Routing of pressure mainline pipes and lateral line pipes (dimension max. 100' long along routing).  
   d. Routing of common, control and spare wires when separate from
pressure mainline pipe and locations of splices.

e. Backflow preventer(s), master and remote control valves.

f. Shut-off and quick coupling valves.

g. Stubouts.

h. Drip system PVC headers when applicable.

i. Other related assemblies and equipment as directed by the Owner’s Representative.

3. Upon completion of work, provide As-built drawings. See General Conditions.

C. Operation and Maintenance Manuals:

1. Prior to the final review of the irrigation system, furnish 2 individually bound Service Manuals (triple ring binders) to the Owner’s Representative. Manuals shall contain the following:

a. Index sheet indicating the installing company’s and subcontractors’ names, contacts, addresses, and phone numbers.

b. (Not used)

c. Certificate of insurance verifying coverage for completed operations.

d. List of installed materials with names, addresses and phone numbers of local manufacturers and representatives.

e. Copies of equipment warranties or certificates.

f. Manufacturers’ maintenance instructions of equipment including exploded drawings and spare parts lists.

D. Extra Materials: Provide the following upon completion of work.

1. 2 sets of matching Quick Coupler Valve keys and hose swivels.

2. 2 keys for each controller box and enclosure, and 2 padlocks with keys for enclosure when applicable.

3. 2 sets of any special tool required for the maintenance of each type of component used in the system.

4. 2 padlocks with keys for each backflow preventer enclosure(s).

E. Provide instruction in operation of system to the Owner's Representative.

1.6 PROJECT CONDITIONS

A. Sequencing and Scheduling:

Coordinate work with the installation of other trades and construction site improvements,
including utility and landscape installation.

B. Environmental Conditions:

Perform no installation work during wet, muddy or frozen conditions.

C. Rules, Codes and Regulations:

Perform work and install materials in full accordance with the latest rules and regulations of the California Electric Code, the California Plumbing Code, Occupational Safety and Health Administration and other applicable state or local laws or regulations including local water conservation and irrigation guidelines. Nothing in these specifications and on drawings are to be construed to permit work not conforming to these documents or codes.

1. Furnish additional material and labor required to comply with applicable standards, rules and regulations when not mentioned in these specifications or indicated on drawings.

2. When specifications and drawings call for materials or construction of a better quality or larger size than required by applicable standards, rules and regulations, the provision of the specifications shall take precedence.

D. Safety:

1. Erect and maintain barricades, guards, warning signs, lights, etc. as required for the protection of the public and workers.

2. Perform work in a safe manner. Follow regulations, OSHA requirements and other authoritative agency requirements.

3. Prior to commencement of work, verify locations of existing underground utilities so that proper precautions may be taken to not damage such improvements.

E. Maintaining Traffic:

Ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project. Provide warning signs, barricades, flagmen, etc. necessary to meet traffic requirements.

F. Permits, Fees and Taxes:

Obtain permits and pay required fees and taxes to governmental agencies having jurisdiction over the work and arrange for inspections specified by local ordinances during the course of construction as necessary.

PART 2 - PRODUCTS

2.1 PRODUCT DELIVERY, STORAGE AND HANDLING

Handling of materials: Exercise care in handling, loading, unloading, and storing. Pipe and fitting cracks can occur from sudden impact. Protect plastic products from excessive exposure to sunlight. Remove dented or damaged materials from the construction site, and if installed, replace with new undamaged materials.
2.2 MATERIALS

A. PVC Pressure mainline pipe and fittings:

1. Pressure mainline pipe: Schedule 40 PVC for 1 1/2” and smaller. Class 315 PVC for 2” and 2 1/2”. Class 200 gasketed for 3” and larger.

2. Pressure mainline pipe shall be made from an NSF approved Type 1, Grade 1, PVC compound conforming to ASTM D1785. Pipe shall meet requirements as set forth in ASTM D2441, with an appropriate standard dimension ratio (SDR) for solvent-weld pipe.

3. PVC pipe shall bear the following markings:
   a. Manufacturer's name
   b. Nominal pipe size
   c. Schedule or Class
   d. Pressure rating in PSI
   e. NSF
   f. Date of extrusion

4. Fittings shall bear the manufacturer name and/or trademark, material designation, size, applicable IPS schedule and NSF seal of approval.

B. PVC lateral line pipe and fittings:

1. Lateral line pipe: Schedule 40, size as noted in the Drawings.

2. Pipe shall be made from NSF approved, Type 1, Grade 1 PVC compound conforming to ASTM D1784. Pipe shall meet requirements set forth in ASTM D2441 with an appropriate standard dimension ratio (SDR) for solvent weld pipe.

3. Requirements for lateral line pipe and fittings shall be the same as for pressure main line pipe and fittings.

D. Sleevering and Conduit:

Schedule 40 PVC pipe sized as needed.

E. Copper pipe and fittings:

Type "L" copper pipe conforming to ASTM B88. Fittings shall be solder type conforming to ANSI B16.22 and B16.18.

F. Galvanized steel pipe and fittings:

Schedule 40 galvanized steel pipe conforming to ASTM (A120). Fittings shall be schedule 40 hot dipped, double banded malleable steel.

G. Schedule 80 PVC nipples and TOE (threaded one end) nipples:
Nipples shall have factory molded threads. Machine threaded nipples shall not be allowed.

H. Control wire:

Minimum no. 14 AWG UL approved direct burial copper wire. Larger wire shall be installed as scheduled by controller and valve manufacturers. Common wire shall have white insulating jacket. Control wire shall have black jacket. Spare wire shall have yellow jacket. Other components requiring wires shall have different color jackets.

I. Solvent weld joints:

Solvent and primer shall be make and type approved by manufacturer(s) of pipe and fittings. Solvent shall be a proper consistency throughout use. Mixing thinner with solvent shall not be allowed.

J. Pipe joint compound:

Non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Use Whitlam Blue Magic industrial grade thread sealing compound or equal on threaded connections.

K. Identification tags:

Install tags manufactured by T. Christy Enterprises or equal, standard size 1 1/8" hot-stamped letters on yellow background slipped around solenoid wires on valves prior to connecting control wires. Letters to conform to controller letter and station numbers indicated on drawings.

L. Painting:

Paint all materials specified and indicated to be painted with one coat oil base metal primer and two coats rust inhibitive outdoor enamel, using color approved by Owner's Representative.

M. Concrete and concrete thrust blocks:

Install as specified, indicated and detailed on drawings. Concrete shall have 2000 lb. strength at 28 days. Fine aggregate for use in concrete may be granular sand. Rock and gravel for use in concrete to be mechanically washed and free from injurious amounts of deleterious substances.

N. Valve boxes:

1. Provide separate 14" x 19" green plastic rectangular valve boxes and bolt-down lids as indicated and detailed on drawings.

2. For Quick Couplers - Provide 9" green plastic round valve boxes and bolt down lids as indicated and detailed on drawings.

3. Provide other boxes and extensions indicated and detailed on drawings.

O. Drain rock:

1/2" to 3/4" washed rounded gravel.
PART 3 - EXECUTION

3.1 GENERAL

Notify Owner’s Representative 5 days prior to installation for a pre-installation conference and field review and for maintenance and final punch list review. Notice of 4 working days is required for on-call reviews.

3.2 INSPECTION OF SITE CONDITIONS

A. Scaled dimensions are approximate. Prior to installation, check and verify actual site dimensions prior to proceeding with work.

B. Prior to installation, verify locations of new and existing utilities. Exercise extreme care in excavating and working near utilities. Assume responsibility for damages to utilities that are caused by operations or neglect.

C. Point of connection for irrigation water supply: Verify the location and available pressure is as is required on the Irrigation Drawings.

D. Coordinate installation of materials to avoid interference with utilities or other construction or difficulty in planting trees, shrubs, and ground cover.

E. Protect existing irrigation system components, trees, shrubs, sod, and other features designated to remain as part of final work. Strip existing sod for pipe trenches passing through existing landscaping with a mechanical sod stripper uniformly 1” to 1 1/2” thick with clean cut edges. Replace stripped sod in sufficient time to allow for satisfactory recovery and growth. Hand water stripped and reinstalled sod until irrigation system(s) are operational.

F. Coordinate work of this Section with that of other Trades and Sections for the location of water source(s), electrical source(s), pipe, sleeves and conduits though structures, walls, under paving, etc.

G. Materials (pipes, valves, etc.) shown within adjacent paved areas or other construction features are for design clarification only. Install materials in planting areas (unless otherwise specified, indicated or detailed). Valves shown in centers of planting areas are to be installed adjacent to nearest walk, header, or curb unless approved otherwise. Pipes shall be set in common trenches 3 inches apart where shown parallel and adjacent to each other.

3.3 PREPARATION - LAYOUT OF WORK

Prior to installation, locate water source(s), electrical source(s), sleeves, conduits, pipe routings, locations of hardware and sprinklers. Notify Owner’s Representative to review layout when area, grade differences or obstructions are not as indicated on drawings.

3.4 INSTALLATION

A. Point(s) of connection:

Connect to source(s) indicated on drawings.

B. Trenching:
1. Trench straight to an even grade and to support pipe continuously on bottom of trench. Excavation shall closely follow layout shown on drawings.

2. Provide for a minimum of 24" cover for pressure main line pipe.

3. Provide for a minimum cover of 18" for lateral line pipe.

4. Provide for a minimum cover of 24" for control wire.

5. Provide for a minimum cover of 24" for pipe, wire, sleeves and conduits under asphalt pavement.

6. Provide a minimum cover of 24" for sleeves and conduits.

C. Backfilling:

1. Do not backfill trenches until required reviews and tests are performed. Backfill trenches with specified excavated materials free from large clods of earth or stones and other extraneous materials. Compact backfill to the same density equal to adjacent undisturbed soil. Backfill flush to adjacent grades and leave no dips, sunken areas, humps or other surface irregularities.

2. Surround pipe with sand in rocky terrain as indicated and as detailed on drawings.

D. Pipe and fitting installation and connections:

1. Thoroughly clean pipe and fittings of dirt, dust and moisture before installation.

2. Use appropriate solvent and applicator, and primer, for each size and type of pipe. Apply per manufacturer’s recommendations.

3. On PVC to metal connections, use teflon tape along with thread sealing compound on 2" and larger connections. Where threaded PVC connections are required, use threaded PVC nipples onto which the PVC fittings may be solvent welded.

4. Lay pipe with identification markings facing up.

5. No changes in direction of piping under hardscape shall be permitted unless directed otherwise by the Owner’s Representative.

E. Pipe Line clearance:

Lines shall have a minimum 3" horizontal clearance from each other and a 6" minimum clearance from lines of other trades. Separate utilities per applicable codes. Parallel lines shall not be installed directly over one another.

F. Electric Controller(s):

1. Locate controller(s) in general location(s) shown with exact placement to be determined at jobsite by the Owner's Representative.

2. Connect to 120 volt source(s) provided at site in immediate vicinity. Provide power and Install 120 volt switch box at each new connection.

3. Use rigid metal conduit above grade, slab or floor.
4. Install conduit to adjacent planter for control wires. Seal all conduit holes with silicone.

5. Connect control wire to controller(s) in sequential arrangement according to assigned valve identification number indicated on drawings.

6. Controller(s) shall be properly grounded.

7. Program controller(s) to not exceed design flow. Care shall be taken to prevent runoff and slope/soil erosion caused by prolonged applications of water.

G. Master and Remote control valves:

   Install approximately where indicated on drawings. Locate valve box in planting areas and a minimum of 12" from paving, curb or header board. When grouped together, allow at least 12" between valve boxes and install each valve in a separate valve box unless otherwise indicated on drawings.

H. Control Wiring:

   1. Make connections between controller(s) and valves with direct burial copper wire. Install in accordance with valve manufacturer’s specifications and wire chart.

   2. Wire shall occupy the same trench with pressure main lines wherever possible. When not possible, house wire in conduit as described in “Sleeving and Conduit” section.

   3. Where more than one wire is placed in trench, tape together at 10’ intervals.

   4. Provide 2’ expansion coil at each wire connection and on runs more than 100’ in length. Form expansion coils by wrapping at least 5 turns of wire around a 1” diameter pipe, then withdraw pipe.

   5. Splicing on runs shall be placed in valve and junction boxes. Indicate splices on the As-Built Plan.

   6. Install separate common wire for each controller.

   7. Run 2 spare control wires through all valve locations from their respective controller(s).

   8. Run a control wire from the clock to each valve, including valves for future use that are not connected to sprinkler heads per the Irrigation Drawing.

I. Sleeving and Conduit:

   1. Pressure main lines, lateral lines and control wire passing under existing and proposed concrete and paving shall be placed in sleeves and conduits.

   2. Sleeves and conduit shall extend 6” beyond edge of pavement or curb and shall be staked with wooden stakes marked “Irrigation”. Remove stakes when the job is accepted.

   3. Provide removable non-decaying plug at ends of sleeves and conduits.
J. Flushing of System:

1. Flush pressure main line piping prior to installation of control valves.

2. After control valves, lateral line piping and assemblies are in place and connected, necessary diversion work has been completed, and prior to installation of sprinklers, spray heads and other outlets, open control valves and use a full head of water to again flush out the system.

3. Install spray heads only after flushing of system has been accomplished.

K. Irrigation Spray heads

1. Install as indicated and detailed on Drawings.

2. Spacing shall not exceed maximums typically shown on drawings. In no case shall spacing exceed maximum recommended by the manufacturer.

3. Install check valves as shown on riser assemblies where low head drainage occurs. Note especially to avoid drainage at sidewalks and other points where puddling will cause damage or hazard.

3.5 FIELD QUALITY CONTROL

A. Adjustment of the System:

a. Flush and adjust each spray head for optimum performance and complete coverage and minimum spray on buildings, asphalt, sidewalks, roadways, etc. Tilt spray heads at mounds and slopes for optimum coverage.

b. If it is determined that adjustments in the irrigation equipment will provide more adequate coverage, make such adjustments prior to planting. Adjustments may also include changes in nozzle sizes, and degrees of arc.

B. Testing of Irrigation System: Field Tests will be required as specified below

a. Trench depth and pipe assembly inspection.

b. Pressure and leakage test.

c. Complete system operation and coverage test.

C. Payment for Tests: Contractor shall pay for all required tests.

D. Description of Tests and Required Results:

a. Pressure and leakage test: Perform and submit the results of the pressure and leakage test prior to backfilling of trenches. Inspection of completed installation during pressure and leakage test will be made by the Owner’s Representative prior to backfilling of trenches. Notify the Owner’s Representative at least 4 working days prior to performing the test.

i. Center load pipe with sufficient backfill in accordance with Paragraph 3.11 to anchor pipe before testing. Do not cover any fittings.

ii. Install remote-control valves and cap risers prior to testing.

iii. Furnish all equipment for testing.
iv. Allow solvent-weld plastic pipe joints to cure for at least 24 hours before performing test.
v. Test new main lines at 125 pounds per square inch (psi) minimum. Lines will be accepted if test pressure is maintained for six hours. Maximum loss allowed is 4 PSI. Make repairs and retest as necessary until required conditions are met.
vi. Test lateral lines with water at line pressure and visually inspect for leaks. Correct defects and retest as necessary until no loss of water is observed.

b. Systems operation and coverage test: Perform the systems operation and coverage test at the request of the Owner’s Representative prior to date of Final Acceptance by the Owner’s Representative. Test controllers through all their cycles in the presence of the Owner’s Representative, and make any necessary adjustments. If evidence of complete coverage and fully functional operation is not assured, test shall be judged a failure. Make repairs and retest as necessary until required conditions are met.

E. Correcting Deficiencies:

a. All deficiencies in work and/or items not meeting specified testing requirements shall be corrected in order to meet specification requirements at no additional cost to the Owner.

b. Testing shall be repeated after correction of deficiencies is made until the specified requirements are met. This work shall be performed at no additional cost to the Owner.

F. Repair of damage: Promptly repair to the satisfaction of the Owner’s Representative and without additional expense to the Owner all damage to paving, planting, structures and other improvements due to settlement of improperly compacted trench backfill.

3.6 CLEAN-UP

Clean-up shall be made daily as work progresses. Refuse and excess dirt shall be removed from the site, walks and paving shall be broomed or washed down, and any damage sustained on the work of others shall be repaired to original conditions. Clean and remove all debris prior to Final Inspection by Owner’s Representative.

3.7 FINAL REVIEW PRIOR TO ACCEPTANCE

A. Operate each system in its entirety at time of final review. Any items deemed not acceptable shall be reworked to the satisfaction of the Owner’s Representative.

B. Final review shall take place after submission of specified lists, record drawings, materials and manuals.

3.8 REVIEWS

Installation is subject to reviews at any time by Owner’s Representative.

3.9 MAINTENANCE

1.7 MAINTENANCE SERVICES

A. Maintenance Period: Immediately after Owner’s Representative Final Acceptance, a 90 day maintenance period shall begin. Maintenance visits shall be not less frequently than once per week. Maintenance shall be by qualified and experienced gardeners and shall include, but not be limited to, running and adjusting the irrigation system to assure adequate watering. The
maintenance period will be extended if the system is improperly maintained, and all items replaced that are affected, at no additional cost to the Owner. The maintenance period is an obligation of the Contractor which remains in effect after Final Acceptance of Work.

END OF SECTION
STEEL ORNAMENTAL FENCE AND GATE

SECTION 02820

PART 1 - GENERAL

1.01 WORK INCLUDED

The contractor shall provide all labor, materials and appurtenances necessary for installation of the welded ornamental steel fence system defined herein.

1.02 RELATED WORK

Section 03300 - Concrete

1.03 SYSTEM DESCRIPTION

A total fence system of Welded and Rackable Ornamental Steel. The system shall include all components (i.e., panels, posts, gates and hardware) required.

1.04 QUALITY ASSURANCE

The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.05 REFERENCES

- ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
- ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
- ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- ASTM F2408 – Ornamental Fences Employing Galvanized Steel Tubular Pickets.

1.06 SUBMITTAL

The manufacturer’s literature shall be submitted prior to installation.

1.07 PRODUCT HANDLING AND STORAGE

Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

1.08 PRODUCT WARRANTY
A. All structural fence components (i.e. rails, pickets, and posts) shall be warranted within specified limitations, by the manufacturer for a period of 20 years from date of original purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering or corroding.

B. Reimbursement for labor necessary to restore or replace components that have been found to be defective under the terms of manufactures warranty shall be guaranteed for five (5) years from date of original purchase.

PART 2 - MATERIALS

2.01 MANUFACTURER
Ameristar Fence Products, Inc., in Tulsa, Oklahoma, Montage Pool, Majestic™, Welded and Rackable Ornamental Steel, or approved equal. (Contact Steel & Fence Supply, San Jose CA, 408-573-3779).

2.02 MATERIAL
A. Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (310 MPa) and a minimum zinc (hot-dip galvanized) coating weight of 0.60 oz/ft² (184 g/m²), Coating Designation G-60. Color: Dark Green.

B. Material for pickets shall be 5/8" square x 18 Ga. tubing. The rails shall be steel channel, 1.25" x 0.92" x 14 Ga. Picket holes in the rail shall be spaced 4.334" o.c. Fence and gate posts shall be a minimum of 2" square x 16 Ga.

C. Height shall be 3'-0".

D. Gate Latch: The Hillman Group, Post Mounted Gate Latch, #852506.

2.03 FABRICATION
A. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.

B. Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar’s proprietary fusion welding process, thus completing the rigid panel assembly (Note: The process produces a virtually seamless, spatter-free good-neighbor appearance, equally attractive from either side of the panel).

C. The manufactured panels and posts shall be subjected to an inline electrode position coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be (specify Black or Bronze). The coated panels and posts shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2 (Note: The requirements in Table 2 meet or exceed the coating performance criteria of ASTM F2408).

D. The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fences under ASTM F2408.
E. Gates shall be fabricated using welded ornamental panel material and gate ends having a 1-1/4" square cross-sectional size. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding.

PART 3 – EXECUTION

3.01 PREPARATION

All new installation shall be laid out by the contractor in accordance with the construction plans.

3.02 FENCE INSTALLATION

Fence post shall be spaced according to Table 3, plus or minus ½”. For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence panels shall be attached to posts with brackets supplied by the manufacturer. The “Earthwork” and “Concrete” sections of this specification shall govern material requirements for the concrete footer.

3.03 FENCE INSTALLATION MAINTENANCE

When cutting/drilling rails or posts adhere to the following steps to seal the exposed steel surfaces; 1) Remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1-3 above will negate warranty. Ameristar spray cans or paint pens shall be used to prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-Ameristar parts or components will negate the manufactures’ warranty.

3.04 GATE INSTALLATION

Gate posts shall be spaced according to the manufacturers’ gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers’ gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacturer of the gate and shall be installed per manufacturer’s recommendations.

3.05 CLEANING

The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

END OF SECTION
SECTION 02821
WIND SCREEN

PART 1 GENERAL

1.01 WORK INCLUDED
A. Installation of Woven Polypropylene Wind Screen material and accessories on chain link fences.

1.02 RELATED WORK
A. NA.

1.03 QUALITY ASSURANCE
A. System: Provide complete system from single manufacturer including all accessories.
B. Warranty:

1.04 REFERENCES
A. ASTM Technical Performance Standards:
   a. D-5041 Material Weight.
   b. D-5100 Warp and Fill Tensile Tests.
   c. D-2261 Warp Tear Test.
   d. D-5512 Fill Tear Test.
   e. D-737 Air Flow Test.

1.05 SUBMITTALS
A. Submit the following in accordance with Section 01300.
B. Product Data: Submit product literature, including standard details.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS
B. Substitutions: Refer to Section 01630.

2.02 MATERIALS
A. FenceScreen300 Series Commercial Closed Poly.
   1. Sizes: Full height of fence; see drawings for length.
   2. Material: UV Resistant Woven Polypropylene, color- green, 90% transparency, 5.5 oz/yd, warp tensile 420 lbs, warp tear 125 lbs., fill tensile 225 lbs, fill tear 90 lbs and air flow 12%.
   3. Panels Edges: 2” polypropylene webbing with 3/8” brass grommets at 24” O.C.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Verify field conditions prior to ordering material.

B. Install per manufacturers instructions.

C. Material shall be tight and flat to chainlink fabric and shall not significantly bulge in high wind.

END OF SECTION
SECTION 02825
CURVES FENCES

PART 1 GENERAL

1.01 SUMMARY
A. Section includes: Fence panels and accessories.

1.02 REFERENCES:
A. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
B. ASTM A82 – Mechanical, Physical and Performance Properties of Carbon Steel Wire
C. ASTM A641 – Zinc-Coated (Galvanized) Carbon Steel Wire
F. RAL – German Institute for Quality Assurance and Indication.

1.03 SUBMITTALS
A. Submittals shall be in accordance with Division 01.
B. Product Data: Submit manufacturer’s product data, standard details, and installation instructions.
C. Shop Drawings: Submit showing sizes critical dimensions, panel layout constraints using a 2 x 2 inch modular grid, and details and locations of accessories.
D. Color Submittals: Submit coupons 2 x 3/12 inches minimum showing color and texture to be provided.

1.04 QUALITY ASSURANCE
A. Manufacturer: Minimum 5 years experience manufacturing and supplying trellis structures of the type required for this project.

1.05 DELIVERY, STORAGE, AND HANDLING
A. Protect materials from damage. Store panels flat. Provide edge protection when strapping is used. Do not apply loads to panel edges.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

2.02 PANELS
A. Panels shall be rigid, three-dimensional welded wire grid fabricated of 14-gage ASTM A641 galvanized steel wire.
B. Face Grid: Wires shall be welded at each intersection to form a 2 x 2 inch face grid on the front and back of panels.
C. Trusses: Face grids shall be separated by bent wire trusses spaced at 2-inch centers and welded to front and back face grids at each truss apex.

D. Thickness: 3 inches.

E. Length and Width: Provide in 2-inch nominal increments.

F. Tolerance: 1/8 inch in width and ¼ inch in length.

2.03 ACCESSORIES

A. Trim:
   1. Fabricate from 20-gage ASTM A879 galvanized steel.
   2. Types:
      a. Channel Trim: Thickness of panel x ½ inch legs.
      b. Angle Trim: ½ inch x ½ inch legs.

B. Clips and Straps: Provide manufacturer’s standard types of clips and straps suitable for mounting conditions. Fabricate from ASTM A879 galvanized steel. Adjustable clips shall have ¼ inch diameter 18-8 stainless steel bolt, washer, and nut.

C. Plastic Spacers: Provide ½ inch thick black Ultra High Molecular Weight polyethylene (UHMW) washers [to hold clips away from mounting surface].

D. Fence Posts: 3-inch diameter ASTM A500 steel tube. Provide steel post caps.

E. Fasteners for Mounting Clips to Fence Posts: Self drilling, self tapping hex washer head screws, Type 410 stainless steel, and free from rust when salt spray tested for 300 hours in accordance with ASTM B117.

F. Fasteners for Attachment to Structure: To Concrete or Masonry: [550 lbs].

2.04 FABRICATION

A. Cut to size.

B. Weld trim to panels and grind smooth exterior surfaces of welds.

C. Curve Panels using either “crimp-to-curve” or “cut-to-curve” technique as recommended by manufacturer for diameter of curve and conditions of use.

2.05 FINISHES

A. Metal components (except fasteners) shall be factory finished after fabrication.

B. Finish System: pretreat with general purpose, alkaline, water based cleaner / degreaser applied at 240 degrees F. prime with zinc-rich epoxy powder coat. Topcoat with polyester or polyester-urethane powder coat.

C. Salt Spray Resistance: Finish shall remain rust free when tested 1680 hours in accordance with ASTM B117.

D. Color: Wrinkle-Textured Green.

E. Touch-Up Paint: Provide high quality, exterior-grade spray paint suitable for conditions of use.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect substrates and conditions affecting work of Section. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION
A. Fence Posts: Install posts as shown on Drawing.

3.03 INSTALLATION

A. Install panels plumb and square, centered within area designated for panels, and aligned to maintain modular grid.
B. Avoid cutting panels in field. Where field cutting is essential, apply touch-up paint to cut edges.
C. Install securely with fasteners located [as shown on Drawings.] [To meet manufacturer’s requirements.]
D. Repair bent or damaged panels. If panels cannot be repaired to satisfaction of Architect, remove from jobsite and replace with new panels.

END OF SECTION
SECTION 02880

PLAY YARD EQUIPMENT

PART 1 GENERAL

1.01 WORK INCLUDED

A. Installation of play yard equipment, structures and accessories.

1.02 RELATED WORK

A. Section 02790: Rubber Tile Play Surface
B. Section 02850: Engineered Wood Fiber Surface.
C. Section 03300: Concrete.

1.03 QUALITY ASSURANCE

A. System: Provide complete system from single manufacturer including all accessories.

1.04 REFERENCES

B. ASTM Technical Performance Standards:

1.05 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Shop Drawings: Indicate plan layout, grid, spacing of components, accessories, and anchorage.

C. Product Data: Submit product literature, including standard details.
PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Landscape Structures, Inc.

B. Substitutions: Refer to Section 01630.

2.02 MATERIALS

A. Single Post Swing: Landscape Structures, model #177332.
   1. Sizes: 12'-0" between post, 8'-0" maximum height of horizontal bar, two swings.
   2. Seats: 1 full bucket model #176038 and 1 belt seat model #174018
   3. Chain: 3/16" straight-link-welded chain with “ProGuard” finish model # 173877.

B. Arch Bridge: Landscape Structures, model #143677.
   1. Railing: Provide guardrail accessory designed for bridge.
   2. Landings: 47" x 47" metal deck at each end of bridge, Landscape Structures, model #111228, with guard rails each side, each landing.
   3. Posts: 5" diameter post by same manufacturer as bridge and landings, provide 8.

3. Storage Box: Lifetime 60012 Deck Box, model #LFT500L.
   1. Size: 60"x 24"x 26 ½", 16.4 cubic feet
   2. Features: Lockable Lid with spring hinges.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Verify field conditions prior to ordering material.

B. Install new equipment per manufacturers instruction and ASTM Standards.

C. Set post in concrete 12” concrete pier to a minumum depth of 18” or a greater depth as required by manufacturer.

END OF SECTION
PART 1: GENERAL INFORMATION

Quality Control, Applicable Testing Certifications and Sustainability

- **IPEMA Certification** – [www.ipema.org](http://www.ipema.org)
  - IPEMA provides a Third Party Certification Service where an independent laboratory provides written validation of a participants’ certification of conformance to certain safety standards for their products.
  - These certifications include ASTM F1292 and ASTM F2075.
  - The Third Party Certification Service has randomly selected and tested some of the products of the participating company.
  - The Third Party Certification Service has performed a plant and/or home office inspection, involving a review of the participants’ Quality Assurance Program, installation instructions, and compliant follow up systems.
  - The list of IPEMA certified products is maintained exclusively by TÜV SÜD America.

- **ASTM F1292**
  - Test results must be for Engineered Wood Fiber and Mats.
    - Test performed on new material.
    - Test performed on 12-year-old Engineered Wood Fiber.
  - Test results for Engineered Wood Fiber must show G-max values of less than 155G for an 8” thick system or 120G for a 12” system with a 12’ drop height, and HIC values less than 1,000 for both new and 12-year-old materials.
  - Test results for Engineered Wood Fiber must show G-max values of less than 200G for a 12” system with a 14’ drop height, and HIC values less than 1,000 for both new and 12-year-old materials.
  - Test results for mats must show G-max values of less than 200G and HIC values of less than 1,000 for a 3’ drop height.

- **ASTM F1951**
  - Must meet the intent of the Americans with Disabilities Act (ADA).

- **ASTM F2075**
  - Material must undergo the test method described in Section 9.0 to determine the presence of tramp metal particles. Metal particles embedded or mixed in
Engineered Wood Fiber may cause injury if a child were to fall on/or come in contact with them. The limit for tramp metal was set to reduce the potential of injury.

- Standard wood chips, bark mulch or materials from recycled pallets will not be acceptable.

**LEED® Credits**

- Products assist in obtaining LEED (Leadership in Energy and Environmental Design) credits for projects.
- Sustainability Analysis performed by a LEED Green Associate.
- Recycled Content, Regional Materials, and Construction Waste Management, along with others, are available for use in LEED project certification.

**PART 2: MATERIAL DATA**

- **Engineered Wood Fiber**
  
  - Shredded wood fiber consisting of randomly sized pieces.
  
  - Recycled wood from used pallets are not acceptable.
  
  - The amount of **Fibar Engineered Wood Fiber** necessary to provide the approximate depth after compaction is as follows:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>38 cubic yards per 1,000 sq. ft. of playground area</td>
</tr>
</tbody>
</table>

- **Drainage System** – Patented under U.S. Patent numbers 4,679,963; 5,026,207 and 5,076,726, and other patents pending.
  
  - **FibarDrain**
    
    - Drainage matrix that channels water away from playground.
    
    - Minimum flow rate of 10 gpm/ft.
    
    - Needle-punched 100% non-woven geotextile sleeve encasing a monofilament nylon mesh.
    
    - Laid out on 6'-0 centers in the direction of the grade.
    
    - Prevents deterioration of Fibar Engineered Wood Fiber.
  
  - **FibarFelt**
    
    - Needle-punched 100% non-woven geotextile fabric that separates the Engineered Wood Fiber from soil below.
    
    - Material allows water to flow through, and prevents rock and soil contamination of the Engineered Wood Fiber.
    
    - Designed to cover the sub-grade and drainage matrix to ensure proper drainage.
    
    - Seams should be overlapped 3”.

- **Accessory Items**
  
  - **FibarMat**
    
    - 3’ x 3’ x 1.5” with beveled edges (ADA compliant) on all sides.
- Placed under each swing seat, tire swing, slide exit, and sliding poles.
- Prevents excessive wear under swings and slides.
- Can be placed on top, in middle or under Engineered Wood Fiber (but over FibarFelt).

  o ADA Wheelchair Access Ramp
    - Crafted from High-Density Polyethylene.
    - Won't fade, splinter or crack.
    - Wide enough for motorized wheelchairs.

PART 3: SITE PREPARATION AND INSTALLATION

- In-Ground Installation (Exiting at Grade Level)
  o Excavate area to proper depth, based on Critical Fall Height.
  o Minimum 1% downward grade to ensure proper drainage to FibarDrain Strip.
  o On grades of greater than 10% - use of FibarSystems is not recommended.
  o Remove all roots, stones, and vegetation.
  o Accurately grade and firmly compact entire area, especially where fill materials have been utilized.
  o Excavate trench 2" wide x 6" deep, perpendicular to grade at lowest point of playground area.
  o Install FibarDrain and connect low end of strip to storm drain or similar device to remove collected water.
  o Install playground equipment.
  o Install retaining border or curb.
  o Install FibarDrain strips at 6' centers in direction of grade.
  o Cover sub-grade and drainage trench with FibarFelt.
    - Allowing 3" overlap at all seams.
    - Slit to fit around footings of equipment.
    - Overlap all slits with either next piece of FibarFelt or scrap piece, to ensure complete coverage.
  o Install FibarMat wear mats either on FibarFelt, in middle of Fibar Engineered Wood Fiber® or on top of system.
  o Permanently mark, with paint or other type of permanent marker, all the legs of the playground equipment with the compacted system design depth.
  o Spread Fibar® EngineeredWood Fiber using a Bobcat, small front-end loader or our Express Blower Trucks.
    - Care should be taken when driving over FibarDrain.
    - Do not make sharp turns on FibarFelt or FibarDrain.
  o Install all materials delivered.
• Additional materials are supplied to account for natural compaction.
• Material may be several inches high, until it compacts.
• Feather edges to make smooth transition to grade or border.
  o Hand spread and rake for smooth, finished surface.
  o After two weeks of active use, surface should be raked again.
  o Consumer Product Safety Commission (CPSC) and ASTM recommends Use Zones of at least 6 feet around all equipment, except:
    ▪ Swings – Use zone equal to 2 times the height of top rail is needed in front and behind swings.
    ▪ Slides – Use zone equal to height of slide plus 4 feet, extending a minimum of 6 feet, in front of slide exits.
  o Complete information on use zones can be found at CPSC and ASTM.

• Manufacturer’s Limited Warranty
  o The Fibar Group, LLC provides a written 25-year warranty against loss of resiliency for the FibarSystem 300.
  o The Fibar Group, LLC provides a written lifetime warranty on the FibarFelt geotextile fabric material.
  o The Fibar Group, LLC provides a written lifetime warranty on the FibarDrain drainage matrix.
  o The Fibar Group, LLC provides a written 3-year warranty on the FibarMat wear mats.

• Product Liability Insurance Certificate with project owner named as certificate holder.
PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Soil preparation.
B. Finish grade subsoil.
C. Final grade topsoil for finish landscaping.

1.02 RELATED SECTIONS

A. Section 02810 - Landscape Irrigation.
B. Section 02950 – Planting and Plant Materials

1.03 SUBMITTALS

A. The contractor shall submit, a minimum of fourteen (14) days prior to installation, 6 copies of manufacturer's literature and analytical data on the following:
   1. Chemicals to be used including pesticides and herbicides
   2. Organic soil amendment.
   3. Bark mulches
   3. Commercial fertilizers.

B. The Contractor shall submit to Owner's Representative written documentation listing quantities, composition, type, origin, and weight of all required amendments and chemicals to be utilized in soil preparation procedures.

C. When requested, Contractor will submit copies of all delivery tags and records to verify ordering quantities, and delivery of specified amendments.

D. Submit two 1-quart size samples each of the proposed bark mulches and organic soil amendment labeled with date, name, source and content.

E. Horticultural Soil testing: Using standard horticultural practices prepare and send up to three soil samples to a certified horticultural soil testing laboratory for recommendations for fertilizers or soil amendment as described in Paragraph 3.05. Provide test results and recommendations to the Owner's Representative 10 days prior to commencing the work.

1.04 PROJECT CONDITIONS

A. Protect existing landscaping and other features remaining as final work.
B. Prior to beginning work, Contractor shall locate all underground utilities in order to avoid possible damage.
C. Protect existing structures, fences, roads, sidewalks, paving, underground utilities and curbs designated to remain. Protect existing trees and shrubs to remain – see notes on the Drawing.
D. Do not use heavy equipment such as trucks, rollers, or bulldozers, which may cause damage to existing facilities. Use hand excavation, as required, in order to minimize the possibility of damage.

E. Maintain grade stakes set by others until removal is agreed upon by all parties concerned.

F. Equip internal combustion motors and compressors with mufflers. Do not leave such equipment running under trees.

G. Repair or replace any existing structures, materials, equipment, sidewalks, or landscaping designated to remain that is damaged during the course of landscape preparatory work, in a manner satisfactory to the Owner’s Representative, at no additional cost to the Owner.

H. Store products in safe areas. Protect from deterioration and damage.

1.05 REGULATIONS AND STANDARDS

A. Code and standards compliance
   1. All work shall be performed under the current State and Federal Occupational Safety and Health Acts.
   2. All State construction safety orders.
   3. Should the contract documents specify materials or construction methods which exceed these regulations, then the contract documents shall take precedence.
   4. All work described in this section shall be performed under the current state laws and regulations.

1.06 SAFETY

A. Safety:
   1. Erect and maintain barricades, guards, warning signs, lights etc. as required for the protection of the public and workers.
   2. Perform work in a safe manner. Follow regulations, OSHA requirements and other authoritative agency requirements.
   3. Prior to commencement of work, verify locations of existing underground utilities so that proper precautions may be taken to not damage such improvements.

B. Maintaining Traffic:

Ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project. Provide warning signs, barricades, flagmen, etc. necessary to meet traffic requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil Strippings: Organic topsoil resulting from original clearing and stripping. Stockpile and reuse as topsoil in future landscape areas. Amend strippings following redistribution of topsoil. Remove excess site strippings off site.
B. Import Topsoil only to achieve finish grade: Topsoil shall be friable sandy loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5. Topsoil shall also be free from toxic amounts of acid or alkaline chemicals and shall be capable of sustaining plant life. Prior to importing topsoil provide two 1-quart labeled samples, a horticultural soil test, with results and recommendations, for Owner’s Representative review and approval. No topsoil shall be imported to site until the Owner’s Representative has reviewed and approved horticultural soils report.

C. Imported Top Soil: Sandy loam or loamy sand, with characteristics as follows:
   1. Chemistry:
      a. Salinity: Saturation Extract Conductivity (ECe less than 3 mmhos at 25 degrees C).
      b. Sodium: Sodium Absorption Ration (SAR) Less than 6.0 ppm.
      c. Boron: Saturation Extract Concentration Less than 1.0 ppm.
      d. Reaction: pH of Saturation Paste: 5.5 - 7.5.
   2. Physical Properties: Meeting USDA Classification of fraction passing 2.0 mm sieve:

<table>
<thead>
<tr>
<th>Class*</th>
<th>Particle Size Range</th>
<th>Max.%</th>
<th>Min.%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Sand</td>
<td>0.5 - 2.0 mm</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Silt Plus Clay</td>
<td>&lt;0.05 mm</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 13 mm</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Rock</td>
<td>1/2 - 1 inch</td>
<td>10 percent by volume with none &gt;1 inch</td>
<td></td>
</tr>
<tr>
<td>Organic</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

   *If native subgrade texture is within specified limits, the import topsoil texture should be as similar as practical to that material.

   4. Fertility Considerations: Sufficient quantities of available nitrogen, phosphorus, potassium, calcium and magnesium to support normal planted growth. In the event of inadequacies as indicated by soil test Contractor shall incorporate necessary amendments to satisfy requirements.

2.02 SOIL AMENDMENT

A. No amendment shall be delivered to the site without prior approval of submittals by Owner’s Representative.

B. Source: Fir sawdust, Fir bark, pine bark, cedar sawdust, redwood sawdust, or hardwood bark. Amendment shall be free of weed seed, dust or other noxious material.

C. Nitrogen content dry weight basis where required:
   1. Fir or cedar sawdust: Minimum 0.56-0.84 percent.
   2. Fir or pine bark: Minimum 0.56-0.84 percent.
   3. Redwood sawdust: Minimum 0.4-0.6 percent.
4. Hardwood Bark: Minimum 0.8-1.2 percent.

D. Dry bulk density lbs/cu yd:
1. Redwood sawdust: 270 - 370.
2. Fir or cedar sawdust: 270 - 370.
3. Fir or Pine bark: 450 - 580.

E. Wood residual soil amendment physical properties, typically described as 0 x 1/2 inch product:

<table>
<thead>
<tr>
<th>Percent Passing</th>
<th>Sieve Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>9.51 mm</td>
</tr>
<tr>
<td>95-100</td>
<td>6.35 mm</td>
</tr>
<tr>
<td>90-100</td>
<td>4.76 mm</td>
</tr>
<tr>
<td>75-100</td>
<td>2.38 mm</td>
</tr>
<tr>
<td>45-70</td>
<td>1.00 mm</td>
</tr>
<tr>
<td>0-30</td>
<td>500 micron</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;</td>
</tr>
<tr>
<td></td>
<td>1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>No. 4</td>
</tr>
<tr>
<td></td>
<td>No. 8</td>
</tr>
<tr>
<td></td>
<td>No. 18</td>
</tr>
<tr>
<td></td>
<td>No. 35</td>
</tr>
<tr>
<td></td>
<td>6.37&quot;</td>
</tr>
<tr>
<td></td>
<td>4 mesh</td>
</tr>
<tr>
<td></td>
<td>8 mesh</td>
</tr>
<tr>
<td></td>
<td>16 mesh</td>
</tr>
<tr>
<td></td>
<td>32 mesh</td>
</tr>
</tbody>
</table>

F. Iron content: Minimum 0.08 percent dilute acid soluble iron based on dry weight if specified or claimed as iron treated.

G. Salinity (ECe): Maximum 3.0 mmhos/cm at 25 degrees C. (Saturation extract conductivity.)

H. Organic content: 92 percent of dry weight by ash method.

I. Reaction (pH): Minimum 4.0; maximum 7.5.

2.03 CHEMICAL ADDITIVES

A. Commercial Fertilizer shall be commercially processed fertilizer. Said fertilizer shall comply and conform to applicable requirements of agricultural laws and regulations for the State of California.
   a. Granular Fertilizer to be: A quality manufactured fertilizer
   b. Pelletized fertilizer to be: Osmocote or equal
   c. Tablet fertilizer to be: Osmocote or equal

B. Fertilizer type or amount may be adjusted by the Owner’s Representative based on Horticultural Soils Test.

C. Soil sulfur shall be a 99% elemental sulfur agricultural grade product.

D. Iron Sulfate: Agricultural grade product.

2.04 MULCHES: See Section 02950 – Planting and Plant Materials

2.04 ACCESSORIES

A. Weed Control: Pre-emergent herbicide will be allowed upon approval of the Owner’s Representative and submittal of recommendation by a licensed pest control advisor.
PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify site conditions and note irregularities affecting Work of this Section. Inform the Owner’s Representative of any discrepancies between plans and specifications, and existing conditions.

B. Beginning of Work means acceptance of existing conditions.

3.02 ROUGH GRADING AND CULTIVATING

A. Protect existing trees and shrubs to remain.

B. Remove or redistribute excess soil before the application of fertilizer and organic amendments. Rough grades are acceptable within (0.1\') one tenth of a foot from finish grades shown on the drawings.

B. Planting areas: Allow for ten percent settlement of berms and fill areas.

C. Drainage: Provide surface drainage of planted area. Correct drainage conditions which may be detrimental to the growth of plant material or which will result in retention of water in tree pits. Minimum slope in landscape areas is two percent (2\%). Slope away from buildings.

D. Prior to proceeding with work: Contractor shall check rough graded areas and verify all dimensions. Contractor shall immediately inform Owner's Representative of any discrepancy between field conditions and contract documents. No work shall be performed in areas of discrepancy until authorization has been given by Owner's Representation.

3.03 SUBSOIL PREPARATION

A. Eliminate uneven areas and low spots. Cleanly cut roots over 1 inch in diameter, do not tear roots.

B. Scarify and rip subgrade to a minimum depth of 8 inches. Scarify and rip in areas where equipment used for hauling has compacted subsoil. Following scarification and ripping, till all planting areas to breakdown clods. Sub soil shall be free from clods and rock debris larger than 1 inches in nominal diameter.

C. Weeding and Clearing: Remove weeds and debris from areas to be landscaped and dispose of off-site. In all planting areas remove rocks, pavement, concrete, debris, noxious, and unwanted material over 1 inch in size diameter, from the site.

D. Moisture Content: Do not work soil when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form in air, or clods will not break readily. Apply water as required to provide ideal moisture content for tilling.

3.04 PLACING IMPORT TOPSOIL (if required to achieve finish grade)

A. Scarify existing soil as described in 3.03 above.

B. Place imported topsoil in all planting areas to a depth of six inches with a relative compaction of 80% maximum relative compaction by Test Method No. California 216.

C. Use topsoil in relatively dry state. Place during dry weather.
D. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.

E. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.

F. Manually spread topsoil around existing trees, plants, and structures to prevent damage. Do not spread soil or raise finish grades at the roots, stems or trunks of existing plants to remain.

G. Lightly compact placed topsoil.

H. Remove surplus subsoil and topsoil from site.

I. Leave stockpile area and site clean and raked, ready to receive plant material.

### 3.05 AMENDMENTS

A. After completion of the initial tilling and ripping process, and establishment of rough landscape grades, submit 3-1 quart samples of soil from various landscape areas to a horticultural soils laboratory such as Soil & Plant Lab., Santa Clara, CA for purposes of determining horticultural suitability and recommendations for improvements. Provide test results and recommendations to the Owner’s Representative 10 days prior to commencing the work.

B. Adjust amendments as directed by the Owner’s Representative.

C. Uniformly spread and incorporate specified amendments as described in the test results.

D. Fertilizer

   A. Turf Areas: Granular and pelletized fertilizer
      a. Apply in accordance with manufacturer’s instructions.
      b. Mix thoroughly into upper six (6) inches of topsoil.
      c. Lightly water to aid the dissipation of fertilizer.

   B. Shrub and Tree Areas: Slow release fertilizer tablets
      a. Apply in accordance with manufacturer’s instructions.
      b. Place in planting holes within the specified backfill, not touching the rootball
      c. 1 gallon size plants: 1 tablet
      d. 5 gallon size plants: 2 tablets- place on opposite sides of plant
      e. 15 gallon size trees: 3 tablets- place symmetrically around root ball.

C. Bid Amounts
   1. For purposes of pricing bid the following amendments:

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity/1,000 sq ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen and Iron fortified Organic Amendment (Fir Bark)</td>
<td>5 cubic yards</td>
</tr>
<tr>
<td>Potassium Sulfate (0-0-50)</td>
<td>5 lbs.</td>
</tr>
<tr>
<td>Commercial Pellatized Fertilizer (16-20-20)</td>
<td>15 lbs.</td>
</tr>
<tr>
<td>Fertilizer Tablets</td>
<td>1 per 1 gallon size plant</td>
</tr>
<tr>
<td></td>
<td>2 per 5 gallon size plant</td>
</tr>
</tbody>
</table>
2. If the amendment has not been iron fortified, then 10 pounds iron sulfate shall be added per 1,000 s.f. Apply iron sulfate cautiously, avoiding contact with fresh concrete. Contractor will be responsible to replace any concrete paving stained.

3. If sawdust is used instead of high density Fir bark amendment, then the application rate shall be 7 cubic yards.

D. Specified amendments and rates shall meet those recommended by the testing laboratory.

E. Apply sufficient water to completely moisten the area to a depth of 12 inches after amendments are worked into the soil. Leave areas undisturbed for a period of not less than 10 days. Water as frequently as necessary to keep the areas moist during the 10 day period.

F. Weed the area after the 10 day period has expired and the soil has dried sufficiently to permit work without excessive compaction. Restore surface to finish grade. Chemical weed control will be permitted, but such applications shall be performed in accordance with state laws and Peralta Community College District regulations.

G. Following completion of amendment incorporation, 3 - 1 quart samples of amended topsoil shall be tested for compliance with previous soil test results by an approved horticultural soil testing lab. Additional amendments will be supplied and incorporated by contractor (at no additional expense to owner) as noted in test results.

3.06 FINISH GRADING

A. Conform to grades shown on grading and planting plan, after soil preparation and settlement. Depressed and bumped surfaces will not be accepted.

B. Finish grade ground cover areas to be 1-1/2 inch below curb and pavement within one foot of edge of paving. Finish grade turf to be 1/2 inch below curbs and walks within one foot of edge of paving.

C. Notify Owner’s Representative three days prior to completion of finish grades for review before any planting begins.

D. Finish each area to a neat and uniform appearance. Slope surfaces evenly and ensure good drainage with no abrupt change of surface.

E. Make minor adjustments of finish grades, if required, at the direction of Owner’s Representative.

3.07 TOLERANCES

A. Top of Topsoil: Plus or minus 1/2 inch.

B. Provide 2 percent minimum slope in planting areas, draining away from buildings. Lawn slopes shall not exceed a 4 horizontal to 1 vertical slope.

3.08 DRAINAGE

A. All grades shall provide for natural runoff of water without low spots or pockets.

B. Correct drainage conditions which may be detrimental to the growth of plant material or which result in retention of water in tree pits for more than 24 hours.
C. See Section 02950 PLANTING AND PLANT MATERIALS for testing and correction of drainage in plant pits.

END OF SECTION
SECTION 02950

PLANTING AND PLANT MATERIALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Planting of trees, plants, and ground cover.
B. Topsoil bedding amendment.
C. Mulches.
D. Maintenance.

1.02 RELATED SECTIONS

A. Section 02810 - Landscape Irrigation.
B. Section 02923 - Landscape Grading and Soil Preparation:

1.03 REFERENCES

B. ANSI Z60.1 - Nursery Stock.
C. FS O-F-241 - Fertilizers, Mixed, Commercial.
D. Standardized Plant Names, second edition.

1.04 SUBMITTALS

A. Certification of grass seed from seed vendor for each grass-seed mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

1. Certification of each seed mixture for sod, identifying sod source, including name and telephone number of supplier.

1.05 MAINTENANCE PLAN

A. Submit under provisions of Section 1 and per the Peralta Community College District requirements.

C. Maintenance Information: Include: Pathway cleaning, watering year-round, weeding, cutting and trimming method and minimum distances of 18 inches to buildings, removal of rodent habitat and attractants such as fruit; fertilizer and amendment types, application frequency, and recommended amounts; maintaining irrigation and other guidelines..
1.06 QUALITY ASSURANCE

A. The Owner’s Representative reserves the right to take and test materials for conformity to specifications. Contractor will furnish samples upon request. Cost of testing non-conforming material shall be paid by Contractor.

B. Provide inspection and testing for verifying acceptability and robustness of plants.

C. Minimum quality of plant material shall conform to American Association of Nurserymen specifications, current edition.

1.07 INSPECTIONS

A. Notify the Owner’s Representative 5 days prior to proceeding with the following work to allow for review:
   1. Plant material layout on site (including preliminary finish grade).
   2. Substantial Completion.
   3. Final Review prior to Owner acceptance. Failure to request this notice shall automatically postpone the date of completion and continue the maintenance period until final completion is approved.

B. The Owner's Representative reserves the right to inspect plant material for size and condition of root structure for injuries, root girdling, root bound condition and other latent defects which may impede development of plant material. The Owner’s Representative may request the washing of soil from the root ball of selected plant material for visual inspection of root structure. Plant material that has been washed or rejected shall be removed from the site immediately.

C. Plant Material Layout: Contractor shall schedule plant layout such that Owner’s Representative can visually inspect layout of plant material as well as size, orientation and quality in one single trip to site.

D. Planting: No plant material shall be planted (including replacement of rejected material) until the Owner’s Representative has approved its quality and placement. Plant material planted without approval of Owner’s Representative shall, if required, be removed, relocated and replanted at Contractor's expense.

E. Soil Preparation: No plant material shall be planted until in conformance with soil preparation procedures in Section 02923 has been verified.

1.08 QUALIFICATIONS

A. Nursery: Company specializing in growing and cultivating the plants with five years documented experience.

B. Installer: Company specializing in installing and planting the plants with five years documented experience.

1.09 REGULATORY REQUIREMENTS

A. Comply with all Federal, State, County and Peralta Community College District regulations governing landscape materials and fertilizer and herbicide composition.

B. Plant Materials: Certified by State Department of Agriculture; free of disease or hazardous insects.
C. Provide certificate of compliance from authority having jurisdiction indicating approval of plants supplied.

D. Provide certificates of inspection as required by law for transportation of plant material.

E. Inspection of plant material by Federal and State Agencies does not preclude rejection of plants at project site.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Division 1.

B. Protect plants until planted.

C. Deliver plant material immediately prior to placement. Keep plants moist.

D. Reject plants when ball of soil surrounding roots has been cracked or broken prior to or during process of planting.

E. Provide list of suppliers for all plant materials including location, nursery, phone and contact person.

F. Contractor shall submit to the Owner’s Representative a copy of the purchase order for all plant material within 10 days after receipt of notification of award of contract. Purchase order shall show plant quantities, person ordering, delivery date, and person receiving order. Failure to provide evidence of purchase order for trees shall extend plant establishment and maintenance period by the number of days which have lapsed without receipt of purchase order.

G. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

H. Sod: Harvest, deliver, store, and handle sod according to the requirements of the Turfgrass Producers International “Guideline Specifications to Turfgrass Sodding, 2006” www.turfgrasssod.org.

1.11 SUBSTITUTIONS

A. Substitutions will be acceptable only if specified plant material is determined to be unavailable or if quality of available stock is shown to be unacceptable. Contractor wishing to substitute plants for those specified, shall submit a list of proposed substitutions to Owner’s Representative a maximum of thirty (30) days from notice of award of contract.

1.12 ENVIRONMENTAL REQUIREMENTS

A. Do not install plant material when ambient temperatures may drop below 35 degrees F or above 90 degrees.

B. Do not install plants when wind velocity exceeds 30 mph.

1.13 COORDINATION

A. Coordinate with installation of utilities, and landscape irrigation system piping.

1.14 WARRANTY
A. Provide one year warranty on all trees and shrubs from date of Final Acceptance.

B. Replace dead or unhealthy plants within one month of identifying those plants as dead or unhealthy.

C. Replacements: Plants of same size and species as specified will be used with a new warranty commencing on date of replacement at no additional cost to the Owner.

1.15 MAINTENANCE

A. Maintenance period: Maintain plant life for 90 days after date of Final Acceptance.

B. See Paragraphs 3.08 “MAINTENANCE PRIOR TO FINAL ACCEPTANCE” and 3.12 “PLANT ESTABLISHMENT AND MAINTENANCE PERIOD”.

1.16 GENERAL REQUIREMENTS

A. Personnel: All operations associated with this specification section shall be performed by personnel familiar with proper landscape procedures. All work shall be supervised by an experienced planting foreman who shall be on-site whenever work of this section is performed.

B. The landscape irrigation system shall be installed complete, functional and approved by Owner's Representative prior to beginning work of this section.

C. Prior to beginning work of this section, identify and locate all underground utilities and take precautions so as to not damage or disrupt service. If conflicts arise between existing utilities and proposed work notify Owner's Representative. Proceed in the same manner if other obstacles such as rock are encountered. Owner's Representative will outline a course of action to resolve the conflict. Where possible remove underground obstacle. Only relocate placement of plant material under the direction of the Owner's Representative in order to avoid obstacles. Contractor shall be responsible for the repair of any damaged utilities caused by his negligence in performing work of this specification section.

D. Water Service: Water shall be provided by Owner. Prior to shutting off existing water service, obtain permission of Owner. Keep disruptions of existing water service to a minimum.

E. Protection of Existing/Adjacent Site Work:
   1. Any damage resulting from work of the Contractor to existing/adjacent site work; including plant material shall be repaired, or in the case of plant material, replaced by Contractor at no additional cost to the Owner.
   2. Tree roots over one (1) inch in diameter, cut cleanly, do not tear existing roots. Do not allow exposed roots to dry out.

1.17 SAFETY

A. Safety:
   1. Erect and maintain barricades, guards, warning signs, lights etc. as required for the protection of the public and workers.
   2. Perform work in a safe manner. Follow regulations, OSHA requirements and other authoritative agency requirements.
   3. Prior to commencement of work, verify locations of existing underground utilities.
so that proper precautions may be taken to not damage such improvements.

B. Maintaining Traffic:

Ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project. Provide warning signs, barricades, flagmen, etc. necessary to meet traffic requirements.

C. See Drawings for protection of existing trees and shrubs to remain

PART 2 - PRODUCTS

2.01 TREES, PLANTS, TURF AND GROUND COVER

A. Trees, Plants and Ground Cover: Species and size shall be as identified in the Plant List on the Drawings. They shall be grown in climatic conditions similar to those in locality of the Work and shall be labeled with their full botanical name in accordance with references listed in Part 1 above. Provide no less than 1 label for every 10 plants of a species except trees. Every tree shall have the nursery label that includes the ‘Variety’ if named in the Plant List. Plant material shall be nursery grown in keeping with good horticultural practices.

I. Turf from sod: Provide high quality freshly harvested sod according to the requirements of the Turfgrass Producers International “Guideline Specifications to Turfgrass Sodding, 2006” www.turfgrasssod.org. Keep moist and protect sod until planted.

C. Trees: Straight trunks of uniform taper, with central leader intact, larger at the bottom, free of damaged bark with minor abrasions and cuts showing healing tissue. Trees unable to stand upright without support shall be rejected. All trees shall be standards and matched unless multiple trunk specimens are specified.

1. Caliper size for trees shall be as follows:
   a. For all trees measurement shall be 4 feet above natural soil line on tree.
   b. 15 Gal. tree - 1 inch minimum diameter; 24 inch box - 1-1/2 inches minimum diameter; 36 inch box - 2-1/2inches.

D. Remove sucker basal growth and sucker lateral growth from tree trunks and treat to eliminate re-sprouting. Allow normal lower side branching to remain. Trees having multiple leaders shall be rejected, unless otherwise specified.

E. Root Systems:
   1. Trees and shrubs: Container-grown for at least 6 months prior to planting. Reject plants with root bound conditions.
   2. Groundcover from rooted cuttings: Groundcover from rooted cuttings shall be 2 inches to 3 inches in height; measured from planted soil level. Groundcover shall have a full, healthy, viable, well established root structure. Groundcover sampled at site that does not meet these requirements will be rejected. Remedial action based on rejection will be to replant all deficient groundcover areas with appropriate material.

F. Health: Vigorous foliage, roots, and stems with normal habit of growth for each species; free of diseases, insect stages, burns, dead branches and branch tips, or disfiguring characteristics.

G. Nomenclature: Plant names used on drawings conform to Standardized Plant Names, by the Joint Committee on Horticultural Nomenclature. Names of varieties not included are generally accepted in the nursery trade.
2.02 BACKFILL AND SOIL AMENDMENT: See Section 02921

2.03 ACCESSORIES

A. Mulch: Redwood or Douglas Fir species; 98 percent bark with less than 2 percent wood, free of growth or germination inhibiting ingredients, nitrogen stabilized.

B. Stakes: Wooden, 2 inch diameter for 15 gallon trees and 3 inches diameter for 24 inch box trees, untreated.

C. Ties shall be recycled rubber tire ties or as approved.

D. Landscape Headers: Redwood or recycled plastic, 2” x $’ nominal size.

2.04 FERTILIZERS, CHEMICALS, AND AMENDMENTS: See Section 02923 Landscape Grading and Soil Preparation

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that prepared subsoil is ready to receive work.

B. Verify that the areas shown on the planting plans closely approximate the areas to be planted.

C. Verify that required the irrigation system is available, in proper location, and ready for use.

D. Beginning of installation means acceptance of existing site conditions.

3.02 PREPARATION

A. Layout plants for review and final orientation by Owner’s Representative prior to installation.

B. Excavate for plants. Dig circular plant pits Scarify pit walls and loosen subsoil at bottom of pits.

3.03 FERTILIZING See Section 02923 Landscape Grading and Soil Preparation

3.04 PLANTING

A. Plants shall be protected from drying conditions. Store plants in shade; water thoroughly.

B. Notify the Owner’s Representative to obtain plant material approval prior to planting. Remove defective plants installed without approval, upon request of the Owner’s Representative and install an acceptable replacement.

C. Plant pits shall be as detailed.

D. Place plants for best appearance for review and final orientation by Owner’s Representative.

E. Set plants vertically. The top of the rootball shall be set one-half inch above the finish grade of the planting area.

F. Remove and recycle non-biodegradable plant containers. Carefully remove plants from containers. Do not use ax, mattock, shovel, pick or similar instrument to break cans.
G. Scarify sides of plant rootball.

H. Set plants in pits or beds, partly filled with prepared amended backfill mixture as detailed in the Drawings.

I. See Section 02923 for backfill soil preparation.

J. NOT USED

K. Tree pit drainage test: Saturate soil with water when the pit or bed is half full of top soil and again when full. Contractor shall notify Owner's Representative if subsoil conditions prevent water from draining in a twenty-four (24) hour period. Contractor shall submit proposals to correct drainage problem prior to proceeding with work. Planting shall not proceed until drainage problem has been resolved to the satisfaction of the Owner's Representative.

L. Tamp backfill firm and construct plant berm as necessary to water plants. Basin bottoms shall drain to berm, away from plant stem.

M. Remove plant berms from plants within an automatic irrigation system prior to final inspection and finish grade the area.

N. Soil augers are not approved for use in preparing plant pits.

3.05 PLANT STAKING

A. Stake trees immediately after planting. Trunks shall be vertical.

B. Stakes shall be aligned with prevailing site winds. Stakes shall be placed outside rootball, as near trunk as possible, a minimum of 18 inches deep, and plumb. All double stakes shall have same height.

C. Using approved tree ties, attach tree to stakes. Cut off stake 6 inches above upper tie and 4 inches below lowest permanent branches. Ties shall be loose to allow 4 inches of trunk movement in all directions.

3.06 TURF, GROUNDCOVER & VINES

A. Groundcover and vine plants shall be planted in a triangular pattern or as noted on drawings. Spacings indicated on plans are maximums.

B. Water thoroughly after planting. Install mulch immediately after watering.

C. Turf from sod: Plant sod according to the requirements of the Turfgrass Producers International "Guideline Specifications to Turfgrass Sodding, 2006" www.turfgrasssod.org.

3.07 FIELD QUALITY CONTROL

A. The Owner's Representative reserves the right to visit the job site and inspect plant material and planting procedures at any time.

B. Plants will be rejected if a ball of earth surrounding roots has been disturbed or damaged prior to or during planting.

3.08 MAINTENANCE PRIOR TO FINAL ACCEPTANCE
A. Contractor shall maintain all plants and planted areas immediately following planting through to Final Acceptance. This maintenance time does not count towards "Maintenance Period", Section 3.12.

B. Neatly prune plants where necessary. Prune only according to standard horticultural practices. Maintain the natural character of plant material. Do not prune without the specific approval of the Owner’s Representative. Plants pruned without approval shall be replaced, if required.

C. Immediately remove clippings after trimming.

D. Water to prevent soil from drying out. Do not over-water.

E. Use soil probes to determine moisture content at different depths.

F. Control growth of weeds. Apply herbicides and pesticides in accordance with manufacturer's instructions. State and Peralta Community College District regulations. Remedy damage resulting from improper use of these chemicals.

G. Fertilize on a regular and as needed basis to maintain healthy growth. Should the need for fertilizer or formula be in question, soil samples shall be taken from locations specified by Owner’s Representative. Samples shall be analyzed by a licensed soil testing lab. The recommendations from the lab shall be implemented.

H. Utilize common and accepted horticultural maintenance practices and procedures.

I. **TURF MAINTENANCE**

   1. Begin maintenance of turf immediately after each area is planted and continue until acceptable lawn is established, but for not less than the Maintenance Period.

   2. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.

   3. Watering: Keep turf soils uniformly moist to a depth of 4 inches (100 mm). Water turf at the minimum rate of 1 inch (25 mm) per week.

   4. Mow turf as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height without cutting more than 40 percent of the turf height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until turf blades bend over and become matted. Do not mow when turf is wet.

   5. Fertilization: Apply fertilizer to lawn after first mowing and when turf blades are dry.

3.10 **CLEAN-UP**

A. Upon completion of daily operations, remove trash, excess soil, and other debris. Sweep walks, walls, and pavement and wash clean, leaving the entire area in a neat, orderly condition.

B. Plants showing signs of deficiency shall be immediately removed and replaced with viable plants in good condition of the same species and cultivar.
3.11 PROTECTION

A. Maintain plant material in a healthy growing condition prior to and during planting operations.

B. Contractor shall be responsible for vandalism, theft, and damage to plant material until commencement of the Plant Establishment and Maintenance period.

C. Protect planting areas including turf areas with temporary fencing.

3.12 FINAL REVIEW PRIOR TO ACCEPTANCE

A. Prior to end of planting maintenance period and before beginning of Plant Establishment Maintenance Period, a pre-maintenance inspection will be conducted.

B. Request for this inspection shall be by the Contractor to Owner's Representative 7 days prior to beginning of Plant Establishment Period.

A. Contractor and Owner's Representative shall be present for walk through.

B. The Owner's Representative shall determine conformance with contract documents and whether or not plant material is in satisfactory growing condition. If landscape is determined to be in satisfactory condition, Owner's Representative will issue written Notice of Acceptance and the commencement of Plant Establishment and Maintenance Period.

3.12 PLANT ESTABLISHMENT AND MAINTENANCE PERIOD

A. All landscape areas shall be neatly kept and weed-free for inspection.

B. The Contractor shall provide maintenance of all plants and planting areas from date of Owner's written acceptance of planting portion of work and extending for a period of ninety (90) days. If, in the opinion of the Owner's Representative the landscape is not in presentable condition or in a healthy viable state, then Notice of Acceptance and termination of plant establishment period will be deferred for a minimum ten working day period, or until such time as the Owner's Representative determines the landscape to be acceptable. The Owner's Representative will prepare a "punch list" of deficient items. The Contractor shall continue maintenance for the extended ten working day period at no cost to Owner. During the ten working day extension, the deficient items from the "punch list" shall be resolved. Following completion of the "punch list", Contractor shall request another walk through. Extensions of maintenance period will continue until such time as the landscape or deficient elements is/are in an acceptable condition.

C. During Plant Establishment and Maintenance Period, Contractor shall maintain plant material and planting areas as outlined in Section 3.08.

D. The Contractor shall request a final review five working days prior to the end of the Plant Establishment and Maintenance Period of the landscape by Owner's Representative. If in the opinion of the Owner's Representative, the landscape is found to be acceptable, then a recommendation will be made to the Owner for acceptance of landscape. Remove all temporary fencing.

END OF SECTION
PART 1 - GENERAL

1.01 SECTION INCLUDES
A. Cast-in-place paving, slabs, and patching.
B. Reinforcing and accessories.
C. Aggregate base.

1.02 RELATED SECTIONS
C. Section 02500 – Asphalt Paving: Adjacent asphalt paving.

1.03 REFERENCES
A. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
B. ACI 315 - Details and Detailing of Concrete Reinforcement.
C. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
D. ASTM C31 - Making and Curing Concrete Test Specimens in the Field.
E. ASTM C33 - Concrete Aggregates.
F. ASTM C39 - Compressive Strength of Cylindrical Concrete Specimens.
G. ASTM C94 - Ready-Mixed Concrete.
H. ASTM C143 - Slump of Portland Cement Concrete.
I. ASTM C150 - Portland Cement.

1.04 SUBMITTALS
A. Submit under provisions of Division 01.
B. Mix Designs: Submit certified copies for concrete class specified; include test reports.
C. Manufacturer's Reports:
   1. Submit certified mill test reports (tensile and bending) for each heat or melt of steel prior to delivery of material to job site.
2. Deliver transit mix delivery slip with each load of concrete certifying the quantity of cement, water, fine aggregate coarse aggregate and admixtures in the load and the departure time from the plant.

1.05 QUALITY ASSURANCE

A. Construct concrete formwork in accordance with ACI 347.

B. Reinforcing steel shall conform to ACI 301 and ACI 315. Place reinforcing steel in accordance with CRSI 63, 65 and Manual of Standard Practice.

C. Obtain cementitious materials from same source throughout.

D. Reinforcing steel is to be tested in accordance with ASTM A615. Such material, as required shall be furnished free of charge by the Contractor.

E. Mill affidavits stating physical and chemical properties of the reinforcing steel shall be submitted to the Architect and testing laboratory before installing the reinforcing steel.

1.06 REGULATORY REQUIREMENTS

A. Concrete work shall conform to Current UBC Chapter 19 and Current California Amendments Chapter 19A.

B. Concrete curing compounds and form release agents shall comply with VOC (Volatile Organic Compounds) regulations of the Bay Area Air Quality Management District and California Air Resources Board.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site, store and protect under provisions of Section 01600.

B. Store reinforcing steel in a manner to prevent damage, excessive rusting, and fouling with dirt, grease and other bond-breaking coatings.

C. Store and protect, from freezing and damage.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

A. Forms: Wood or steel, profiled to suit conditions.

B. Keyed Joint Forms: Minimum 26 gauge galvanized steel; 3-1/2 inch size; removable cap; provided with splice plates, stakes, and driving buttons; Burke Keyed Kold Joint, or equal product substituted under provisions of Section 01630.


D. Anchorages: Nails, spikes, lag bolts, and through bolts of strength and character to maintain formwork in place while concrete is placed; sized as required.

2.02 REINFORCEMENT
A. Reinforcing bars - new billet steel, ASTM A615 Grade 60 for No. 5 bars and larger, Grade 40 for No. 4 and smaller. Welded wire fabric if required shall conform to ASTM A185.

B. Tie Wire: Minimum 16 gauge; annealed; black.

C. Accessories: CRSI 63; metal or plastic spacers, supports ties, as required for spacing, assembling, and supporting reinforcing.

2.03 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Type II, natural color.

B. Aggregate: ASTM C33.
   1. Coarse Aggregate: Normal weight; 3/4 inch maximum size; clean, uncoated, crushed aggregate, free of materials which cause staining or rust spots.
   2. Fine Aggregate: Clean, natural sand.

C. Water: Clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious material.


2.04 ACCESSORIES

A. Non-Shrink Grout: Packaged product; minimum 6000 psi; Burke # (324) 57-100, or equal product substituted under provisions of Section 01630.

B. Concrete Curing Compound: Conforming to ASTM C309 Type 1, Class A or B, and Standard Specifications Section 90-07; non-yellowing, non-staining liquid membrane forming type; VOC compliant.

C. Form Release Agent: Non-staining chemical form release agent free of oils, waxes, and other material harmful to concrete; VOC compliant.

D. Joint Sealer: Single component polyurethane sealant complying with FS TT-S-00230C, Type I, Class A and ASTM C920; shore A hardness of 25 to 35; ChemRex, Inc. Sonneborn "Sonolastic" SL1, or equal product substituted under provisions of Section 01630.

E. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer.

2.05 CONCRETE MIXES

A. Proportion concrete materials in accordance with CBC State Chapter 19, Section 1905(a). Designed mixes (Method B) and pretested mixes (Method C) shall be prepared under the supervision of a registered civil engineer and shall bear the stamp and signature of that engineer.
   1. No concrete shall be poured until mix designs and test reports have been submitted, reviewed, and accepted by the Architect and the District's testing laboratory.
2. No substitutions shall be allowed in the materials used without additional test reports as specified herein and showing that the quality of the concrete satisfactory.

B. Mix and proportion to produce concrete with the following characteristics:

1. Slabs: Slump of 2 inches minimum and 4 inches maximum per ASTM C143; air entrainment of 4 percent minimum and 6 percent maximum; minimum compressive strength of 3,000 psi at 28 days.

C. Do not use calcium chloride.

2.06 FABRICATION OF REINFORCEMENT

A. Shop fabricate reinforcement in accordance with details on Drawings. Where specific details are not shown or noted fabricate in conformance with ACI 315 and CRSI.

B. Clean bars of loose rust, loose mill scale, and substances which may decrease bond.

C. Bend bars cold and accurately to detail.

2.07 SOURCE QUALITY CONTROL

A. Owner's testing laboratory will review mill tests for reinforcing steel, concrete mix designs, and delivery slips.

B. The owners testing laboratory will sample and test cement and aggregate as required by the Office of the State Architect.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that subgrade gradients and elevations are complete.

B. Verify that subgrade is compacted to minimum 90 percent compaction and ready to receive base.

C. Beginning of installation means acceptance of subgrade conditions.

3.02 FORMING

A. Place and secure forms to correct location, dimension, and profile.

B. Construct matched, tight fitting forms which are adequately stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of concrete.

C. Form vertical surfaces to full depth and securely position to required lines and levels. Extend edge forms for exposed edges of slabs to minimum 6 inches below finished grade.

D. Arrange and assemble formwork to permit easy dismantling and stripping and to prevent damage to concrete during formwork removal.

E. Maintain the following alignment tolerances:
1. Top of Form: Maximum 1/8 inch in 10 feet.
2. Vertical Face: Maximum 1/4 inch in 10 feet.

F. Coat form surfaces in contact with concrete with form release agent.

3.03 PLACING REINFORCING STEEL

A. Bars shall be continuous, straight, level and plumb. All splices that may be required in steel reinforcing bars shall be located only as shown on the drawings. Splices in wire fabric shall be at least 1-mesh wide. Steel reinforcement, at the time concrete is placed, shall be free of rust, scale, loose mill scale, oil, paint or any coating that will destroy or reduce the bond between steel and concrete.

B. Place reinforcing steel and threaded rods in accordance with the Drawings. Install reinforcement accurately and secure against movement, particularly under the weight of workers and the placement of concrete.

C. Locate reinforcement accurately in the forms and hold in place by supports adequate to prevent displacement and to maintain reinforcement at proper distances from form face. Place supports in accordance with CRSI 63. Do not use wood supports and spacers inside the forms.

D. Drill existing concrete slabs and aprons to embed reinforcing steel and threaded rods. Remove dust and debris as required by non-shrink grout manufacturer. Mix and apply non-shrink grout in accordance with manufacturers instructions. Set reinforcing steel and threaded rods in non-shrink grout.

E. Bending of bars around openings and sleeves is not permitted. Where conduits, piping, inserts, sleeves, and other embedded items interfere with placing reinforcing steel, propose method of avoiding conflict and obtain Architect authorization to proceed with proposed method before concrete is placed.

F. Tie reinforcing rigidly and securely with steel tie wire at splices, at crossing points and at intersections. After cutting, bend tie wire so that concrete placement will not force the wire ends to surface of concrete.

G. Tie dowels securely in place before concrete is deposited In the event there are no bars in position to which dowels may be tied, add #3 bars (minimum) to provide proper support and anchorage. Do not bend dowels after placement of concrete.

3.04 JOINTS

A. Construct joints properly aligned with face perpendicular to concrete surface.

B. Place construction joints in locations and manner shown on Drawings or as authorized by Architect.
   1. Clean and roughen construction joints, including keys by removing entire surface and exposing clean, solid embedded aggregate by sandblasting or other means acceptable to the Architect.

C. Place expansion joints between slab edges and adjacent structure.
   1. Place compressible joint filler between concrete and other appurtenances.
2. Place joint filler vertical in position and in straight lines. Secure to formwork during concrete placement.

3. Install joint fillers full width and depth of joint. Recess top of filler 1/2 inch where joint sealants as indicated on Drawings.

4. Provide joint fillers in single lengths for full slab width. Fasten joint filler sections together where multiple lengths are required.

D. Place keyed joint forms for keyed expansion joints at intervals and locations shown on Drawings. Maintain removable cap in place until concrete finishing and curing is complete.

   1. Form scored joints in fresh concrete using a jointer to cut a smooth uniform groove.
   2. Strike joints before and after brooming.

E. Rough edges, including edges of expansion and scored joints, with 1/2 inch radius edging tool.

3.05 MIXING

A. Ready mix concrete in accordance with ASTM C94.

B. Provide equipment adequate for the purpose and maintain in good condition. Mixers shall be equipped with an automatic device for recording number of revolutions of drum and blades prior to completion of mixing operation.

C. Do not add water to the mix after the initial introduction of mixing water for the batch except when, on arrival at the job site, the slump of the concrete is less than the specified.

D. Keep concrete continuously agitated until discharge into the hopper at the job site.

E. Ensure that the mixed concrete is placed in the forms within 90 minutes and 300 revolutions of the drum from the time of introduction of cement and water to the mixer.

F. Keep a record on the job site showing time and place of each pour of concrete. Make record available to Architect for his review upon request.

3.06 PLACING CONCRETE

A. Place concrete in accordance with ACI 304. Place concrete immediately after mixing. Do not use concrete after it has begun to set. Re-tempering is not permitted.

B. Protect concrete from physical damage or reduced strength due to weather extremes. Place concrete in accordance with ACI 305 in hot weather. Place concrete in accordance with ACI 306 in cold weather.

C. Ensure reinforcement, inserts, and embedded parts are not disturbed during concrete placement.

D. Place concrete continuously. Place concrete in one course monolithic construction for full width and depth.
E. Place and spread concrete to full depth of forms. Use tools for hand spreading and consolidation which prevent segregation of aggregate and dislocation of reinforcement.

F. Consolidate concrete.

G. Strike off and bull float concrete after consolidation. Avoid working mortar to surface. Level ridges and fill voids.

H. Check surface with 10 foot straightedge. Fill depression and refloat repaired areas.

I. Darby the concrete surface to provide a smooth level surface ready for finishing.

3.07 FINISHING

A. Medium Broom Finish: Typical on slabs unless otherwise noted on drawings.
   1. Wood float surface as specified above.
   2. Draw a stiff bristled broom not less than 18 inches wide across floated concrete surface.
   3. Broom perpendicular to direction of travel unless shown otherwise on Drawings.
   4. Finished broom surface shall be free from irregularities, depressions and rough spots and shall match accepted field sample.

B. Apply curing compounds on exposed surfaces in accordance with manufacturer's instructions.

C. Apply sealant over joint fillers. Remove keyed joint form cap and apply sealant over keyed joint forms. Coordinate application of sealant with finishing and curing of concrete surfaces performed under this Contract and under separate contract; do not remove keyed form joint caps or apply sealant before concrete sealing operations are complete.

3.08 FIELD QUALITY CONTROL

A. Field testing will be performed by the Owner's Testing Laboratory.

B. The Owner's testing laboratory will:
   1. Test concrete for compressive strength in accordance with CBC State Chapter 19, Section 1905A.6.
      a. Take 3 standard compression test cylinders from each day's placing for each class of concrete in accordance with ASTM C31.
      b. Store and cure cylinders, and test cylinders in accordance with ASTM C39 at 7 and 28 days. Hold one cylinder for future tests.
   2. Test concrete for slump in accordance with ASTM C143.

3.10 PROTECTION

A. Protect installed work.

B. Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures and mechanical damage.
END OF SECTION
 SECTION 05500

METAL FABRICATIONS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Provide complete, in place all miscellaneous metal work as shown on the Drawings, specified herein and required for a complete and proper installation. The work of this Section includes, but is not necessarily limited to:

   1. Pipe railings, guardrails, handrails and rail brackets.
   2. Shop protective coatings and field touch-up.

1.02 RELATED SECTIONS:

A. Coordinate work of this section with work included under the following sections:

   1. Section 03300 - Cast-in-Place Concrete

1.02 REFERENCE SPECIFICATIONS:

A. NAAMM: Architectural Metals Handbook, unless otherwise indicated on the Drawings or specified herein.
D. Aluminum Association (AA) Standards.
F. Federal Specifications.
H. AHGDA, American Hot Dip Galvanizers Associations.
I. ICBO, International Conference of Buildings Officials.
J. SSPC, Steel Structure Painting Council, PS 8.01-82.
K. California Code of Regulations, Title 24, Part 2, Chapter 27, "Steel".

1.03 COOPERATION WITH OTHER TRADES:

A. Carefully coordinate the work of this Section with that of all other trades to insure that the work will be carried out in an orderly and complete fashion.

1.04 QUALITY ASSURANCE:

A. Standards: Comply with standards specified in this Section.

B. Quality Control:

   1. Conform to final approved Shop Drawings
   2. Verify all dimensions prior to fabrication
   3. Conform to AISC Manual and AWS Standards for ferrous metal work
   4. Conform to AA Standards for aluminum work.
C. Qualifications of Manufacturers: Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of satisfactory production acceptable to the Architect.

D. Qualifications of Workers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section. Insofar as possible, the work shall be shop fitted and shop assembled ready for erection. Jointing and intersections shall be accurately made, be tightly fitted and be made in the true planes with adequate fastenings. Defective work in the shop or in the field will not be accepted.

E. Provide one skilled journeyman steelworker who shall be present at all times during execution of this portion of the work and who shall personally direct all work performed under this Section.

1.05 SUBMITTALS:

A. General: Comply with provisions of Division 01.

B. Shop Drawings: Prior to fabrication, prepare Shop Drawings of work and submit to and obtain Architect's approval thereof. Shop drawings shall be based on Drawings, Specifications and field measurements essential for proper fitting of miscellaneous metal with other construction and shall present complete information as to fabrication and erection.

1.06 PRODUCT HANDLING:

A. Transport, store and erect miscellaneous metal in a manner that will prevent damage or deformation. Store materials clear of the ground and protect from water and the elements. Metal that is bent or twisted during erection shall be promptly and properly straightened or replaced. Straightening, if permitted, shall be done without heating.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the District.

PART 2 – PRODUCTS

2.01 FERROUS METAL PRODUCTS:

A. Rolled Steel Shapes, Bars and Plates: ASTM A 36.

B. Steel Strip and Sheet: Genuine wrought iron (mild steel), of proper temper for required shaping, commercial grade or better.

C. Pipe: ASTM A 53, Schedule 80 for bollards, Schedule 40 elsewhere, galvanized or black, as designated or specified.

1. Rain Water Leaders:

a. Pipe: ASTM A53, Schedule 40; diameter as shown on the Drawings or as specified.

2. Bollard Pipe: ASTM A53, Schedule 80; diameter as shown on the drawings or specified; Hot-dip galvanized after fabrication.
   
a. Fixed Bollards: 42 inches high x 42 inches concrete embedded (10 inches plus pipe diameter), concrete filled, smooth trowel finish to shed water.
   
b. Removable Bollards: as above; 4 inch diameter; welded cap in-lieu-of concrete: Bollard shall be sleeved and flanged to shed water, provide for padlock by others.

D. Tube: ASTM A 501 or A500, Grade B, seamless, galvanized or black, as designated or specified.


F. Handrail Brackets for Steel Pipe Handrails, Galvanized: Malleable iron brackets with concealed fasteners as follows or approved equal: Julius Blum; No. 1378; or J.G. Braun; No. 4595.

G. Arc Welding Electrodes: AWS A5.1 or A5.5, E60XX or E70XX, as applicable to joinery required.

H. Shop Galvanizing for all exterior Metal Fabrications: Hot dip galvanized; ASTM A 123 for structural shapes, 1.8 ounces psf; ASTM A525 for plate stock, 1-1/4 to 1-1/2 ounces psf; ASTM A 53, Grade A, for pipe and tubing.

I. Galvanizing Repair Compound: "Hot Bar" method, finished free of whiskers or touch up with "Galvicon" by Galvicon Corp., or "Drygalv" by Anchor Brand Co., or "Tot-Rust" (with aluminum color added) by Wilbur & Williams Co.

J. Galvanized Steel Handrail: Handrail shall be engineered to take a 200 lb force in any direction. Design of handrail shall be modified in a manner not to change design if required to meet design loading.

2.02 FABRICATION

A. Preparation:
   
1. Verify field measurements prior to fabrication and installation.

2. As required for proper fabrication and use, straighten material by methods that will not damage material.

3. Clean contact surfaces of materials of loose scale, rust, burrs, grease, oil, and other foreign material.

B. General:
   
1. Fabricate products as indicated.

2. Preassemble items in shop to 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 coordination of installation.
3. Use materials of size and thickness indicated, or if not indicated, of size and thickness necessary to produce strength and durability in the finished items for the use intended.

4. Fabricate items with joints secured and tightly fitted. Make exposed joints butt tight, flush, and hairline.

5. Grind weld spatter and sharp edges smooth. Grind welds that will be exposed to view in the finished Work flush and smooth with adjacent finished surface. Ease exposed edges to small uniform radius.

C. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of structure, except where specifically noted otherwise.

D. Make exposed joint butt tight, flush, and hairline.

E. Supply components required for anchorage of metal fabrications. Fabricate anchorage and related components of same material and finish as metal fabrication, except where specifically noted otherwise.

F. Connections:
   1. Shop Connections: Welded whenever possible, unless otherwise indicated. Welds that will be exposed to the weather or damp conditions shall be continuous and watertight.
   2. On-Site Welding: Eliminate such as much as possible.
   3. Shop and Field Welding:
      a. Perform in accordance with AWS D1.1, using method approved by AWS for the particular materials and conditions. If sizes of fillet welds are not indicated, use AWS minimum weld size, but not less than 3/16-inch fillets.
      b. Faulty and Defective Welding: Welding showing cracks, slag inclusion, lack of fusion, bad undercut, or other defects detected by visual or other means of inspection, shall be chipped out and properly replaced.

PART 3 - EXECUTION

3.01 INSPECTION:

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

B. Preparatory Provisions: Before commencing work, the measurements, lines, grades, elevations, locations and details of the existing job conditions shall be verified as to their accuracy and correlation to the Drawings. Metal shall be fabricated in the exact section, shapes, thicknesses, sizes, weights and details of construction indicated on the Drawings. However, because of his standard shop practice or his stock on hand, the miscellaneous metal subcontractor may suggest changes if submitted with design calculations. These changes may be made only with the expressed consent of the Architect.

3.02 FERROUS METAL FABRICATION:
A. Cutting: Cut stock neat and square; remove sharp edges and cutting bead.

B. Quality:

1. Accurately form and assemble sections to precise shapes detailed. Fabricate curved, bent and twisted or flattened shapes to exact radii, diameter, form and dimensions indicated. Provide items free of kinks, twits, burrs, and open joints. Do not use damaged or distorted materials.

2. Perform welding in accordance with AWS D1.1 Code for shielded arc method. Make exposed joints close-fitting and at concealed locations where practicable. Grind joints, corners, exposed portions of welds, edges of metal where cut; leave in clean and well formed and neat condition.

3. Unless otherwise indicated, bolt and screw heads shall be flat, countersunk where exposed. Cut off bolts, where exposed, 1 thread above nuts and peen flush.

4. Touch up galvanized surfaces resulting from welding or other construction operations in the field using galvanizing repair compound.

C. Priming: Remove grease, rust, scale and other deleterious matter. Apply one coat pre-treatment wash to galvanized finish scheduled or specified to receive paint finish; and one coat of red oxide primer to exposed non-galvanized steel. After erection, touch-up all burred or abraded areas.

D. Hot-Dipped Galvanized: See Drawings for fabricated items to be entirely hot-dipped galvanized. All exposed or exterior metal shall be galvanized.

3.03 ERECTION:

A. General: Erect work plumb, level, square, true, in-plane and in proper alignment and relationship to other work, free from waves, buckles, sags or other defects.

B. Protection: Protect from damage and staining during erection and until acceptance of the project.

C. Dissimilar Metals: Separate dissimilar metals, and separate metal work from products or materials containing lime or other substances damaging to metal. Back-paint metal with bituminous paint, cut to edges, prior to installation. Leave protective coating and wrapping in place as long as possible. Upon completion of adjoining work, remove coatings and wrappings, and clean and polish exposed faces.

D. Provide anchors and fastenings as indicated or required to secure miscellaneous metal items in place. Anchorage not otherwise specified or indicated shall include expansion shields and powder driven fasteners when approved for concrete or masonry, machine and carriage bolts for steel; and through bolts, lag bolts and screws for wood.

3.04 SPECIFIC ITEMS:

A. Refer to Project Drawings for materials, sizes, arrangement, or other criteria. Conform to approved Shop Drawings.
B. Handrails: Galvanized finish. Fabricate from pipe with radius end returns to wall, extending 12 inches beyond top nosing and 12 inches plus the tread width beyond the bottom tread nosing. Secure to wall with detailed brackets.

C. Pipe Sleeves for Guardrails and/or Railings: Fabricate from steel pipe with I. D. one size larger than O.D. of pipe to be inserted therein. Plug one end of sleeve and weld on rebar hairpin or straight anchors as indicated.

D. Guardrails and Railings: Galvanized finish. Fabricate from pipe sizes as shown; all welded construction. Join top rails of failing sections with pipe sleeves as indicated on the Drawings. Terminal ends (not against walls or where similarly protected) and corners projecting into pedestrian traffic shall be radiused. Mitered square sharp corners are prohibited. Secure in place as detailed. Where verticals are supported within pipe sleeves, provide hot-dip galvanizing to the verticals and secure in place with nonshrink grout compounds recommended for this purpose.

3.05 CLEANING UP:

A. Upon completion of work remove excess debris, materials, equipment, apparatus, tools and the like and leave premises clean, neat and orderly.

END OF SECTION
PART 1   GENERAL

1.01 WORK INCLUDED

A. Provide miscellaneous wood framing members, blocking and backing as indicated and as required for completion of Project as indicated.

C. Provide miscellaneous wall, floor, and ceiling framing where required.

D. Preservative treat wood members as indicated.

1.02 RELATED SECTIONS

A. Section 06200: Finish Carpentry.

B. Section 06400: Architectural Woodwork.

C. Section 09250: Gypsum Board Assemblies

1.03 QUALITY ASSURANCE

A. Lumber: Provide visible grade stamp of an agency certified by NFPA.

B. Lumber Standard: Comply with US Product Standard PS20 for each indicated use, including moisture content and actual sizes related to indicated nominal sizes.

C. Plywood Standard: Comply with PS1 (ANSI A199.1).

1.04 REFERENCES


1.05 SUBMITTALS

A. Submit under provisions of Division 01.

B. Product Data: Wood treatment certification and instructions for proper use of each type of treated material.

C. Certification documentation from certifying organization

1.06 DELIVERY, STORAGE AND HANDLING

A. Packing and Shipping: Provide waterproof covers for preservative treated wood during shipment.

B. Storage and Protection: Store preservative treated wood off the ground and protected from the Weather.
PART 2 PRODUCTS

2.01 WOOD MATERIALS

A. Framing: Framing shall be Douglas Fir Coast Region, conforming to West Coast Lumber Inspection Bureau Standard Grading and Dressing Rule No. 17, as amended to date.

1. 2x, 3x, 4x, plates, joists, purlins, studs, blocking and beams, No. 1 and better, unless noted otherwise on the drawings.
2. 2x, 3x, 4x, joists, purlins and beams, Select Structural, where noted on the drawings.
3. 6x beams, No. 1.
4. 2x, 3x, 4x ledgers, No. 1, unless noted otherwise on the drawings.
5. 4x4 posts, No. 1, unless noted otherwise on the drawings.
6. 4x6 posts, No. 1, unless noted otherwise on the drawings.
7. 6x6 and larger posts, Dense No. 1.
8. 2x6 or larger studs and blocking, No. 1 (1000F-b), Para. 123-b.
9. The moisture content of all lumber 4x or greater shall be verified by the project inspector at the time of framing.
10. Foundation Plates, Pressure Treated Douglas Fir.

B. All framing lumber 6" or larger in the least dimension shall be F.O.H.C.

C. Moisture Content shall not exceed 19% for roof support structural members. Use “dry” lumber for wall structural members (ie: headers, top plates, sill plates, studs and posts). Alternatively, an engineered lumber material may be substituted if approved by the Structural Engineer and the Division of the State Architect.

D. Blocking Certified: Boards and dimensional lumber graded in accordance with NFPA Grading Rules; Construction Grade, Douglas Fir/Larch; minimum S-Dry.

E. Veneer Core Plywood Sheathing: APA grade marked for conformance with PS-1, Structural I, Exterior Type.; all plies shall be Douglas Fir, Grade CC, thickness as shown on the Drawings.

2.02 ACCESSORIES

A. Hardware:

1. All exterior hardware and accessories shall be hot-dipped galvanized, unless otherwise noted.
4. Washers: Washers for bearing against wood shall be provided under all bolt heads and nuts. Malleable iron or steel plate having an area equal to 16 times the area of bolt or lag screw. Steel washers shall have a thickness of not less that 1/10 the length of the washer's longest side. Malleable iron washers shall have a thickness of not less that one-half the bolt or lag screw diameter and having a bearing surface for the nut or head equal in diameter to not less than the long diameter of the nut or head.
5. Framing Connectors: Fabricated sheet metal timber framing connectors shall be manufactured from hot-dipped galvanized steel by Simpson Company of San Leandro, Universal Anchors Company of San Francisco, and /or Timber Engineering Company, or approved equal, as identified on the Drawings. Connectors shall be a least 16-gage.
material (1/8 inch plate materials where welded), unless otherwise noted, punched for nailing. Nails and nailing shall conform to the manufacturer's instructions with a nail provided for each punched hole.

**B. Fasteners:** Provide fasteners as required for complete, secure installation of miscellaneous rough carpentry.

1. **Solid Masonry of Concrete:** Expansion shield and “wedge anchors stud type with wedge clips.

2. **Steel:** Bolts or powder activated type.

### 2.03 WOOD PRESERVATIVE

**A.** Treat lumber and plywood to comply with applicable requirements of American Wood Preservers Association (AWPA) Standard C1 and according to the following standards for indicated end use. Grade and species shall comply with the requirements above.

1. **Lumber:** C2
2. **Plywood:** C9

**B. Fire Retardant Treatment:** Comply with AWPA standards for pressure impregnation with fire-retardant chemical to achieve flame-spread rating of not more than 25 in accordance with ASTM E84 or UL Test 723.

1. Treat blocking and plywood panel boards; comply with AWPA C20 and C27, Interior Type A, and identify with FRTW.
   a. **Exterior Type:** Where indicated for exterior applications, provide fire treated wood passing ASTM D2898 rain test.

2. Provide UL label on each piece of fire-retardant wood and plywood.

3. Kiln-dry treated items to maximum moisture content of 19 percent.

**C. Complete fabrication of treated items prior to treatment, wherever possible; if cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.**

**D. Inspect each piece after drying and discard damaged and defective pieces.**

### PART 3 EXECUTION

#### 3.01 PLACEMENT

**A.** Place rough carpentry true to lines and levels.

**B.** Correlate location so attached work will comply with design requirements and be properly located.

**C.** Construct members of continuous pieces of longest possible lengths.

**D.** Fit carpentry work to other work; scribe and cope as required for accurate fit.

**E.** Shim with plastic, metal or slate for bearing on concrete and masonry.

**F.** Securely attach carpentry work to substrates by anchoring and fastening as required by recognized standards.
1. Provide washers under bolt heads and nuts in contact with wood.

G. Wood Blocking: Provide blocking of S4S lumber not less than 1 1/2" wide and of thickness required to provide adequate support or to properly locate attached material.

1. Provide attachment to other work; form to shapes shown.

2. Countersink bolts and nuts flush with surfaces.

3. Remove temporary blocking when no longer needed.

4. Anchor to formwork before concrete placement.

H. Plywood Structural Sheathing:

1. Plywood thickness and nailing shall be as required on the Drawings. All nails shall be common wire nails.

2. Block all unsupported edges of plywood sheets; blocking shall be minimum 2 x 3 between framing members.

3. Minimum sheet width shall be 16 inches.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for furnishing, installing and finishing various finish carpentry items, including, but not limited to the following:

1. New door and window trim, casing, sills and miscellaneous wood trim.

2. Replacement and patching of existing door, window trim, casing, sills and miscellaneous wood trim where damaged.

B. Related Sections:

1. Section 06100 – Rough Carpentry for backing and blocking

2. Section 09900 – Painting for priming of exterior finish carpentry.

1.02 SUBMITTALS

A. Finish samples:

1. Submit four samples of each cut and species of wood to be used, minimum size of 6" x 12" for lumber and 12" x 12" for plywood.

1.03 ENVIRONMENTAL QUALITY ASSURANCE

A. Materials, fabrication, and installation of products shall meet the quality standards specified herein, as applicable to the standards specified in the current edition of WI (Woodwork Institute) “Manual of Millwork,” unless otherwise indicated.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Division 01.

B. Deliver and store products when the building is completely enclosed, the relative humidity not less than 25 percent nor more than 55 percent, all "wet" Work has dried, and the heating or air conditioning system, as applicable, is on and functioning.

C. Protect stored products from extreme heat and dryness, humidity and moisture, sudden changes in temperature, and direct sunlight.

1.05 ENVIRONMENTAL CONDITIONS

A. Painting and other "wet" work in areas in which products will be installed shall be complete and thoroughly dry prior to start of installation.

PART 2 - PRODUCTS
2.01 MATERIALS

A. Wood for Interior Millwork and Trim, of Sizes and Configurations Indicated:
   1. Lumber to Receive Transparent Finish: WI Premium Grade Vertical-grain Fir to receive shop- or field-applied clear finish specified in Section 09900.
   2. Lumber to Receive Opaque Finish: WI Economy Grade finger jointed western softwood species to receive shop- or field-applied opaque finish specified in Section 09900.

B. Wood for Exterior Trim, of Sizes and Configurations Indicated:
   1. Lumber to Receive Transparent Finish: No. 2 Redwood, with tight knots to receive shop- or field-applied transparent finish specified in Section 09900. Note: trim shall be primed (six sides) with cuts primed prior to installation.

C. Furring and Stripping (Concealed): of any WI Grade western softwood, preservative-treated when intended for installation against concrete or concrete masonry units.

D. Preservative Treatment for Wood: Non-arsenic, Non-chromium type: Wolman E Copper Azole by Arch Treatment Technologies, Inc. or approved equal.
   1. Material: Paintable.
   2. Moisture Content: After treatment, re-dry wood to moisture content the same as prior to treatment.
   3. Use: For wood intended for installation against concrete or concrete masonry units. Retreat all field cut ends and surfaces.

E. Other materials not indicated or specified shall conform to the specified WI quality standard as applicable to each product.

F. Accessories:
   1. Anchors, Nails and Screws: Select material, type, size, and finish required by each substrate for secure anchorage; provide toothed steel or lead expansion bolt screws for drilled-in-place anchors or as indicated.
   2. Adhesives: Interior Finished Carpentry and Millwork: Low emitting. FS MMM-A-125C, Type II, water and mold resistant. Use ASTM D3110, dry-use type for laminated and finger-joined members, certified in accordance with ASTM C557 and complying with required VOC regulations.
      a. Water based contact cement.

2.02 FABRICATION - GENERAL

A. Fabricate products as indicated, and in conformance with WI, unless otherwise specified, and the following Sections of the WI manual, unless otherwise indicated or specified:
   1. Wood Trim:
b. Interior Trim: Sections 9 and 10.

B. Fabricate products in longest lengths practical for transporting and handling. Assemble units fabricated in more than one piece in such manner that unit becomes structurally and visually a whole.

C. Backpriming of exterior wood is specified in Section 09900.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are suitable for the installation of finish carpentry. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 PREPARATION

A. Remove products from their protective wrappings as near the areas of installation as possible.

B. Allow products to acclimate to conditions in the areas of installation for 72 hours minimum prior to installation.

C. Prime paint surfaces of wood that will be in contact with cementitious materials in the finished work.

3.03 INSTALLATION

A. Install finish carpentry products where indicated, in accordance with the applicable section of the WI Manual.

B. Install products straight, plumb, level, and square; securely attach to substrate. Completely fill nail and screw holes; sand, and leave smooth and flush with adjacent surfaces; fastening shall not be visible.

C. Install running and standing trim in longest lengths practical or as indicated. Miter cut running joints tight and flush on exposed faces and edges. Miter or cope inside corner joints; miter outside corners. Miter and return exposed ends. Returns less than one inch longer than thickness shall be drilled, glued and nailed.

D. Remove and replace products damaged beyond repair or stained beyond cleaning.

E. Following completion of installation, remove dirt and other foreign materials from installed products.

F. Disposal of preservative treated wood to be at an approved dump site.

END OF SECTION
PART 1. GENERAL

1.01 SUMMARY

A. Section Includes, Special Fabricated
   1. Plastic Laminated casework
   2. Hardware, typically furnished by the woodwork manufacturer

B. Related Sections
   1. Rough carpentry, wood blocking and grounds within finished walls and above finished ceiling
   2. Wood doors

1.02 REFERENCES

A. Minimum standards for work within this section shall be in conformity with the MANUAL OF MILLWORK, latest edition, Standards of the Architectural Millwork Industry as adopted by the WOODWORK INSTITUTE.

1.03 SUBMITTALS

A. Submit shop drawings in conformance to MANUAL OF MILLWORK - SECTION 1, “Basic Requirements for Architectural Millwork Shop Drawings”.

B. Furnish a WOODWORK INSTITUTE - CERTIFIED COMPLIANCE LABEL on the first page of shop drawings.

C. Shop drawings:
   1. Submit two copies, one of which will be returned with reviewed notations, make corrections noted (if any) and distribute required copies prior to commencement of work.

D. Finish samples:
   1. Submit four samples of each cut and species of wood to be used, minimum size of 6” x 12” for lumber and 12” x 12” for plywood.
   2. Submit four additional samples of what will be used to painting trade for preparation of paint samples.
   3. Submit a sample of each item of cabinet hardware, in the job specified finish, visible at exposed surfaces when the cabinet doors and drawers are closed.

1.04 QUALITY ASSURANCE

A. Performance shall be in accordance with [ Economy, Custom, Premium or Laboratory ] GRADE of the WOODWORK INSTITUTE - MANUAL OF MILLWORK, latest edition.
   1. If provisions for the GRADE specified are in conflict with, or modified by the drawings and/or specifications, the modifications shall govern.

B. Select one of the following WOODWORK INSTITUTE - Quality Control Options:
   1. CERTIFIED COMPLIANCE PROGRAM (CCP)
a. BEFORE DELIVERY TO THE JOB-SITE, THE MILLWORK SUPPLIER

- LICENSEES of the WOODWORK INSTITUTE: SHALL ISSUE A CERTIFIED COMPLIANCE CERTIFICATE INDICATING THE MILLWORK PRODUCTS BEING FURNISHED FOR THIS PROJECT, AND CERTIFYING THAT THESE PRODUCTS AND THEIR INSTALLATION, IF APPLICABLE, WILL FULLY MEET ALL THE REQUIREMENTS OF THE GRADE OR GRADES SPECIFIED.

- NON-LICENSEES of the WOODWORK INSTITUTE: SHALL PROVIDE EVIDENCE THAT THEY HAVE ARRANGED FOR INSPECTION BY A WOODWORK INSTITUTE INSPECTOR AFTER COMPLETION OF FABRICATION AND INSTALLATION. IF ALL CONDITIONS ARE FOUND TO BE COMPLIANT, THE INSPECTOR WILL ISSUE A CERTIFIED COMPLIANCE CERTIFICATE INDICATING THE MILLWORK PRODUCTS FURNISHED FOR THIS PROJECT, AND CERTIFYING THAT THESE PRODUCTS AND THEIR INSTALLATION, IF APPLICABLE, FULLY MEET ALL THE REQUIREMENTS OF THE GRADE OR GRADES SPECIFIED.

b. EACH ELEVATION OF CASEWORK SHALL BEAR A CERTIFIED COMPLIANCE LABEL.

C. Qualifications:

1. Contractors and their personnel engaged in the work shall be able to demonstrate successful experience with work of comparable extent, complexity and quality to that shown and specified.
2. Fabricator shall be a member/licensee in good standing of the WOODWORK INSTITUTE.
3. Installer shall be a member/licensee in good standing of the WOODWORK INSTITUTE.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials only when the project is ready for installation and the general contractor has provided a clean storage area as defined in the MANUAL OF MILLWORK.

1.06 SEQUENCING AND SCHEDULING

A. Coordinate all fabrication, delivery and installation work with the general contractor and other applicable trades.

PART 2. PRODUCTS

2.01 COMPONENTS

A. Casework shall be MANUAL OF MILLWORK - Construction Style A – Frameless and Construction Type I - Multiple Self Supporting Units.

B. Semi-exposed surfaces shall be In Accordance With MANUAL OF MILLWORK Requirement. Interior surfaces in open cabinets or behind glass doors shall be in accordance with MANUAL OF MILLWORK Requirements or Match the Exposed Surfaces.

C. Door and drawer front style shall be Flush Overlay and match MANUAL OF MILLWORK door and drawer edge type.
D. Adjustable shelves shall be in accordance with MANUAL OF MILLWORK requirements subject to a 50 pound per square foot uniformly spaced load not to exceed 200 pounds per shelf.

E. Casework shall have 4” high Concealed toe spaces.

F. Casework hardware shall be the desired type, manufacturer, and finish listed as follows or be at the option of the manufacturer from the WOODWORK INSTITUTE’s most current listings of approved products, except in the case of pre-engineered drawer box systems which shall only be permitted by specific specification and/or approval.
   1. Pulls shall be: 4” wire pulls, 1 1/8” projection, Hafele 116.07.227, or equal.
   2. Hinges shall be: 5-knuckle, overlay
   3. Locks shall be: Schlage CL100PB, key alike to room door.

G. LAMINATED PLASTIC CASEWORK
   1. Exposed plastic laminate shall be selected from WilsonArt brand, of their Wood Grain colors; laid up on ¾” plywood core with 3 mm PVC edge. Wood grain shall run and match existing.
   2. Door fronts and edges of cabinets in Multi-Use room, cabinet 5 on sheet A9.01, shall be Formica Envision custom graphic plastic laminate, or equal. Graphic to be provided by Architect.

H. COUNTERTOPS
   1. Plastic laminate shall be selected from WilsonArt brand, of their Special Finish colors with matte finish; laid up on ¾” plywood core with No-drip Bullnose edge.
   2. Back splash shall be Integral Cove with a Square self-edge, 4” high, except as noted, off the deck surface.
   3. Sinks shall be Stainless Steel with Top mount of size indicated on the plans.
      a. Sink drain pipes shall be 2” outside diameter.

PART 3. EXECUTION

3.01 EXAMINATION
   A. Verify the adequacy and proper location of any required backing or support framing.
   B. Verify that mechanical, electrical, plumbing and other building items (supplied by others) effecting work in this section are in place and ready.

3.02 INSTALLATION
   A. Install all work in conformance with MANUAL OF MILLWORK Custom GRADE.
   B. All work shall be secured in place, square, plumb and level.
   C. All work abutting other components shall be properly scribed.
   D. Mechanical fasteners at exposed and semi-exposed surfaces, excluding installation attachment screws and screws used for attaching cabinets end to end, shall be countersunk.
   E. Equipment cut-outs within countertops indicated on plans shall be cut by installer.
   F. Method of attachment, including the type, size, frequency, and/or spacing of anchoring devices and fasteners shall comply to MANUAL OF MILLWORK minimum requirements or be as indicated in the plans or specifications.
G. All installation including attachment of casework and countertops shall be in compliance with MANUAL OF MILLWORK minimum requirements.

H. This job shall comply with the requirements of the STATE OF CALIFORNIA ADMINISTRATIVE CODE and/or CUBC (California Uniform Building Code), TITLE 24.

3.03 ADJUSTING

A. Before completion of the installation, the installer shall adjust all moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Upon completion of the installation, the installer shall clean all items installed of pencil or ink marks and broom clean the area of his operations, depositing debris in containers provided by the general contractor.
SECTION 07200
BUILDING INSULATION

PART 1 - GENERAL

1.01 DESCRIPTION:
   A. Work Included: Provide all building insulation, complete, in place, as shown on the Drawings, specified herein, and required for a complete and proper installation. The work of this Section includes, but is not necessarily limited to:

   1. Flexible batt/blanket thermal insulation at:

      a. All new interior ceiling assemblies.

   A. Related Sections: The following Sections contain requirements that relate to this Section:

      1. Section 09510 Acoustical Ceilings.

1.02 COOPERATION WITH OTHER TRADES:
   A. Carefully coordinate work of this Section with that of all other trades to insure that the work will be carried out in an orderly and complete fashion.

1.03 REFERENCED STANDARDS:
   D. UL 181 - Standard for Factory-Made Air Ducts and Air Connectors; 1996.

1.04 QUALITY ASSURANCE:
   A. Qualifications of Manufacturers: Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of satisfactory production acceptable to the Architect. Obtain each type of building insulation from a single source with resources to provide products complying with requirements indicated without delaying the Work.

   B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated on Drawings or specified elsewhere in this Section as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1.06 SUBMITTALS:
A. Product Data: submit:
   1. Manufacturer’s literature and other data necessary to demonstrate compliance with the specified requirements.
   2. Manufacturer’s recommended installation procedures which, when approved by the Architect, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.

1.07 PRODUCT HANDLING:

A. Deliver materials to the site in the original sealed wrapping bearing manufacturer’s name and brand designation, specification number, type, grade, R-value and class. Store and handle to protect materials from damage. Do not allow insulation materials to become wet or soiled. Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 - PRODUCTS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering insulation products that may be incorporated in the work include, but are not limited to, the following:

   1. Glass Fiber Insulation:

   2. Substitutions: approved equal products per Division 1.

2.02 APPLICATIONS:

A. On top of ceiling tiles: Batt/blanket insulation: R-30, Friction fit with no separate vapor retarder.

2.03 MATERIALS:

A. Batt/Blanket Insulation: Flexible, unfaced blankets made of inorganic glass fibers bonded with formaldehyde-free thermosetting resin, complying with ASTM C 665 and with glass fiber portion classified as noncombustible when tested in accordance with ASTM C 136.

   2. Thermal Resistance (R-value): as indicated for application.
   3. Size: 16 by 96 inches, for pressure fit without fasteners.
   4. Surface Burning Characteristics: Flame spread index of 25 or less; smoke developed index of 50 or less; when tested in accordance with ASTM E 84 with specified facing.
   5. Recycled Content: Certified by Scientific Certification Systems to contain minimum of 18 percent post-consumer and 7 percent pre-consumer recycled glass product, on average of manufacturer’s products.
6. Air Erosion Resistance: Satisfactory up to 1,000 ft/min (5.08 m/s) when tested in accordance with UL 181.

2.04 ACCESSORIES:
   A. As recommended by the insulation manufacturer.

2.05 OTHER MATERIALS:
   A. All other materials, not specifically described but required for a complete and proper installation of the work of this Section, shall be as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 INSPECTION:
   A. Examine the areas and conditions under which work of this Section will be performed. Surfaces shall be clean, dry, and free of any projections. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION OF BATT INSULATION:
   A. Installation at ceiling installations: Size insulation to the width of the ceiling grid. Avoid gaps and bulges in insulation during installation. Do not place insulation closer than 3 inches from the sides of recessed lighting fixtures and heat producing devices or within 24 inches of the top of such fixtures and devices.

3.04 VERIFICATION:
   A. Upon completion of the installation in each area, visually inspect and verify that all insulation is complete and properly installed.

3.06 CLEANING UP:
   A. Upon completion of work, remove excess debris, material, equipment, apparatus, tools and the like and leave premises clean, neat and orderly.

END OF SECTION
SECTION 07460
FIBER-CEMENT PANEL

PART 1 - GENERAL

1.01 SUMMARY
   A. Section Includes: Fiber-cement panels and fiber-cement planks.
   B. Related Sections:
      1. Section 07900: Sealants for sealing of joints.
      2. Section 09900: Painting for finishing of panels and planks.

1.02 REFERENCES:
   A. ASTM E-136 – Non-Combustible construction.
   B. ASTM E84 – Smoke Density

1.03 SUBMITTALS
   A. Product Data: Submit manufacturer's descriptive literature including dimensions, profiles, textures, colors and installation instructions for each type of panel.
   B. Samples
      1. Samples for Initial Selection: Submit samples of fiber cement plank and panel showing the full range of texture.
      2. Samples for Verification: Submit two units of each type of panel or plank required.
      3. Refer to Section 01340 for number and manner of submittals.

1.04 QUALITY ASSURANCE
   A. Fire Performance Characteristics: Provide products that are identical to those tested and labeled or listed for the specified fire and wind resistance characteristics by UL or other testing and inspecting organizations acceptable to the State Fire Marshal.

1.05 DELIVERY, STORAGE AND HANDLING
   A. Deliver materials to project site in manufacturer's unopened bundles or containers with labels intact.
   B. Panels should be laid flat on a smooth level surface. Edges and corners should be protected from chipping. Keep panels dry prior to installing. If panels should become wet, allow to dry thoroughly before installing.

1.06 WARRANTY
   A. Guarantee: Provide standard one year guarantee as required in the General Conditions, and product warranty as described below.
B. Product Warranty: In addition to the guarantee specified above, submit a written warranty, executed by the manufacturer, agreeing to repair or replace fiber cement panels that fail in materials or workmanship within 50 years from date of "Notice of Completion". Failures include, but are not limited to, deformation or deterioration of panels beyond normal weathering.

1.07 MAINTENANCE

A. Extra Materials: Submit 2 percent of each type and texture of panel used in the Work. Deliver extra materials in unopened, labeled bundles to the District upon completion of the Work. Refer to Section 01700.

PART 2 - PRODUCTS

2.01 FIBER-CEMENT PANEL

A. Fiber cement exterior panel material: Grade II, Type A non-asbestos fiber-cement flat sheets complying to ASTM Standard Specification C1186. ¼” thickness, 1.9 pounds per square foot, 48” wide panels, smooth finish, primed for painting on 3 sides.

B. Flame-spread rating of 0.

C. Smoke-density rating of 5 when tested by ASTM E84.

D. Acceptable products include, but are not limited to the following:

   1. James Hardie Building Products; "Hardipanel"

2.02 FIBER CEMENT PLANK

A. Fiber cement exterior panel material: Grade II, Type A non-asbestos fiber-cement flat sheets complying to ASTM Standard Specification C1186. ¼” thickness, 1.9 pounds per square foot, 9 1/4” wide planks (8” exposure), smooth finish, primed for painting on 3 sides.

B. Flame-spread rating of 0.

C. Smoke-density rating of 5 when tested by ASTM E84.

D. Acceptable products include, but are not limited to the following:

   1. James Hardie Building Products; "Hardiplank"

2.03 UNDERLAYMENT AND ACCESSORIES

A. Underlayment: ASTM D 4869 or ASTM D226, Type I, 15 pound asphalt saturated organic felt, 36 inches wide, 2 layers minimum.

B. Nails for fiber cement plank and panel siding:

   1. Minimum 0.089” shank x 0.221” HD x 2” long.

C. Primer for touch-up of cuts at panels: Provide primer as recommended by panel manufacturer to match factory primer.
D. Self-Adhered membrane waterproofing at window openings and miscellaneous applications indicated: specified in Section 07100.

E. Metal Flashing: specified in Section 07600.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for installation of fiber cement panels. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 APPLICATION OF UNDERLAYMENT

A. Underlayment: Apply 2 layers of underlayment parallel with sill plate, beginning with a 19 inch wide starter course and overlapping with a full 36 wide course. Apply the following felts as full 36 inch wide sheets overlapping preceding courses 19 inches so that at least 2 courses cover the entire wall surface. Secure underlayment to the plywood wall panels with sufficient fasteners to hold it in place until plank or panel is installed.

B. Install Self-Adhered membrane waterproofing as specified in other specification section.

3.03 INSTALLATION

A. General - apply materials in conformance with ASTM Standard Specification C1186, CBC, the manufacturer's printed instructions, and as indicated.

B. Fiber Cement Panels:

1. Coordinate installation with all related work. Do not begin installation until all work to be concealed is complete.
2. Prime all cuts prior to installation of panels. Apply primer as directed by panel manufacturer.
3. Apply panels to framing members spaced up to 16" O.C. with the long panel dimension perpendicular to the framing. Install unprimed surface toward framing; primed surface exposed.
4. Install fasteners with a minimum 3/8" edge distance and minimum 2" clearance from corners. Evenly space and align all fasteners.

C. Fiber Cement Plank:

1. Install 1/4" lath starter strip to ensure consistent plank edge.
2. The first course of any wall should be installed over a 1/4" lath strip.
3. There should be a minimum 1-1/4" overlap between two planks.
4. Prime all cuts prior to installation of planks.
5. Stagger vertical joints between planks to avoid stacked planks.
6. Install fasteners 1" down from the top of plank. Fastener heads should fit snug against plank without cracking plank. Evenly space and align all fasteners.
7. Joints should be fastened at abutting plank edges with a maximum 1/8" gap and should be caulked.

D. Tolerances:
1. There shall be no measurable variation in any two-foot direction in fiber cement panel application, nor a maximum variation exceeding 1/8” in ten feet when a straight edge is laid on the surface in any direction.
2. Planes of abutting sheets shall not exceed a 1/16” offset.

3.04 COMPLETION

A. Completed installation shall be clean and free from chips, cracks, holes, misaligned or improperly made joints, stains, discoloration and other defects and damage. Replace panels exhibiting damage or defects.

END OF SECTION
PART 1 - GENERAL

1.01 DESCRIPTION
A. Section Includes: Requirements performing built-up bituminous roofing modifications necessary to accommodate flashing and gutter modifications.

1.02 SUBMITTALS
A. Comply with requirements of Section 01300.

1.03 QUALITY ASSURANCE
A. Hold a pre-application meeting prior to commencement of roofing modification work.
B. Comply with requirements of Section 01200 for pre-application meeting.

1.04 DELIVERY, STORAGE, AND HANDLING
A. Comply with requirements of Section 01600.
B. Handle rolled goods to prevent damage to edges and ends. Store on end in a dry, well-ventilated place.
C. Protect materials, including aggregate, from moisture. If materials become wet, remove them from the site and replace with new, dry materials.

1.05 PROJECT CONDITIONS
A. Apply materials to dry surfaces; as applicable, materials shall be dry at time of application.
B. Apply materials during dry weather, with ambient air temperature a minimum of 40 degrees F.

PART 2 - PRODUCTS

2.01 GENERAL
A. Roofing System at Gutter and Flashing Modifications:
   1. Components of roofing system at gutter and flashing modifications shall all be the products of the same manufacturer, or shall be approved by the roofing system manufacturer for use on this Project. Roofing system components shall be manufactured by Manville, Genstar, Conglas, or equal; Manville system and products are specified as a standard of quality.
   2. System Type: Four-ply, built-up bituminous system consisting of one ply of base felt, four plies of finishing felts, five coats of asphalt, and aggregate surfacing; for application over concrete substrate.
B. Roofing components for use at new gravel stop installation shall be applicable materials specified for roofing system.

2.02 MATERIALS

A. Membranes:

1. Base Felt: FS SS-R-620B, Type II, one ply.

2. Finishing Felts: ASTM D 2178, Type IV, asphalt-coated fiberglass finishing felt, Manville "GlasPly IV".

3. Flashing Felt: Manville "DynaKap" modified cap sheet consisting of polyester reinforced with fiberglass strands and coated with SBS modified asphalt and granules.

B. Bitumen:

1. Primer: D41.

2. Asphalt: ASTM D312, Type III.

3. Asphalt Base Emulsion: ASTM D1227, Type II, Manville "Topgard," Type B.

C. Aggregate: To match existing in size and color.

D. Plastic Cement: ASTM D4586, Type II, Manville "Industrial Roofing Cement."

E. Other Materials: As recommended by the roofing system manufacturer for the conditions of application.

F. Flashing and Sheet Metal: Specified in Section 07600.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that Work which penetrates roof deck has been completed, and that penetrations have metal fittings in place.

B. Verify that products penetrating roof deck are securely anchored in place, and that roofing substrate is free of foreign materials, moisture, uneveness, and other conditions that could prevent proper application of roofing system.

C. Verify that other conditions are satisfactory for the performance of roofing system modifications. If unsatisfactory conditions exist, do not begin modifications until such conditions have been corrected.

3.02 PREPARATION

A. Protect existing construction and improvements from damage from roofing operations.

1. Provide suitable protective coverings, lapped a minimum of six inches, and vented as required to prevent condensation on covered surfaces.
2. Secure protective coverings from blow-off, and leave protective coverings in place until completion of roofing work.

B. Sweep off loose gravel and spud off embedded gravel back 30 inches from roof edge; do not remove existing roofing membranes except where new gutters and flashings, and roof drain are being installed.

C. Apply asphalt primer at the approximate rate of one gallon per square to spudded area, then allow to dry.

3.03 APPLICATION

A. General: Apply materials in accordance with the manufacturer's printed instructions. As applicable, apply materials only when they are clean and dry; apply over firm, smooth, clean, dry surfaces.

B. Roofing at Flashing and Gutter Modifications:
   1. Apply materials evenly and uniformly, starting at farthest point from edge of roof, applying membranes so that appropriate surfaces will be completely in contact with adhesives and bitumen.
   3. Firmly and uniformly set each finishing felt into hot asphalt at temperature within 25 degrees F of the EVT, applied just before the felt at a nominal uniform rate of 23 pounds per square over entire surface.
   4. Seal around roof penetrations to avoid future dripping of bitumen into building.
   5. Protect roof construction already in place from damage from remaining roofing application and other construction operations. Haul materials and equipment only over protective planking.
   6. Repair damaged and defective roofing and flashing that adjoins new work.
   7. Complete both roofing and flashing application for each section of roof worked on each day.
   8. Do not leave unused membranes on the roof overnight and when roofing work is not in progress.
   9. Protect exposed terminations of roofing and flashing to prevent the entrance of moisture. Remove protection prior to continuing roofing work.
   10. During asphalt set time, minimize traffic over installed membranes.
   11. Provide additional flashing and sealing materials as necessary to assure waterproof installation of accessories.
   12. Interface with Existing Roofing:
      a. Bring new membranes to edge of existing roofing, but do not overlap.
b. Apply plastic cement to new and existing roofing, then embed finishing felt perpendicular to joint between new and existing; extend felt 12 inches on either side of joint.

c. Apply three additional plies of finishing felts in same manner as first ply, extending each additional felt a minimum of 6 inches on each side beyond previous ply on each roof.

13. Flood surface of modified roofing area with hot asphalt at the rate of approximately 60 pounds per square, completely covering juncture of existing roofing.

14. Embed aggregate in hot asphalt at the rate of approximately 400 pounds per square.

C. Roofing at New Gravel Stop Installation:

1. Set new gravel stop in continuous bed of plastic cement.

2. Flood surface of modified roofing area with hot asphalt at the rate of approximately 60 pounds per square, completely covering area of roofing modifications. Keep perforations in vertical surfaces of gravel stop clear of hot asphalt.

3. Embed aggregate in hot asphalt at the rate of approximately 400 pounds per square.

3.04 CLEANING

A. Remove spills and overruns of bitumen and other application materials.

3.05 PROTECTION

A. Provide and maintain special protection or avoid heavy traffic on completed roofing when ambient temperature is above 80 degrees F.

END OF SECTION
SECTION 08110
STEEL DOORS AND FRAMES TITLE

PART 1 GENERAL

1.1 SECTION INCLUDES
A. Steel doors.
B. Steel frames.
C. Steel sidelights and borrowed lights.

1.2 RELATED SECTIONS
A. Section 03300 - Cast-In-Place Concrete; Placement of anchors in concrete construction.
B. Section 08210 - Wood Doors.
C. Section 08710 - Door Hardware.
D. Section 08800 - Glazing
E. Section 09900 - Paints and Coatings.

1.3 REFERENCES
B. ASTM A591 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hop-Dip Process
C. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
E. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
F. ASTM A1011 - Standard Specification for Steel Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
G. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames.
H. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcings.
I. ANSI/SDI A250.6 Recommended Practice for Hardware Reinforcing on Standard...
Steel Doors and Frames.


K. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.

L. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames (Formerly SDI-105).

M. DHI A115.1G - Installation Guide for Doors and Hardware.

N. SDI 111 - Recommended Standard Details for Steel Doors & Frames.

O. ANSI/NFPA 252 - Fire Tests of Door Assemblies.

P. ANSI/UL 10B - Fire Tests of Door Assemblies.

Q. ANSI/UL 10C - Positive Pressure Fire Tests of Door Assemblies.

R. ANSI/UL 1784 - Air Leakage Tests of Door Assemblies

S. UL - Building Materials Directory; Underwriters Laboratories Inc.

T. WH - Certification Listings; Warnock Hersey International Inc.


1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Submit manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Certificates:
   1. Provide manufacturer's certification that products comply with referenced standards as applicable.
   2. Provide evidence of manufacturer's membership in the Steel Door Institute.

D. Shop Drawings:
   1. Show all openings in the door schedule and/or the Drawings.
   2. Provide details of door design, door construction details and methods of assembling sections, hardware locations, anchorage and fastening methods, door frame types and details, anchor types and spacing, and finish requirements.
   3. Provide door, frame, and hardware schedule in accordance with SDI 111.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide all products from a single manufacturer who is a member of the Steel Door Institute.

B. Doors and frames shall conform to the requirements of ANSI A250.8-1998 (SDI-100) and other specifications herein named.
1.6 DELIVERY, STORAGE, AND HANDLING

A. Products shall be marked with Architect's opening number on all doors, frames, misc. parts and cartons.

B. Upon delivery, inspect all materials for damage; notify shipper and supplier if damage is found.

C. Protect products from moisture, construction traffic, and damage.
   1. Store vertically under cover.
   2. Place units on 4 inch (102 mm) high wood sills or in a manner that will prevent rust or damage.
   3. Do not use non-vented plastic or canvas shelters.
   4. Should wrappers become wet, remove immediately.
   5. Provide 1/4 inch (6 mm) space between doors to promote air circulation.

1.7 COORDINATION

A. Coordinate with door opening construction and door frame and door hardware installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Products shall be manufactured by a member of the Steel Door Institute, 30200 Detroit Road, Cleveland, Ohio 44145. ASD. Tel: (440) 899-0010, Fax: (440) 892-1404. Steel Door Institute Members are as follows:
   1. Ceco Door Products.
   2. Republic.
   3. Steelcraft.

B. Substitutions: per Division 01.

2.2 MATERIALS

A. Doors, frames, frame anchors, and hardware reinforcings for each of the levels and models specified shall be provided to meet the requirements of the performance levels specified. The material used in manufacturing these products and components shall comply with ANSI/SDI A250.8. Hardware reinforcing on doors and frames shall comply with ANSI/SDI A250.6. The physical performance levels shall be in accordance with ANSI/SDI A250.4.

B. All steels used to manufacture doors, frames, anchors, and accessories shall meet at least one or more of the following requirements:
   1. Cold rolled steel shall conform to ASTM A1008 and A568.
   2. Hot rolled, pickled and oiled steel shall comply with ASTM A1011 and A568.
   3. Hot dipped zinc coated steel shall be of the alloyed type and comply with ASTM A924 and A653.
   4. Steel Sheet, Electrolytic Zinc-Coated shall conform to ASTM A591.

2.3 FRAMES
A. Provide Levels and Models in accordance with ANSI/SDI A250.8 as indicated in the
door schedule.

B. Interior frames: Frame configuration and depth as indicated. Minimum thickness as
follows:
   1. Level 3 Extra heavy-duty: For use with:
      a. Door Model 3, 0.067 inch (1.7 mm) minimum steel frame thickness.

C. Exterior frames: Provide in accordance with ANSI/SDI A250.8 in the frame
configuration and depth as indicated on the Drawings. Minimum thickness as
follows:
   1. Level 3 Extra heavy-duty: For use with:
      a. Door Model 3 (stile and rail design): 0.067 inch (1.7 mm) minimum steel
         frame thickness.

D. Provide units of galvanized steel in the following locations:
   1. Exterior openings, as noted on door schedule.

E. Provide face welded type frames unless otherwise indicated.

F. Provide frames with a minimum of three anchors per jamb suitable for the adjoining
   wall construction. Provide anchors of not less than 0.042 inch (1.0 mm) in thickness. Frames over 7 feet 6 inches (2286 mm) shall be provided with an additional anchor
   per jamb.

G. Base anchors shall be provided with minimum thickness of 0.042 inch (1.0 mm).

H. Prepare all frames for all mortise template hardware and reinforced only for surface
   mounted hardware. Drilling and/or tapping shall be completed by others.

I. Minimum hardware reinforcing gages shall comply with Table 4 of ANSI/SDI A250.8.

J. Provide glazing stops and beads where glazed lights are indicated.

2.4 FABRICATION

A. Fabricate doors and frames in accordance with ANSI/SDI A250.8.

B. Prime finish: Doors and frames shall be thoroughly cleaned, and chemically treated
to insure maximum paint adhesion. All surfaces of the door and frame exposed to
view shall receive a factory applied coat of rust inhibiting primer, either air-dried or
baked-on. The finish shall meet the requirements for acceptance stated in ANSI/SDI
A250.10 "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces
for Steel Doors and Frames."

C. Factory applied finish: Meet the performance requirements and acceptance criteria
   as stated in ANSI/SDI A250.3. Color shall be:
   1. As selected from the manufacturers standard colors.
   2. Custom color as selected by the Architect.

D. Design clearances: Fabricate doors and frames to maintain the following clearances:
   1. The clearance between the door and frame shall be 1/8 inch (3.2 mm) in the
      case of both single swing and pairs of doors.
   2. The clearance between the meeting edges of pairs of doors shall be 3/16 inch
      (4.8 mm) plus or minus 1/16 inch (1.6 mm). For fire rated applications, the
      clearances between the meeting edges of pairs of doors shall be 1/8 inch (3.2
      mm) plus or minus 1/16 inch (1.6 mm).
3. The clearance measured from the bottom of the door to the bottom of the frame (undercut) shall be a maximum of 3/4 inch (19.1 mm) unless otherwise specified. Fire door undercuts shall comply with ANSI/NFPA 80, "Fire Doors and Fire Windows."

4. The clearance between the face of the door and the stop shall be 1/16 inch (1.6 mm) to 3/32 inch (2.4 mm).

5. All clearances shall be, unless otherwise specified in this document, subject to a tolerance of plus or minus 1/32 inch (0.8 mm).

6. The clearance at the bottom shall be 5/8 inch (15.8 mm).

7. The clearance at the bottom shall be 3/4 inch (19.1 mm).

8. The clearance between the face of the door and doorstop shall be 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm).

9. All clearances shall be, unless otherwise specified, subject to a tolerance of plus or minus 1/32 inch (0.8 mm).

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are suitable before beginning installation of frames. Do not begin installation until conditions have been properly prepared.

1. Verify that completed openings to receive knock-down wrap-around frames are of correct size and thickness.

2. Verify that completed concrete or masonry openings to receive butt type frames are of correct size.

3. Verify that drywall construction walls are the correct thickness.

B. If opening preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

A. Install frames plumb, level, rigid, and in true alignment in accordance with ANSI A250.11 and DHI A115.1G.

B. Install fire rated doors and frames in accordance with NFPA 80.

C. All frames shall be fastened to the adjacent structure so as to retain their position and stability. Drywall slip-on frames shall be installed in prepared wall openings in accordance with manufacturer's instructions.

3.3 ADJUST AND CLEAN

A. Clean and restore soiled surfaces. Remove scraps and debris and leave site in a clean condition.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 SCHEDULE

A. Refer to Door and Frame Schedule appended to this section.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section includes interior aluminum-framed glass doors, solid panels and frames.

B. Related Requirements:
   1. Section 08 32 13 – Sliding Aluminum-Framed Glass Doors.
   2. Section 08 71 00 – Door Hardware.

C. References:
   1. AAMA 611: Anodized Architectural Aluminum
   2. ASTM B308: Aluminum-Alloy 6061-T6 Standard Structural Profiles
   3. ASTM C1048: Heat-Treated Flat Glass

1.2 ADMINISTRATIVE REQUIREMENTS

A. Field-verify dimensions and clearances for openings scheduled to receive work of this section.

B. Scheduling:
   1. Ordering and Delivery: Order products with sufficient lead time to avoid delays in project schedule.
   2. Installation: To extent practical, install work after surrounding finish work is complete.

1.3 SUBMITTALS

A. Product Data: Include fabrication details, frame finishes, glass types, installation details and operating instructions for each type of opening.

B. Shop Drawings: Include elevations, details, hardware, operational clearances and accessories. Include keying schedule for locksets.

C. Samples for Verification:
   1. Extrusions: 6 inches long, showing finish.
   2. Glass: 3 inches square.

D. Warranty: Submit sample of manufacturer’s standard warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

B. Executed warranty.

1.5 QUALITY ASSURANCE

A. Installer: Approved by manufacturer.
1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver products after space is enclosed and wet work is complete.

B. Acceptance: Inspect packaging and report noticeable damage to manufacturer within 48 hours of receiving.

C. Storage: Store in original packaging, up to ten degrees from vertical, on level floor surface.

D. Handling: Handle in accordance with manufacturer’s installation instructions and to prevent damage.

1.7 WARRANTY

A. Warranty: Manufacturer’s warranty agreeing to repair or replace components used in interior installations, excluding glass, that fail in materials or workmanship within three years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: The Sliding Door Company, Inc.
   20235 Bahama St., Chatsworth, CA 91311
   Toll Free: 888-433-1333;
   Email: tradepro@slidingdoorco.com;
   Web: www.slidingdoorco.com/tradepro

B. Provide complete system from single manufacturer.

C. Substitutions:
   1. Substitutions will be considered according to Division 01 Requirements.

2.2 COMPONENTS

A. Framing, General:
   1. Material: Aluminum extrusions, 6061 alloy.
   2. Finish:
      a. Clear Anodized Aluminum: AAMA 611, Class II.

B. Heads and Jambs:
   1. Profiles:
      a. Head and Jamb: 4 inches deep, with integral stops.
      b. Head and Jamb Trim: 1.5 inch sight line.

C. Stiles, Rails and Mullions:
   1. Stile and Rail Sightlines:
      a. 3 inch sight line, 0.051 inch minimum thickness.
   2. Door Bottom Rail: 3 inch sight line.
   3. Mullions:
      a. Built-In Mullions: 1.5 inch sight line.
   4. Laminated Glass: ASTM C1172, 7 mm thick with semi-opaque interlayer below and clear interlayer above.
2.3 HARDWARE

A. Locks and Latches:
   1. Lever Lockset: Lever with thumb turn and key lock - Sliding Door Company, Flush Double Indent Handle; Adams Rite – MS1850S-250-628 Deadbolt with 1000 Thumb-turn and Schlage cylinder; or equal.
      a. Keying: Provide two keys per lockset, labeled to indicate door. Key locksets alike.

2.4 FABRICATION AND ASSEMBLY

A. Panel and Door Design:
   1. Single horizontal mullion per door elevation.

B. Factory Assembly: Fabricate doors, panels, and frame components to finished sizes in factory.

2.5 ACCESSORIES

A. Silicone Adhesive: Clear, construction grade silicone adhesive.

B. Fasteners: As indicated in shop drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that openings are acceptable for installation of work of this section.

3.2 INSTALLATION

A. Install systems according to shop drawings and manufacturer’s product data and installation instructions.

3.3 ADJUSTING, CLEANING AND PROTECTION

A. Adjust swinging doors for smooth operation.

B. Comply with manufacturer’s written recommendations for cleaning and maintenance.

C. Clean aluminum and glass surfaces immediately after installing doors and frames.

D. Protect surfaces from impact and from contact with contaminating substances resulting from other construction operations.

E. Clean immediately before substantial completion.

3.4 CLOSEOUT REQUIREMENTS

A. Deliver keys directly to Owner.

B. Deliver executed Warranty.

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:

1. Solid core doors with wood veneer faces.
2. Factory finishing of flush wood doors.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 6 Section "Finish Carpentry" for wood door frames.

1.03 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product data for each type of door, including details of core and edge construction, trim for openings and louvers, and factory-finishing specifications.

1.04 QUALITY ASSURANCE

A. Quality Standard: Comply with the following standard:

2. AWI Quality Standard: "Architectural Woodwork Quality Standards" of the Architectural Woodwork Institute for grade of door, core, construction, finish, and other requirements.

a. Provide WIC Certified Compliance Certificate indicating that doors meet requirements of grades specified.

b. Provide WIC Certified Compliance Certificate for installation.

B. Fire-Rated Wood Doors: Provide wood doors that comply with NFPA 80; are identical in materials and construction to units tested in door and frame assemblies per ASTM E 152; and
are labeled and listed by UL, Warnock Hersey, or another testing and inspection agency acceptable to authorities having jurisdiction.

1. Oversized, Fire-Rated Wood Doors: For door assemblies exceeding sizes of tested assemblies, provide manufacturer's certificate stating that doors conform to all standard construction requirements of tested and labeled fire-door assemblies except for size.

2. Temperature Rise Rating: At stairwell enclosures, provide doors that have a temperature rise rating of 450 deg F (250 deg C) maximum in 30 minutes of fire exposure.

3. Temperature Rise Rating: At stairwell enclosures, provide doors that have a temperature rise rating of 250 deg F (139 deg C) maximum in 30 minutes of fire exposure.

C. Single-Source Responsibility: Obtain doors from one source and by a single manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's instructions.


B. Identify each door with individual opening numbers as designated on shop drawings, using temporary, removable, or concealed markings.

1.06 PROJECT CONDITIONS

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

B. Conditioning: Do not deliver or install doors until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during the remainder of the construction period to comply with the following requirements applicable to Project's geographical location:

1. AWI quality standard Section 100-S-11 "Relative Humidity and Moisture Content."
2. WIC quality standard Section 2 "General Information, Technical Bulletin 419-R."

1.07 WARRANTY

A. General Warranty: Door manufacturer's warranty specified in this Article shall not deprive the Owner of other rights the Owner 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 (6.35 mm) in a 42-by-84-inch (1067-by-2134-mm) section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) 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.

   a. Solid Core Exterior Doors: Two years.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

   A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering
doors that may be incorporated in the Work include, but are not limited to, the following:

   B. Manufacturer: Subject to compliance with requirements, provide doors by one of the following:

      1. Solid Core Doors:

         a. Haley Brothers, Inc.
         b. or equal.

2.02 INTERIOR FLUSH WOOD DOORS

   A. Solid Core Doors for Transparent Finish: Comply with the following requirements:

      1. Faces: White birch, plain sliced.
      2. Grade: Premium.
      3. Grade: Custom.
      4. Grade: Economy.
      5. Construction: 5 plies.
      7. Core: Particleboard core.
      8. Core: Glued-block core.
     10. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.

2.03 LIGHT FRAMES

   A. Wood Louvers: Door manufacturer's standard solid wood louvers, unless otherwise indicated,and of size indicated.

   B. Metal Frames for Light Openings in Fire Doors: Manufacturer's standard frame formed of 0.0478-inch- (1.2-mm-) thick cold-rolled steel sheet, factory primed, and approved for use in doors of fire-rating indicated.

2.04 FABRICATION

   A. Fabricate flush wood doors to comply with following requirements:

      1. In sizes indicated for job-site fitting.
      2. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels:
a. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 for fire-resistance-rated doors.

3. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame 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-rated doors.

B. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.
   1. Light Openings: Trim openings with moldings of material and profile indicated.

2.05 SHOP PRIMING

A. Transparent Finish: Shop-seal faces and edges of doors for transparent finish with stain (if required), other required pretreatments, and first coat of finish as specified in the following:
   1. Division 9 Section "Painting."

2.06 FACTORY FINISHING

A. General: Comply with referenced quality standard's requirements for factory finishing.
B. Finish wood doors at factory.
C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect, and sheen.
   1. Finish: Manufacturer's standard finish with performance requirements comparable to either AWI System TR-2 catalyzed lacquer or AWI System TR-4 conversion varnish.
   2. Staining: None required.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine installed door frames prior to hanging door:
   1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
   2. Reject doors with defects.
B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION
A. Hardware: For installation see Division 8 Section "Door Hardware."

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. Machine doors for hardware. Seal cut surfaces after fitting and machining.

1. Fitting Clearances for Non-Fire-Rated Doors: Provide 1/8 inch (3.2 mm) at jambs and heads, 1/16 inch (1.6 mm) per leaf at meeting stiles for pairs of doors, and 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4-inch (6.4-mm) clearance from bottom of door to top of threshold.
2. Fitting Clearances for Fire-Rated Doors: Comply with NFPA 80.
3. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
4. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) on lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at the job site.

3.03 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.

C. Protect doors as recommended by door manufacturer to ensure that wood doors will be without damage or deterioration at the time of Substantial Completion.

END OF SECTION
SECTION 08410
ALUMINUM STOREFRONTS

PART 1 GENERAL

1.01 Work Included

A. Furnish and install aluminum architectural storefront system complete with hardware and related components as shown on drawings and specified in this section.

B. All storefront systems shall be EFCO® System 401 Flush-Glazed Shear Block Storefront. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. A sample storefront system (size and configuration) as per requirements of architect.
   2. Test reports documenting compliance with requirements of Section 1.05.

C. Glass
   1. Reference Section 08800 for Glass and Glazing.

D. Single Source Requirement
   1. All products listed in Section 1.02 shall be by the same manufacturer.

1.02 Related Work

A. Section 08510 – Aluminum Windows

1.03 Laboratory Testing and Performance Requirements

A. Test Units
   1. Air, water, and structural test unit size shall be a minimum of two stories high and three lites wide.

B. Test Procedures and Performance
   1. Air Infiltration Test
      a. Test unit in accordance with ASTM E 283 at a static air pressure difference of 1.56 psf (75 Pa).
      b. Air infiltration shall not exceed .06 cfm/SF (.30 l/s•m²) of unit.
   2. Water Resistance Test
      a. Test unit in accordance with ASTM E 331.
      b. There shall be no uncontrolled water leakage at a static test pressure of 10.0 psf (479 Pa).
   3. Uniform Load Deflection Test
      a. Test in accordance with ASTM E 330.
      b. Deflection under design load shall not exceed L/175 of the clear span.
   4. Uniform Load Structural Test
      a. Test in accordance with ASTM E 330 at a pressure 1.5 times the design wind pressure in 1.05.B.3.b.
      b. At conclusion of the test, there shall be no glass breakage, permanent damage to fasteners, storefront parts, or any other damage that would cause the storefront to be defective.

1.07 Quality Assurance
A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.

B. Test reports shall be accompanied by the storefront manufacturer’s letter of certification stating that the tested storefront meets or exceeds the referenced criteria for the appropriate storefront type.

1.08 References

1.09 Submittals

A. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
   1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.

1.10 Warranties

A. Total Storefront Installation
   1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total storefront installation. This includes the glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
   2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. Window Material and Workmanship
   1. Provide written guarantee against defects in material and workmanship for ____ years from the date of final shipment.

C. Glass
   1. Provide written warranty for insulated glass units that they will be free from obstruction of vision as a result of dust or film formation on the internal glass surfaces caused by failure of the hermetic seal due to defects in material and workmanship.
   2. Warranty period shall be for 10 (ten) years.

D. Finish
   1. Warranty period shall be for 5 years from the date of final shipment.
   2. Provide organic finish warranty based on AAMA standard 2604.

PART 2 PRODUCTS

2.01 Materials

A. Aluminum
   1. Extruded aluminum shall be 6063-T6 alloy and temper.

B. Glass
   1. Insulated glass shall be 1” thick with a center of glass U-Factor of ____ constructed as follows:
      a. Exterior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).
      b. Air space of ½” inch.
      c. Interior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).

2.02 Fabrication

A. General
1. All aluminum frame extrusions shall have a minimum wall thickness of .080” (2 mm).
2. All exposed work shall be carefully matched to produce continuity of line and design with all joints. System design shall be such that raw edges will not be visible at joints.

B. Frame
1. Depth of frame shall not be less than 4 1/2” (114 mm).
2. Face dimension shall not be less than 1 3/4” (44 mm).
3. Frame components shall be shear block construction.

C. Glazing
1. All units shall be “dry glazed” with gaskets on both exterior and interior of the glass.

D. Finish
1. Organic
   a. Finish all exposed areas of aluminum windows and components with 50% PVDF Ultraflur™. Color shall be as indicated on drawings.

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<th>AA Description</th>
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<td>AA-M12-C42-R1X</td>
<td>50% PVDF Ultraflur™</td>
<td>2604-98</td>
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PART 3 EXECUTION

3.01 Inspection
A. Job Conditions
   1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.
   2. Provide for manufacturer representation to conduct pre-installation site meeting.

3.02 Installation
A. Use only skilled tradesmen with work done in accordance with architect approved shop drawings and specifications.
B. Storefront system shall be erected plumb, true, and in proper alignment and relation to established lines and grades.
C. Entrance doors shall be securely anchored in place to a straight, plumb and level condition, without distortion. Weather stripping contact and hardware movement shall be checked and final adjustment made for proper operation and performance of units.
D. Furnish and apply sealing materials to provide a weather tight installation at all joints and intersections and at opening perimeters.
E. Sealing materials specified shall be used in strict accordance with the manufacturer's printed instructions, and shall be applied only by mechanics specially trained or experienced in their use. All surfaces must be clean and free of foreign matter before applying sealing materials. Sealing compounds shall be tooled to fill the joint and provide a smooth finished surface.

3.03 Anchorage
A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.04 Protection and Cleaning
A. The general contractor shall protect the aluminum materials and finish against damage from construction activities and harmful substances. The general contractor shall remove any protective coatings as directed by the architect, and shall clean the aluminum surfaces as recommended for the type of finish applied.

END OF SECTION
SECTION 08420
ALUMINUM ENTRANCE DOORS

PART 1 GENERAL

1.01 Work Included

A. Furnish and install aluminum entrance, entrance door frames complete with hardware, and related components as shown on the drawings and specified in this section.

B. All doors shall be EFCO® Series D500 Wide Stile Entrance Door. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. A sample door (size and configuration) as per requirements of architect.
   2. Test reports documenting compliance with requirements of Section 1.05.

C. Glass and Glazing
   1. Reference Section 08800 for Glass and Glazing.

D. Single Source Requirement
   1. All products listed in Section 1.02 shall be by the same manufacturer.

1.02 Related Work

A. Section 08410 – Aluminum Storefront
B. Section 08510 – Aluminum Windows
C. Section 08710 – Finished Hardware

1.03 Not Used

1.04 Items Installed but Not Furnished

A. Structural support of the framing, wood framing, structural steel, and final cleaning.

1.05 Laboratory Testing and Performance Requirements

A. Test Units
   1. Air test unit shall be minimum size of 36" (914 mm) x 84" (2134 mm).

B. Test Procedures and Performances
   1. Entrance doors shall conform to all requirements for the door type referenced in 1.01.B. In addition, the following specific performance requirements shall be met.
      2. Air Infiltration Test
         a. With door sash closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 1.57 psf (75 Pa).
         b. Air infiltration shall not exceed .50 cfm/SF (2.54 l/s•m²) of unit, for single doors.

C. Project Wind Loads
   1. The system shall be designed to withstand the following loads normal to the plane of the wall:
      a. Positive pressure of 20 psf at non-corner zones.
      b. Negative pressure of 20 psf at non-corner zones.
      c. Negative pressure of 20 psf at corner zones.
1.06 **Quality Assurance**

A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.

B. Test reports shall be accompanied by the entrance door manufacturer's letter of certification stating that the tested door meets or exceeds the referenced performance standard for the appropriate door type.

1.07 **Not Used**

1.08 **Submittals**

A. Contractor shall submit shop drawings, finish samples, test reports, and warranties.
   1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.

1.09 **Warranties**

A. **Total Entrance Door Installation**
   1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total door installation which includes that of the manufacturer supplied doors, hardware, glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, and structural adequacy as called for in the specifications and approved shop drawings.
   2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. **Window Material and Workmanship**
   1. Provide written guarantee against defects in material and workmanship for 3 years from the date of final shipment.

C. **Glass**
   1. Provide written warranty for insulated glass units that they will be free from obstruction of vision as a result of dust or film formation on the internal glass surfaces caused by failure of the hermetic seal due to defects in material and workmanship.
   2. Warranty period shall be for 10 (ten) years.

D. **Finish**
   1. Warranty period shall be for 3 years from the date of final shipment.

**PART 2 PRODUCTS**

2.01 **Material**

A. **Aluminum**
   1. Extruded aluminum shall be 6063-T6 alloy and temper.

B. **Hardware**
   1. Hardware for entrance doors (check with entrance door manufacturer for compatibility with door) is specified under “Hardware Section” of the specifications and shall be sent to the door manufacturer for application. The finish hardware supplier shall be responsible for furnishing physical hardware and templates of all hardware to the entrance door manufacturer prior to fabrication, and for coordinating hardware delivery requirements with the hardware manufacturer, the general contractor and the entrance door manufacturer to ensure the building project is not delayed.
C. Glass
   1. Glass shall be monolithic as follows:
      a. Exterior lite – 1/4” thick, clear tempered glass.

2.02 Fabrication

A. General
   1. Major portions of the door sections shall have .125” (3 mm) wall thickness. Glazing stop sections shall have .050” (1.2 mm) wall thickness.

B. Entrance Doors
   1. Door stiles and mid-rail shall be no less than 5” (127 mm) wide (not including glass stops).
   2. The bottom rail shall be no less than 10” as required for ADA access.
   3. Door stiles and rails shall have hairline joints at corners. Heavy concealed reinforcement brackets shall be secured with screws and shall be of deep penetration and fillet welded.
   4. Weather stripping shall be wool pile and shall be installed in one stile of pairs of doors and in jamb stiles of center pivoted doors.

C. Glazing
   1. All units shall be dry glazed with extruded pressure fitting aluminum glazing stops, and EPDM gaskets.

D. Finish
   1. Organic
      a. Finish all exposed areas of aluminum windows and components with 50% PVDF Ultraflur™. Color shall be as indicated on drawings.

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PART 3 EXECUTION

3.01 Inspection

A. Job Conditions
   1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface and are in accordance with approved shop drawings.
   2. Provide for manufacturer representation to conduct pre-installation site meeting.

3.02 Installation

A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.

B. Plumb and align entrance door faces in a single plane for each wall plane and erect doors and materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

C. Adjust doors for proper operation after installation.

D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Anchorage
A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.04 Protection and Cleaning

A. After completion of entrance installation, entrance doors shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.
SECTION 08510
ALUMINUM WINDOWS

PART 1 GENERAL

1.01 Work Included

A. Furnish and install aluminum architectural windows complete with hardware and related components as shown on drawings and specified in this section.

B. All windows shall be EFCO® Series 3500 Thermal AW-PG50-HS Horizontal Sliding. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. A sample window, 36" (914 mm) x 24" (610 mm) single unit, as per requirements of architect.
   2. Test reports documenting compliance with requirements of Section 1.05.

C. Glass and Glazing
   1. All units shall be factory glazed.

D. Single Source Requirement
   1. All products listed in Section 1.02 shall be by the same manufacturer.

1.02 Related Work

B. Section 08410 – Aluminum – Framed Entrances and Storefronts

1.03 Laboratory Testing and Performance Requirements

A. Test Units
   1. Air, water, and structural test unit shall conform to requirements set forth in AAMA/WDMA/CSA 101/I.S.2/A440 – 08 and manufacturer's standard locking/operating hardware and insulated glazing configuration.
   2. Thermal test unit sizes shall be 72" (1828 mm) x 48" (1219 mm). Unit shall consist of a single horizontal sliding window.

B. Test Procedures and Performances
   1. Windows shall conform to all AAMA/WDMA/CSA 101/I.S.2/A440 – 08 requirements for the window type referenced in 1.01.B. In addition, the following specific performance requirements shall be met.
   2. Life Cycle Testing
      a. Test in accordance with AAMA 910. There shall be no damage to fasteners, hardware parts, support arms, activating mechanisms, or any other damage that would cause the window to be inoperable. Air infiltration and water resistance tests shall not exceed specified requirements.
   3. Air Infiltration Test
      a. With window sash closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf (299 Pa).
      b. Air infiltration shall not exceed .10 cfm/SF (.50 l/s•m²) of unit.
   4. Water Resistance Test
      a. With window sash closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 15.0 psf (718 Pa).
      b. There shall be no uncontrolled water leakage.
   5. Uniform Load Deflection Test
a. With window sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 50.0 psf (2394 Pa), positive and negative pressure.
b. No member shall deflect over L/175 of its span.

6. Uniform Load Structural Test
a. With window sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 75.0 psf (3591 Pa), both positive and negative.
b. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the window to be inoperable.

7. Forced Entry Resistance
a. Windows shall be tested in accordance to ASTM F 588 or AAMA 1302.5 and meet the requirements of performance level 40.

8. Condensation Resistance Test (CRF)
a. Test unit in accordance with AAMA 1503.1.
b. Condensation Resistance Factor (CRF) shall not be less than ___ (frame) when glazed with ___ center of glass U-Factor. (See chart at end of section).

9. Condensation Resistance (CR)
a. With ventilators closed and locked, test unit in accordance with NFRC 500-2010.
b. Condensation Resistance (CR) shall not be less than ___ when glazed with ___ center of glass U-Factor. (See chart at end of section).

10. Thermal Transmittance Test (Conductive U-Factor)
a. With ventilators closed and locked, test unit in accordance with NFRC 100-2010.
b. Conductive thermal transmittance (U-Factor) shall not be more than ___ BTU/hr•ft²•°F (___ W/m²•K) when glazed with ___ center of glass U-Factor. (See chart at end of section).

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1.07 Quality Assurance
A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.
B. Test reports shall be accompanied by the window manufacturer's letter of certification, stating the tested window meets or exceeds the referenced criteria for the appropriate window type listed.

1.08 Submittals
A. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
   1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.
B. An NFRC Component Modeling Approach (CMA) generated label certificate shall be provided by the manufacturer. The label certificate shall be project specific and will contain the thermal performance ratings of the manufacturer's framing combined with the specified glass, and the
glass spacer used in the fabrication of the glass, at NFRC standard test size as defined in table 4-3 in NFRC 100-2010.

1.10 Warranties

A. Total Window Installation
   1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total window installation which includes that of the windows, hardware, glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
   2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. Window Material and Workmanship
   1. Provide written guarantee against defects in material and workmanship for 5 years from the date of final shipment.

C. Glass
   1. Provide written warranty for insulated glass units that they will be free from obstruction of vision as a result of dust or film formation on the internal glass surfaces caused by failure of the hermetic seal due to defects in material and workmanship.
   2. Warranty period shall be for 10 (ten) years.

D. Finish
   1. Warranty period shall be for 5 years from the date of final shipment.
   2. Provide organic finish warranty based on AAMA standard 2604.

PART 2 PRODUCTS

2.01 Materials

A. Aluminum
   1. Extruded aluminum shall be 6063-T6 alloy and tempered.

B. Hardware
   1. Concealed plunger lock in the meeting rail with a flush mounted actuating handle.
   2. Sash shall ride on steel ball bearing rollers and a raised track, so dirt will not interfere with normal operation.

C. Weather-Strip
   1. All primary weather-strip shall be Q-Lon® or equal.

D. Glass
   1. Insulated glass shall be 1” thick with a center of glass U-Factor of ___ constructed as follows:
      a. Exterior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).
      b. Air space of ½” inch.
      c. Interior lite – ¼” thick, clear color, tempered glass (annealed, H.S. Temp).

E. Thermal Barrier
   1. All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. For purposes of this specification, a structural thermal barrier is defined as a system that shall transfer shear during bending and, therefore, promote composite action between the exterior and interior extrusions.
   2. Sills are thermally broken with thermal struts, consisting of glass reinforced polyamide nylon, mechanically crimped in raceways extruded in the exterior and interior extrusions. Other
thermally broken members can use the latest technology in two-part, high-density polyurethane. A nonstructural thermal barrier is unacceptable.

2.02 Fabrication

A. General
1. All aluminum frame and sash extrusions shall have a minimum wall thickness of .062" (1.5 mm). Frame sill members shall have a minimum wall thickness of .094" (2.3 mm).
2. Depth of frame shall not be less than 3 1/4" (82 mm).
3. Mechanical fasteners, welded components, and hardware items shall not bridge thermal barriers. Thermal barriers shall align at all frame and vent corners.

B. Frame
1. Frame components shall be mechanically fastened.
2. Frame and sash shall have a continuous interlock at the meeting rail.

C. Sash
1. Sash vertical members shall telescope into the sash horizontals and be mechanically fastened.
2. The sash shall be single or double weather-stripped.

D. Screens
1. Half screens only shall be permitted. The screen shall not be surface mounted.
2. Screen frames shall be extruded aluminum.
3. Screen mesh shall be aluminum or fiberglass.

E. Glazing
1. All lites (both sash and fixed) of the horizontal sliding window shall be inside glazed and weeped.
2. All units shall be glazed with the manufacturer's standard sealant process provided the glass is held in place by a removable, extruded aluminum, glazing bead. The glazing bead must be isolated from the glazing material by a gasket.
3. All units shall be glazed with a minimum of 1/2" glass bit.

F. Finish
1. Organic
   a. Finish all exposed areas of aluminum windows and components with 50% PVDF Ultraflur™. Color shall as indicated on the drawings.

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<th>Description</th>
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PART 3 EXECUTION

3.01 Inspection

A. Job Conditions
1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.

B. Plumb and align window faces in a single plane for each wall plane, and erect windows and

08510-4 ALUMINUM SLIDING WINDOW
materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

C. Adjust windows for proper operation after installation.

D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Anchorage

A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.04 Protection and Cleaning

A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.

END OF SECTION
SECTION 08620
PLASTIC UNIT SKYLIGHTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes plastic unit skylights.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 06100 – Rough Carpentry for wood curbs and nailers.
2. Section 07600 – Flashing and Sheet Metal for metal flashing for skylights.
3. Section 07610 – Metal Roofing.
4. Section 07900 – Sealants.

C. Refer to roofing system Sections for roofing accessories to be built into the roofing system to accommodate Work of this Section.

1.03 SUBMITTALS

A. General: Submit the following according to the Conditions of Contract and Division 1 Specification Sections.

B. Product data for each type of skylight specified, including details of construction relative to materials, dimensions of individual components, profiles, finishes, and glazing light transmission and thermal characteristics.

C. Shop drawings showing fabrication and installation of skylights, including plans, elevations, sections, details of components, and attachments to other units of Work.

D. Samples for initial selection purposes in the form of manufacturer's color charts showing a full range of colors available for each type of skylight glazing, retainer, frame, and curb indicated.

1.04 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide plastic sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.

1. Self-Ignition Temperature: 650 deg F (343 deg C) or greater when tested per ASTM D 1929 on plastic sheets in the thickness intended for use.
2. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in the thickness intended for use.
3. Relative-Burning Characteristics: As follows, when tested per ASTM D 635:
   a. Acrylic: Burning rate of 2.5 inches (64 mm) per minute or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.
   b. Polycarbonate: Burning extent of 1 inch (25 mm) or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.

1.05 WARRANTY

A. General: Warranties specified in this Section shall not deprive the Owner of other rights the Owner 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. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weathertight and leak-free performance. "Defects" is defined as uncontrolled leakage of water and abnormal aging or deterioration.
   1. Warranty Period: 5 years from date of Substantial Completion.

C. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. "Defects" is defined as abnormal aging or deterioration.
   1. Warranty Period for Acrylic: 5 years from date of Substantial Completion against yellowing.
   2. Warranty Period for Polycarbonate: 5 years from date of Substantial Completion against breakage.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
   1. Bristolite Skylights.
   3. O'Keeffe's, Inc.
   4. Regal Plastics Supply Company.
   5. Skyline Products, Inc.

2.01 MATERIALS

A. Aluminum Sheets: ASTM B 209 (ASTM B 209M) for Alclad alloy 3005-H25 or alloy and temper required to suit forming operations and finish requirements. Mill finish unless indicated otherwise.
B. Extruded Aluminum: ASTM B 221 (ASTM B 221M) alloy 6063-T52 or alloy and temper required to suit structural and finish requirements. Mill finish unless indicated otherwise.

C. Plastic Sheets: Monolithic, formable, transparent (colorless and tinted) or translucent (white) sheets with good weather and impact resistance.
   1. Acrylic: ASTM D 4802, thermoformable, cast or continuous-cast acrylic (methacrylate), Category C-1 or C-2, Type UVA (formulated with ultraviolet absorber), with Finish 1 (smooth or polished), unless otherwise indicated.

D. Wood Curbs and Nailer: Softwood lumber, pressure-treated with waterborne preservatives for above-ground use, complying with AWPA C2; not less than 1-1/2 inch (38 mm) nominal thickness.

E. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.
   1. Where removal of exterior exposed fasteners affords access to building, provide nonremovable fastener heads.

F. Operable Skylight Gaskets: Manufacturer's standard tubular or fingered design of neoprene or EPDM, or block design of sponge EPDM or neoprene.

G. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil (0.4 mm) dry film thickness per coating.

H. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

I. Elastomeric Sealant: Generic type recommended by unit manufacturer that is compatible with joint surfaces. ASTM C 920; Type S; Grade NS; Class 25; and Uses NT, G, A, and (as applicable to joint substrates indicated) O.

J. Roofing Cement: ASTM D 4586, nonasbestos-fibrated, asphalt cement designed for trowel application or other adhesive compatible with roofing system.

2.02 FINISHES

A. General: Comply with NAAMM "Metal Finishes Manual" recommendations for application and designations of finishes.

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

C. Class I, Color-Anodized Finish: AA-M12C22A42/A44 (Mechanical Finish: as fabricated, nonspecular; Chemical Finish: etched, medium matte; Anodic Coating: Class I Architectural, film thicker than 0.7 mil (0.02 mm) with integral color or electrolytically deposited color) complying with AAMA 606.1 or AAMA 608.1.
1. Color: Dark bronze.

2.03 PLASTIC SKYLIGHT UNITS

A. General: Factory-assembled unit consisting of plastic glazing, extruded aluminum glazing retainer, gasketing, inner frame that may be incorporated into the curb, and integral curb with self-contained roof flashing flanges.

B. Curb: Self-flashing, self-supporting double-wall, formed or extruded (or combination) aluminum curb, minimum 0.040-inch (1.0-mm) wall thickness, enclosing minimum 1-inch (25-mm) glass-fiber board (or equivalent) insulation and with minimum 3-inch (75-mm) roof flanges, with welded or sealed mechanical joints at corners.

1. Height: 3 inches (75 mm) above roofing.

E. Condensation Control: Fabricate skylight units with integral internal gutters and nonclogging weeps to collect and dispose of condensation.

F. Thermal Break: Fabricate skylight units with thermal barrier separating interior metal framing from materials exposed to outside temperature.

G. Shape and Size: Rectangular, as indicated.

H. Glazing: Thermoformed acrylic.

1. Profile: Double dome, 25 percent rise.

   a. Outer Glazing Color: Colorless, transparent acrylic, 92 percent visible light transmittance.
   b. Inner Glazing Color: Colorless, transparent acrylic, 92 percent visible light transmittance.

2. Glazing Gaskets: Manufacturer's standard glazing system of EPDM or neoprene, closed-cell sponge neoprene, or EPDM, or of partially vulcanized butyl tape or liquid-applied elastomeric sealant.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Comply with manufacturer's instructions and recommendations. Coordinate with installation of roof deck and other substrates to receive skylight units. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that each element of the work performs properly and that combined elements are waterproof and weathertight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

1. Except as otherwise indicated, install roof skylights according to construction details of "NRCA Roofing and Waterproofing Manual."
B. Isolation: Where metal surfaces of units are to be installed in contact with incompatible metal or corrosive substrates, including wood, apply bituminous coating on concealed metal surfaces, or provide another permanent separation.

C. Flange Seals: Except as otherwise indicated, set flanges of accessory units in a thick bed of roofing cement to form a seal.

D. Cap Flashing: Where cap flashing is required as component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counterflashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

E. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.

3.02 CLEANING AND PROTECTION

A. Clean exposed metal and plastic surfaces according to manufacturer’s instructions. Touch up damaged metal coatings.

B. Clean and polish plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion.

END OF SECTION
SECTION 08700
HARDWARE

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Provide hardware for new doors.

B. Provide cylinders to match existing for doors fabricated with hardware.

1.02 QUALITY ASSURANCE

A. Fire Rated Doors: Comply with requirements of NFPA 80 and applicable codes for fire rated door hardware; provide hardware bearing Underwriters Laboratory (UL) labels.

1. Doors indicated in fire rated partitions and walls shall be positive latching and self closing, with smoke gaskets.

B. Access for Persons with Disabilities: All doors shall comply with California Code of Regulations, Title 24, and Americans with Disabilities Act Accessibility Guidelines (ADAAG). Adjust doors to minimum force necessary to close properly with maximum door closer pressures following:

1. Interior doors: 5 lbs
2. Exterior doors: 5 lbs
3. Fire Doors: Provide the minimum force to close and latch door, up to 15 lbf maximum force.

C. Supplier: Recognized builders hardware supplier with minimum five years successful experience in scheduling and furnishing hardware.

1. Provide services of architectural hardware consultant to supervise hardware supply.

1.03 REFERENCES

A. ANSI A115 and A115W Series: Door and Frame Preparation Standards.

B. ANSI A156.1 through A156.20: Standards for various hardware items.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Shop Drawings: Indicate locations and mounting heights of hardware.

1. Supply templates to door and frame manufacturers for proper and accurate sizing and locations of cut-outs for hardware.

C. Product Data: Submit catalog cuts for each type of hardware.

D. Samples: Indicate required style and finish.
1.06 OPERATION AND MAINTENANCE DATA

A. Provide manufacturer's parts list and maintenance instructions for each type of hardware supplied and necessary wrenches and tools required for proper maintenance of hardware.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver hardware in manufacturer's original packages, marked for intended opening and use.

B. Pack complete with necessary screws, bolts, keys, instructions, and installations template, if necessary, for spotting mortising tools.

C. Upon delivery, furnish complete list of hardware for checking, clearly marked to correspond with marking on each package.

   1. Review list for completeness and accuracy.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Hinges:

   1. Hager Hinge Co.
   2. McKinney Products Co., Division of Essex Industries.
   3. Stanley Hardware Division of Stanley Works.
   4. Substitutions: Refer to Section 06130.

B. Locksets, Latchsets:

   1. Von Duprin, Inc. (Locksets, latchsets)
   2. Corbin Co. (Cylinders)
   3. Schlage Lock Co. (Locksets, latchsets)

C. Closers:

   1. LCN Closers Division Schlage Lock Co./4000 Series
   2. Norton Division, Yale Security, Inc./7500 Series

D. Thresholds, Stops, Trim and Miscellaneous Hardware:

   1. Glynn-Johnson Co.
   2. H.B. Ives.
   6. National Guard Products, Inc.
   7. Substitutions: Refer to Section 01630.

E. Hardware Schedule: Manufacturers listed in Hardware schedule, with reference to catalog numbers and designations, are acceptable.

2.02 MATERIALS
A. Templates: Furnish templates or physical hardware items to manufacturers concerned sufficiently in advance to avoid delay in Work.

B. Reinforcing Units: Furnished by door manufacturer, coordinated by hardware manufacturer.

C. Fasteners: Furnish as recommended by manufacturer and as required to install secure hardware.
   1. Finish: Match hardware.
   2. Furnish screws sufficiently long to provide solid connection to framing or backing.

2.03 HARDWARE ITEMS

A. Review Drawings for hardware group locations and door types; where not fully covered in Hardware Schedule, comply with following general requirements; inform Architect where conflicts occur.
   1. Provide hardware items with accessories completed to function as intended.

B. Hinges and Butts: ANSI A156.1; comply with following unless otherwise indicated.
   1. Doors 1-¾” Thick: 4-½” heavy weight, extra heavy weight ball or oilite bearing where over 40” wide.
   2. Provide width sufficient to clear trim projection when door swings 180 degrees.
   3. Provide minimum 3 hinges to 90” high, 4 hinges to 120” high for each door leaf, unless otherwise indicated.
   4. Provide nonferrous butts with non-removable pins all doors, non-rising at interior doors; stainless steel where labeled; steel butts at labeled interior doors.
   5. Provide ball bearing or oilite bearing hinges at door with closers.

C. Locksets and Latchsets: Provide of metal matching specified finish; interior parts of steel and zinc-dichromate plating, to resist rusting and corrosion; do not supply plastic, die-cast or aluminum mechanisms.
   1. Type: ANSI A156.13, Series 1000, Grade 1, Mortise type with 6 pin tumbler cylinders, except where otherwise indicated in Hardware Schedule.
      a. Provide cylinders extruded brass bar material to match cylinders in existing building to remain.
   2. Design: Solid over lever with rose, as selected by Architect.
   4. Strikes: Furnish standard strikes with extended lips where required to protect trim from being marred by latch bolt; verify type of cutouts provided in metal frames.

D. Keys and Keying: Hardware Manufacturers shall provide for grand master, master key alike or key different keying as directed by Owner to match existing.
1. Provide construction cylinders for doors requiring locking during construction; construction cylinders shall be removed and replaced just prior to Owner occupancy.

2. Submit keys for final use to Owner.

3. Hardware manufacturers shall key and register lock cylinders.

E. Closers: ANSI A156.4, furnish products of one manufacturer, full rack and pinion type with steel spring and non-freezing hydraulic fluid.

1. Provide controls for regulating closing, latching, speeds and back check.

2. Supply parallel - arm, heavy duty type closers at all doors.

3. Mount closers on room side or pull side unless otherwise indicated.

4. Sizes: Adjustable to following maximum door operating pressures:
   a. Interior Doors: 5 pounds.
   b. Exterior Doors: 5 pounds.
   c. Fire Rated Doors: Minimum force necessary to close door, up to 15 pounds.
   d. Make labeled doors self-closing.
   e. Closers shall be adjusted by factory representative.

5. Design: ANSI Modern Type Cover, unless otherwise indicated.

F. Through Bolts: Through Bolts and grommet nuts shall used on all closers, but on other hardware shall be avoided on door faces in highly visible areas, unless no alternative is possible, as directed and approved, and shall not be used for solid wood core doors.

G. Weatherstripping and Gaskets: Provide continuous weatherstripping at top and sides of exterior doors, fire rated gaskets at top and sides of fire rated doors.

H. Silencers: Provide on hollow metal frame where weatherstripping and gaskets are not used.

2.04 FINISHES

A. Provide following finishes except where otherwise indicated.

B. Typical: BHMA 626, satin chromium plated.

C. Closers: Metal cover finished to match door operating hardware.

D. Thresholds: (US26B) clear anodized aluminum (slip resistant finish).

E. Other Items: Provide manufacturers standard finishes to match similar hardware types on same door, and maintain acceptable finish considering anticipated use.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install finish hardware specified under this section; coordinate with manufacturer and installation of doors and frames.
B. Fit hardware prior to painting, then remove for painting of doors and frames before final installation of hardware.

C. Install hardware in accordance with manufacturer's instructions.

D. No extra cost will be allowed because of changes or corrections necessary to facilitate installation of hardware.

3.02 MOUNTING POSITIONS

A. Heights given are center line heights from finished floor.

1. Locks and Latches: 38" to center of lever.

2. Door Pulls: 42" to center of grip.

3. Push Plate: 42"; coordinate will pull location.

4. Push-Pull Bar: 42" to center of bar.

5. Top Hinge: To jamb manufacturer's standard, but not greater than 10" form head of frame to center line of hinge.

6. Bottom Hinge: To jamb manufacturer's standard, but not greater than 12-1/2" from floor to center line of hinge.

7. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.

8. Hinge Mortise on Door Leaf: 1/4" to 5/16" from stop side of door.

9. Dead Bolt: Not more than 44" from floor to operating lever.

B. Comply with recommendations of Builders Hardware Manufacturers Association, subject to approval, for heights of items not indicated.

3.03 ADJUSTMENT

A. After air supply is turned on, qualified hardware supplier's or manufacturer representatives shall inspect installation and make adjustments.

1. Adjust closers, locks, and critical operational hardware.

2. Deliver instructions for maintenance and future adjustments to Owner's representative.

3.04 HARDWARE SCHEDULE

A. The Hardware Schedule establishes a type and standard of quality.

B. Examine Drawings and Specifications and furnish proper hardware for door openings, whether listed or not.

C. Bring omissions to attention of Architect prior to bid opening for instructions; otherwise, list will be considered complete; no extras will be allowed.
D. Hardware Schedule:

**Interior:**

**GROUP 1:**

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<th>Product No.</th>
<th>Manuf.</th>
<th>Finish</th>
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END OF SECTION
SECTION 09250

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:

1. Non load-bearing steel framing members for gypsum board and ceramic tile wall, ceiling, and soffit assemblies.
2. Gypsum board assemblies attached to steel framing.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 7 Section "Firestopping" for firestopping systems and fire-resistance-rated joint sealants.
2. Division 9 Section "Ceramic Tile" for backer board and ceramic tile products used over steel framing.

1.03 DEFINITIONS

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA-505 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.04 ASSEMBLY PERFORMANCE REQUIREMENTS

A. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those of assemblies whose STC ratings were determined according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

B. Fire Resistance: Provide gypsum board assemblies with fire-resistance ratings indicated.

1.05 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of product specified.

C. Product certificates signed by manufacturers of gypsum board assembly components certifying that their products comply with specified requirements.

1.06 QUALITY ASSURANCE
A. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer, unless otherwise indicated.

B. Single-Source Responsibility for Panel Products: Obtain each type of gypsum board and other panel products from a single manufacturer.

C. Single-Source Responsibility for Finishing Materials: Obtain finishing materials from either the same manufacturer that supplies gypsum board and other panel products or from a manufacturer acceptable to gypsum board manufacturer.

D. 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: As indicated by GA File Numbers in GA-600 "Fire Resistance Design Manual" or design designations in UL "Fire Resistance Directory" or in the listing of another testing and inspecting agency acceptable to authorities having jurisdiction.

2. Gypsum board assemblies indicated are identical to assemblies tested for fire resistance according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

3. Deflection and Firestop Track: Top runner provided in fire-resistance-rated assemblies indicated is labeled and listed by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction.

E. Industry Standards: Work shall comply with the applicable requirements of Gypsum Association (GA) publication GA-216, "Recommended Specifications for the Application and Finishing of Gypsum Board."

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.

B. 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. Neatly stack gypsum panels flat to prevent sagging.

1.08 PROJECT CONDITIONS

A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.

B. Room Temperatures: For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F. For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F for 48 hours before application and continuously after until dry. Do not exceed 95 deg F when using temporary heat sources.

C. Ventilation: Ventilate building spaces as required to dry joint treatment materials. Avoid drafts during hot, dry weather to prevent finishing materials from drying too rapidly.

PART 2 - PRODUCTS

2.01 MANUFACTURERS
A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Steel Framing and Furring:
   a. Clark Steel Framing, Inc.
   b. Consolidated Systems, Inc.
   c. Dale Industries, Inc.
   e. National Gypsum Co.; Gold Bond Building Products Division.
   f. Unimast, Inc.

2. Grid Suspension Assemblies:
   a. Armstrong World Industries, Inc.
   b. Chicago Metallic Corp.
   c. USG Interiors, Inc.
   d. Worthington Steel Company.

3. Gypsum Board and Related Products:
   a. Domtar Gypsum.
   b. Georgia-Pacific Corp.
   c. National Gypsum Co.; Gold Bond Building Products Division.
   d. United States Gypsum Co.

2.02 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS

A. General: Provide components complying with ASTM C 754 for conditions indicated.

B. Wire Ties: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, thickness as indicated.

C. Wire Hangers: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, thickness as indicated.

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: 2 inches deep, 590 lb/1000 feet, unless otherwise indicated.
   2. Furring Channels: ¾ inch deep, 300 lb/1000 feet, unless otherwise indicated.
   3. Finish: Rust-inhibitive paint, unless otherwise indicated.

E. Steel Rigid Furring Channels: ASTM C 645, hat shaped, depth of 7/8 inch, and minimum thickness of base (uncoated) metal as follows:
   1. Thickness: 0.0329 inch, unless otherwise indicated.

F. Steel Resilient Furring Channels: Manufacturer's standard product designed to reduce sound transmission, fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M) to form ½-inch-deep channel of the following configuration:
   1. Double-Leg Configuration: Hat-shaped channel with 1-½-inch-wide face connected to flanges by double-slotted or expanded-metal legs (webs).
2.03 STEEL FRAMING FOR WALLS AND PARTITIONS

A. General: Provide steel framing members complying with the following requirements:


B. Steel Studs and Runners: ASTM C 645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch-wide minimum lip (return), and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:

1. Thickness: 16 gauge, unless otherwise indicated.
2. Depth: 3-5/8 inches, unless otherwise indicated.

C. Deflection Track: Manufacturer's standard top runner designed to prevent cracking of gypsum board applied to interior partitions resulting from deflection of the structure above fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M). Thickness as indicated for studs, and width to accommodate depth of studs.

D. Steel Resilient Furring Channels: Manufacturer's standard product designed to reduce sound transmission, fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M) to form ½-inch-deep channel of the following configuration:

1. Double-Leg Configuration: Hat-shaped channel with 1-½-inch-wide face connected to flanges by double-slotted or expanded-metal legs (webs).

E. Steel Channel Bridging: Cold-rolled steel, 0.0598-inch minimum thickness of base (uncoated) metal and 7/16-inch-wide flanges, 1-½ inches deep, 475 lb/1000 feet, unless otherwise indicated.

F. Steel Flat Strap and Backing Plate: Steel sheet for blocking and bracing complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M), length and width as indicated, and with a minimum base metal (uncoated) thickness as follows:

1. Thickness: 16 gauge, unless otherwise indicated.

G. Fasteners for Metal Framing: Provide fasteners of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.

2.04 GYPSUM BOARD PRODUCTS

A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.

B. Gypsum Wallboard: ASTM C 36 with 100% recycled paper and 20% recycled gypsum content, and as follows:

1. Comply with ASTM Standard C36 (Fed Spec SS-L-30D), in 48" widths and in such lengths as will result in a minimum of joints.

2. Regular Wallboard at all locations unless otherwise indicated: Type III, grade R, class 1, 5/8 inch thick.
a. DensArmor® Paperless Interior Drywall by Georgia-Pacific Gypsum LLC
b. DensArmor Plus® Paperless Interior Drywall by Georgia-Pacific Gypsum LLC

3. Fire-retardant Wallboard at all fire-rated assemblies: Type III, grade X, class 1, 5/8 inch thick.
   a. SHEETROCK® Brand FIRECODE® Core Gypsum Panel by USG

4. Water-resistant Wallboard at all restrooms, serveries, and as indicated: Type VII, grade W or X as required, class 2 (ASTM C630), 5/8 inch thick.
   a. SHEETROCK® Brand HUMITEK® FIRECODE® Core Gypsum Panel by USG
   b. SHEETROCK® Brand Water-Resistant FIRECODE® Core Gypsum Panel by USG

5. Sound-resistant Wallboard as indicated: Type VII, grade X as required, class 2 (ASTM C630), 5/8 inch thick with tapered and wrapped long edges.
   a. Serious Materials, Quietrock 527 gypsum panels compatible with UL Assembly V464 for an STC rating of 55 for a 4-7/8" thick wall, or approved equal

2.05 TRIM ACCESSORIES

A. Accessories for Interior Installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047 and requirements indicated below:
   1. Material: Formed metal with metal complying with the following requirement:
      a. Steel sheet zinc coated by hot-dip process or rolled zinc.
   2. Shapes indicated below by reference to Fig. 1 designations in ASTM C 1047:
      a. Cornerbead on outside corners, unless otherwise indicated. Provide angle shapes with wings not less than 1-1/8" wide and perforated for nailing and joint compound.
      b. LC-bead with both face and back flanges; face flange formed to receive joint compound. Use LC-beads for edge trim, unless otherwise indicated.

2.06 JOINT TREATMENT MATERIALS

A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.

B. Joint Tape for Gypsum Board: Paper reinforcing tape, unless otherwise indicated.
   1. Use pressure-sensitive or staple-attached, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.

C. Joint Tape for Cementitious Backer Units: As recommended by cementitious backer unit manufacturer.

D. Drying-Type Joint Compounds for Gypsum Board: Factory-packaged non-vinyl-based (non-V.I.P.) products complying with the following requirements for formulation and intended use.
1. Ready-Mixed Formulation: **Low-VOC** Factory-mixed product all-purpose compound formulated for both taping and topping compounds. Lime compound or all-purpose joint and texturing compound containing inert fillers and natural binders.

2. National Gypsum Company Proform® Brand Ultra Ready Mix joint compound or approved equal.

### 2.07 ACOUSTICAL SEALANT

A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following requirements:

2. Product is effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

B. Available Products: Subject to compliance with requirements, acoustical sealants that may be incorporated in the Work include, but are not limited to, the following:

1. Acoustical Sealant for Exposed and Concealed Joints:
   a. PL Acoustical Sealant; ChemRex, Inc.; Contech Brands.
   b. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
   c. SHEETROCK Acoustical Sealant; United States Gypsum Co.

### 2.05 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.

B. Laminating Adhesive: Special adhesive or joint compound recommended for laminating gypsum panels.

C. Spot Grout: ASTM C 475, setting-type joint compound recommended for spot-grouting hollow metal door frames.

D. Fastening Adhesive for Metal: Special adhesive recommended for laminating gypsum panels to steel framing.

E. Steel drill screws (nails are not acceptable) complying with ASTM C 1002 for the following applications:

1. Fastening gypsum board to steel members less than 0.033 inch thick.
2. Fastening gypsum board to gypsum board.
3. Fastening gypsum board accessories and trim.

F. Steel drill screws complying with ASTM C 954 for fastening gypsum board to steel members from 0.033 to 0.112 inch thick.

G. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.

H. Foam Gaskets: Closed-cell vinyl foam adhesive-backed strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit metal stud size indicated.

I. Polyethylene Vapor Retarder: ASTM D 4397, thickness and maximum permeance rating as follows: 4 mils 0.19 perms
K. Vapor Retarder Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Ceiling Anchorages: Coordinate installation of ceiling suspension systems with installation of overhead structural assemblies to ensure that 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.

B. Where offset anchor plates are required, provide continuous units fastened to building structure not more than 24 inches on center.

3.03 INSTALLING STEEL FRAMING, GENERAL

A. Steel Framing Installation Standard: Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.

B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with recommendations of gypsum board manufacturer or, if none available, with United States Gypsum Co.'s "Gypsum Construction Handbook."

C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement. Comply with details shown on Drawings.

   1. Where building structure abuts ceiling perimeter or penetrates ceiling.
   2. Where partition framing and wall furring abut structure, except at floor.

      a. Provide slip- or cushioned-type joints as detailed to attain lateral support and avoid axial loading.
      b. Install deflection track top runner to attain lateral support and avoid axial loading.
      c. Install deflection and firestop track top runner at fire-resistance-rated assemblies where indicated.

D. Do not bridge building control and expansion joints with steel framing or furring members. Independently frame both sides of joints with framing or furring members as indicated.

3.04 INSTALLING STEEL FRAMING FOR SUSPENDED AND FURRED CEILINGS

A. Screw furring members to wood framing.
B. Suspend ceiling hangers from building structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
4. Secure flat, angle, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure as well as for type of hanger involved, and in a manner that will not cause them to deteriorate or otherwise fail.
5. Do not attach hangers to steel deck tabs or to steel roof deck. Attach hangers to structural members.
6. Do not connect or suspend steel framing from ducts, pipes, or conduit.

C. Sway-brace suspended steel framing with hangers used for support.

D. Install suspended steel framing components in sizes and at spacings indicated, but not less than as indicated.

E. Installation Tolerances: Install steel framing components for suspended ceilings so that cross-furring 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.

F. Wire-tie or clip furring members to main runners and to other structural supports as indicated.

G. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

3.05 INSTALLING STEEL FRAMING FOR WALLS AND PARTITIONS

A. Install runners (tracks) at floors, ceilings, and structural walls and columns where gypsum board stud assemblies abut other construction.

B. Installation Tolerances: Install each steel framing and furring member so that fastening surfaces do not vary more than 1/8 inch from the plane formed by the faces of adjacent framing.

C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

1. Cut studs ½ inch short of full height to provide perimeter relief.
2. For STC-rated and fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid structural surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks,
as needed, to support gypsum board closures needed to make partitions continuous from floor to underside of solid structure.

D. Terminate partition framing at suspended ceilings where indicated.

E. Install steel studs and furring in sizes and at spacings indicated. Single-Layer Construction: Space studs 16 inches o.c., unless otherwise indicated.

F. Install steel studs so flanges point in the same direction and leading edge or end of each gypsum board panel can be attached to open (unsupported) edges of stud flanges first.

G. Frame door openings to comply with GA-219, and with applicable published recommendations of gypsum board manufacturer, unless otherwise indicated. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

   1. Install 2 studs at each jamb, unless otherwise indicated.
   2. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint.
   3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

DELETE BELOW IF NO FRAMED OPENINGS OTHER THAN DOORS, OR REVISE TO SUIT PROJECT. FRAMING INSTALLATION FOR LARGE OPENINGS SHOULD BE FULLY DETAILED.

H. Frame openings other than door openings to comply with details indicated or, if none indicated, as required for door openings. Install framing below sills of openings to match framing required above door heads.

I. Install polyethylene vapor retarder where indicated to comply with the following requirements:

   1. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with mechanical fasteners or adhesives. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those filled with loose mineral-fiber insulation.
   2. Seal vertical joints in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners 16 inches o.c.
   3. Seal joints in vapor retarders caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor retarder tape.
   4. Repair any tears or punctures in vapor retarder immediately before concealing it with the installation of gypsum board or other construction.

3.06 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.

B. Install sound-attenuation blankets, where indicated, prior to installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
D. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

E. Locate both edge or end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Avoid joints other than control joints at corners of framed openings where possible.

F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

G. Attach gypsum panels to framing provided at openings and cutouts.

H. Form control and expansion joints at locations indicated and as detailed, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.

I. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases that are braced internally.

1. Except where concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch-wide joints to install sealant.

J. Isolate perimeter of non load-bearing gypsum board partitions at structural abutments, except floors, as detailed. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

K. Where STC-rated gypsum board assemblies are indicated, seal construction at perimeters, behind control and expansion joints, openings, and penetrations with a continuous bead of acoustical sealant including a bead at both faces of the partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.

L. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.

3.07 GYPSUM BOARD APPLICATION METHODS

A. Single-Layer Application: Install gypsum wallboard panels as follows:

1. On ceilings, apply gypsum panels prior to wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated, and provide panel lengths that will minimize end joints.
3. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless parallel application is required for fire-resistance-rated assemblies. Use maximum-length panels to minimize end joints.
a. Stagger abutting end joints not less than one framing member in alternate courses of board.
b. At stairwells and other high walls, install panels horizontally.

4. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

B. Single-Layer Fastening Methods: Apply gypsum panels to supports as follows:

1. Fasten with screws.

3.08 INSTALLING TRIM ACCESSORIES

A. General: For trim accessories with back flanges, fasten to framing with the same fasteners used to fasten gypsum board. Otherwise, fasten trim accessories according to accessory manufacturer's directions for type, length, and spacing of fasteners.

B. Install corner bead at external corners.

C. Install edge trim where edge of gypsum panels would otherwise be exposed. Provide edge trim type with face flange formed to receive joint compound, except where other types are indicated.

1. Install LC-bead where gypsum panels are tightly abutted to other construction and back flange can be attached to framing or supporting substrate.

D. Install control joints according to ASTM C 840 and manufacturer's recommendations and in specific locations approved by Architect for visual effect.

3.09 FINISHING GYPSUM BOARD ASSEMBLIES

A. General: Treat gypsum board joints, interior angles, flanges of corner bead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.

B. Prefill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.

C. Apply joint tape over gypsum board joints and to flanges of trim accessories as recommended by trim accessory manufacturer.

D. Levels of Gypsum Board Finish: Provide Level 4 finish for all gypsum board surfaces exposed to view, unless otherwise indicated. Comply with GA-214.

E. Use one of the following joint compound combinations as applicable to the finish levels specified:

F. Use the following joint compound combination as applicable to the finish levels specified:


G. For Level 4 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories.
Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration.

I. Base for Acoustical Tile: Where gypsum board is indicated as a base for adhesively applied acoustical tile, install joint tape and a 2-coat compound treatment, without sanding.

3.10 CLEANING AND PROTECTION

A. Promptly remove any residual joint compound from adjacent surfaces.

B. Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for furnishing and installing thinset ceramic tile and associated accessories walls of toilet rooms.

1.02 SUBMITTALS

A. Submit the following to comply with requirements of Section 01300.

B. Samples:

1. Ceramic Tile:
   a. Wall Tile: Two panels for each type, pattern, and color required, with a minimum of four tiles per panel; tiles shall be mounted on plywood. Furnish matching trim shapes.

2. Grout: Samples showing manufacturer's standard color range.

C. Manufacturer's Data: Manufacturer's printed instructions for application of manufactured products.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Section 01600.

B. Deliver tile in manufacturer's original cartons, grade-sealed by manufacturer in accordance with ANSI A137.1, and with grade seals unbroken.

C. Manufactured mortars and grouts shall bear hallmarks certifying compliance with referenced standards.

D. Handle ceramic tile carefully to avoid chipping and breakage.

1.04 PROJECT CONDITIONS

A. Ambient temperature shall be at least 50 degrees F and rising, when setting and grouting with portland-cement mortar. Follow manufacturer's recommendations when setting and grouting with other than portland-cement mortar.

B. Moisture conditions for storage and installation shall be in accordance with the materials manufacturers' recommendations.

1.05 EXTRA MATERIALS

A. Furnish additional ceramic tile at the rate of two percent, to the nearest full carton, for each type, size, pattern, and color installed.
B. Extra materials shall be from the same production lots as the installed materials. Furnish extra materials factory-packaged and labeled, with each package identified with Owner's and Project's names, and location of installation in the project.

C. Deliver extra materials prior to time of Substantial Completion; store where directed by Architect. Furnish written certification that extra materials supplied have been inspected and confirmed to be the same as those installed. Furnish complete written inventory with delivery.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Ceramic tile is intended for use in new accessible tolietrooms and existing tolietrooms remodeled for accessibility.

B. Ceramic Tile:

1. General: ANSI A137.1, Standard Grade, factory-made units; manufactured by Dal-Tile, or equal. Where new tile is to be set adjacent to existing tile the new tile shall match the existing as closely as possible with respect to color and size.

2. Unglazed Ceramic Mosaic Floor Tile: 2" x 2" x 1/4" thick with matching trim units of same thickness with nonslip texture. Color will be selected by Architect from manufacturer's standard, intermediate-priced line. Dal-Tile or approved equal.

3. Glazed Ceramic Tile: 4-1/4" x 4-1/4" x 1/4" units. Furnish matching trim shapes, including 2-inch x 6-inch bullnose, internal and external corners, and end pieces. Color will be selected by Architect from manufacturer's standard, intermediate-priced line. Dal-Tile Semi-Gloss Series or approved equal.

C. Waterproof Membrane: May be either of the following:


2. Sheet Type for walls at wet locations: 4 mil polyethylene film.

D. Installation Materials:


2. Grout: Premixed, latex-portland cement type; color will be selected from manufacturer's standard range.

E. Backer Board at new walls: 5/8" Glass fiber reinforced cementitious boards as substrate with 2" glass fiber mesh tape embedded in skim coat of mortar over joints and corners.

F. Sanitary Sealant: Specified in Section 07900.

G. Miscellaneous Materials: Furnish all miscellaneous materials and fasteners required for a complete installation, whether or not such products are specifically shown or specified.

PART 3 – EXECUTION

[This includes furring & backer board. You may have to retrieve mat'l specs from Fremont USD Restroom renovation project specs]
3.01 BACKER BOARD FURRING INSTALLATION

A. Install metal framing systems in accordance with manufacturer's printed instructions.
C. Place framing not more than 2" from abutting members and at each side of openings; connect to tracks using expansion anchors, in accordance with manufacturer's instructions.
D. Install intermediate studs each side of openings to match or wall furring spacing.
E. Install cross furring for attachment of items anchored to walls.
F. Install furring between studs for attachment of mechanical and electrical items.
G. Erect furring, brace, and reinforce to develop full strength.
H. Assure framing provides true and flat surfaces, ready to receive finish, with maximum variance of 1/8" in 10’-0. Provide shims as necessary to comply with flatness requirements.
I. Touch-up protective coating damaged during handling and installation.
   1. Use zinc-rich galvanizing repair paint for galvanized surfaces.

3.02 BACKER BOARD INSTALLATION

A. Nail or screw panels to structural members. Adhere & screw panels to masonry backing. Fasteners at 8” on center maximum. Leave a space of 1/8” to 3/16” between panels both horizontally & vertically. Edges of panels parallel to framing members shall be continuously supported. Provide additional blocking when necessary to permit proper panel attachment.
B. Where two panels abut on a stud, insert nail or screw between panels, through washer.
C. Install panels with horizontal and vertical joints staggered.
D. Joint treatment: fill spaces solid between panels with mortar. Embed joint reinforcement tape in mortar over joints, including corners.

3.01 EXAMINATION

A. Verify that grounds, anchors, plugs, hangers, and mechanical and electrical Work which will, in the completed work, be in or behind products specified herein, have been installed prior to starting installation of specified products.
B. Inspect to verify that surfaces on which products specified herein will be installed are smooth, firm, free of projections, dry, clean, and free of oil, grease, and other materials which could prevent successful installation.
C. Verify that other conditions are satisfactory for the installation of ceramic tile. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 PREPARATION

A. Protect surfaces adjoining those to receive ceramic tile prior to start of installation.
3.03 INSTALLATION

A. General: Install manufactured products in accordance with the requirements of the manufacturers' printed instructions for the conditions of installation.

B. Waterproof Membrane:

1. Apply reinforced liquid membrane type with methods and in amounts recommended by manufacturer.
2. Apply primer and mastic to substrate, securely bonding waterproof membrane, and lapping joints for dimension recommended by manufacturer.

C. Ceramic Tile:

1. Install in accordance with the requirements of the specified ANSI and TCA references.
2. Do not start floor tile installation occurring in spaces to receive both floor and wall tile until wall tile installation has been completed.
3. Lay from centerline of floor outward, adjusting as necessary at junctions of other surfaces.
4. Set to produce solid bedding, smooth and even surfaces, with 1/16-inch joints, accurately and symmetrically aligned.
5. Do not use tiles of less than half size. Cut tile neatly, and grind rough exposed edges.
6. Terminate at centerlines of doors, unless otherwise shown.
7. Omit tile where floor or wall surface is covered by permanently built-in fixtures and equipment.
8. Install tile on floors and walls with latex-portland cement mortar in accordance with ANSI A118.4, and install tile on floors in conformance with TCA Method F122, and on walls in conformance with TCA Method W244.
9. Prior to grouting, replace damaged and defective tile.
10. Grout: Apply in accordance with ANSI A108.10, forcing a maximum amount of grout into joints so that joints are full and integral with setting bed. Before grout sets, strike or tool joints of tile to depth of cushion edges, or flush with face of tile having square edges, as applicable, filling gaps. Reinspect, and repoint defects encountered. Damp cure in accordance with the manufacturer's printed instructions.

3.04 CLEANUP

A. Clean adjacent surfaces free from mortar, grout, and other application materials as Work progresses, and upon completion of installation.

B. Clean surfaces of installed ceramic tile as recommended by manufacturers; do not use acid, harsh abrasives, or metal cleaning tools.

3.05 COMPLETION

A. Completed installations shall be clean and free from scratches, broken and chipped units, cracks, misaligned or improperly made joints, and stains, discoloration, and other defects and damage.

B. Ceramic tile shall be flush and level across adjoining faces, with joints straight and free from staggers and offsets.
C. Units shall be fully bonded into place, free from hollow sounds when inspected by tapping.

### 3.06 PROTECTION

A. Keep horizontal surfaces free from traffic and construction loads for a minimum of three days after installation of ceramic tile.

B. If use of newly-installed floors is unavoidable, protect installation with boards for a minimum of three days.

END OF SECTION
SECTION 09510

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Provide standard suspended acoustical ceiling systems, with suspended metal grid system including trim.
B. Provide adhered acoustic tile ceiling system including acoustical units, and associated accessories.

1.02 RELATED WORK

A. Division 1 Section “Waste Management”.
B. Division 9 Section, “Gypsum Board Assemblies” for adhered.
C. Division 15 Section for mechanical devices installed in acoustical ceilings.
D. Division 16 Sections for Electrical Devices installed in acoustical ceilings.

1.03 QUALITY ASSURANCE

A. Installer: Firm with minimum three years successful experience in projects of similar type and scope; acceptable to manufacturer of acoustical units.
B. Fire Performance Characteristics: Provide products listed by Underwriters Laboratories. (UL)
   1. Flame Spread/Smoke Generation: Provide products meeting code requirements for maximum 25 flame spread and maximum 25 smoke generation.
C. Seismic Requirements: Comply with state and local code requirements for seismic bracing of ceiling suspension system.
   1. Suspension system installation shall comply with Division of the State Architect Interpretation of Regulations 25-2.13: Ceiling Suspension.
   2. Fasteners shall comply with Division of the State Architect Interpretation of Regulations 19-1: Post-Installed Anchors in concrete for Anchorage Devices.
D. Source quality control:
   1. Test reports: Manufacturer will provide test certification for minimum requirements as tested in accordance with applicable industry standards and/or to meet performance standards specified by various agencies.
   2. Changes from system: System performance following any substitution of materials or change in assembly design must be certified by the manufacturer.
E. Installer shall comply with requirements of regulatory agencies: Codes and regulations of authorities having jurisdiction.
F. Provide acoustical ceiling panels complying with the Collaborative for High Performing Schools (CHPS) 01350 requirements for low-emitting materials with no formaldehyde.
F. Provide acoustical ceiling panels complying with the Greenguard requirements for low-emitting materials with no formaldehyde.

1.04 REFERENCES

A. ASTM C635: Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.


E. ASTM C423: Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.


1.05 SUBMITTALS

A. Shop Drawings:
   1. Ceiling plans: Clearly indicate layout arrangement of ceiling design, dimensions and locations of related integrated lighting and air distribution components.
   2. Installation drawings: Detail complete installation including suspension system, installation of related lighting and air distribution components, access requirements, sound absorption requirements, and fire rating requirements when applicable.

B. Product Data: Submit manufacturer’s catalog cuts or standard drawings showing details of system with project conditions clearly identified and manufacturer’s recommended installation instructions.

D. Samples:
   1. Set of 6 inch square samples for each ceiling panel unit required, showing full range of exposed color and texture to be expected in completed work.
   2. Set 6 inch long samples of each exposed suspension system track and molding.

1.06 SITE CONDITIONS

A. Installation of acoustical panels shall not begin until permanent heating and cooling equipment is in operation, and dust generating activities have terminated.

B. Coordination with other work:
   1. Electrical work: Installation of conduit above ceiling shall be complete before installation of ceiling components.
   2. Fire protection work: Fire protection lines and/or equipment occurring above ceiling shall be completed and tested before ceiling components are installed.

C. Allow wet work to dry prior to commencement of installation. Do not begin installation until residual moisture from plaster, concrete or similar work has dissipated.

09510 - 2 ACOUSTICAL CEILINGS
D. Maintain uniform temperature of minimum 60 to 85 degrees F and humidity of 20% to 40% prior to, during and after installation.

E. Protection: Protect completed work above ceiling system from damage during installation of ceiling components. Coordinate work with protection of installed ductwork to prevent migration of dust.

1.07 DELIVERY AND STORAGE OF MATERIALS

A. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements.

B. Ceiling material storage time at the jobsite should be as short as possible, and environmental conditions should be as near as possible to those specified for occupancy. Cartons should be removed from pallets and stringers to prevent distortion of material.

C. Damaged or deteriorated materials should be removed from the premises. Immediately before installation, to stabilize ceiling panels, store them at a location where temperature and humidity conditions duplicate those ambient during installation and anticipated for occupancy.

1.08 EXTRA MATERIALS

A. Furnished additional acoustical units in quantity equal to not less than one percent of total installed area for each type, size, and color unit, except not less than one full carton for each unit.

B. Extra materials shall be from the same production lots as the installed units; furnish in factory-packaged and labeled cartons, with each carton identified with the Owner’s and Project’s names, and location of installation in the Project.

C. Deliver extra materials prior to time of Substantial Completion, and store where directed by the Owner. With delivery, furnished written certification that extra materials supplied have been inspected and confirmed to be the same as those installed. Furnish complete typed inventory with delivery.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Suspension System:
   1. Chicago Metallic Corp.
   2. USG, Interiors, Inc.

B. Acoustic Ceiling Units:
   1. Armstrong World Industries, Inc.
   2. USG Interiors, Inc.
   3. Celotex Corporation

C. Exposed Fiber Acoustic Ceiling Units:
   1. Tectum Inc.: Ceiling Tile: [1][1-\(\frac{1}{2}\)][2]inches(es), 24x24, 24x48, painted white.
   2. Tectum Inc.: Tonico ceiling Tile [1][1-\(\frac{1}{2}\)][2]inches(es), 24x24, 24x48, painted white.
3. Tectum Inc.: V-line Panels: [1], 24x24-144, painted white.
4. Tectum Inc.: Designer Lay-In Panel: [1][1-\(\frac{1}{2}\) ]inch(es), 24x24, 24x48, 24x96, painted white.
5. Tectum Inc.: Security Ceiling System: [1][1-\(\frac{1}{2}\) ]inch(es), 24x24, painted white.

D. Substitutions: Refer to Section 01630.

2.02 MATERIALS

A. Suspension System: Comply with ASTM C635, as applicable to type of suspension system required for type of ceiling units indicated.

1. Grid System: Direct hung, aluminum or steel "T" exposed grid system.
2. Attachment Devices: Size for 5 times design load indicated in ASTM C635, Table 1, Direct Hung.
3. Hanger Wires: Galvanized carbon steel, ASTM A641, soft temper, prestretched, yield-stress load of at least three time design load, but not less than 12 gauge.
4. Straps, Tubes and Angles: Provide galvanized steel as required to meet state and local requirements for seismic design loads.
5. Structural Class: Intermediate-duty system.
6. Edge Molding: Manufacturer's standard angle molding for edges and penetrations of ceiling, with single flange of molding exposed. Manufacturers standard snap-on molding edge where noted.
   a. At lay-in exposed fiber acoustic ceiling provide "Contura CA-8" extruded aluminum trim with 3/4 inch wall angles as manufactured by Gordon Architectural Aluminum Specialties.
7. Finish of Exposed Items: Manufacturer's standard white baked enamel.

B. Lay-In Ceiling Acoustic Units:

1. Wet-formed mineral fiber panels, angled tegular (20 degree) lay-in.
2. Standard factory-applied latex, washable white painted finish.
3. Finish/Type: White
   a. Armstrong / "Cirrus" or USG / "000".
4. Size: 2'-0" x 4'-0" x 3/4", except where otherwise indicated on Drawings.
5. Size: 2'-0" x 2'-0" x 3/4", except where otherwise indicated on Drawings.
6. NCR Rating: minimum 0.65

Other Types:

Armstrong Ceilings  [http://www.armstrong.com/commceilingsna/fiber-ceilings.jsp](http://www.armstrong.com/commceilingsna/fiber-ceilings.jsp)

General ceiling tile: no-Formaldehyde + recycled – best to worst:

- CIRRUS Second Look®: 0.65 NCR
- CIRRUS®: 0.70
- CIRRUS Profiles: 0.65
- ULTIMA™: 0.70
- ULTIMA Vector™: 0.70
- FINE FISSIURED™: 0.65

Special Ceiling tile: no-Formaldehyde + recycled – best to worst:

- ULTIMA Open Plan: 0.75 NCR
- CIRRUS Open Plan: 0.75
- School Zone™ FINE FISSIURED: 0.70
- CERAMAGUARD® (unperforated): ?
USG Ceilings
General ceiling tile: low-VOC + recycled – best to worst
Orion 270 ClimaPlus 0.80 NCR
Eclipse ClimaPlus 0.70
Millenia ® ClimaPlus 0.70
Mars ClimaPlus 0.70
Orion 210 ClimaPlus 0.65

C. Lay-In Ceiling Exposed fiber Acoustic Units:
   1. "Tonico" exposed fiber panels, square edge.
   2. Finish/Type: Natural
   3. Size: 1" x 2'-0" x 4'-0", except where otherwise indicated on Drawings.
   4. NCR Rating: minimum 0.65

D. Adhered Acoustical Tile System
   1. Tiles: High density mineral-fiber units, 12" x 12" x \( \frac{3}{4} \)", size, with square edges, K4C4 with splines or T&G; factory finished with manufacturer’s standard, washable, white vinyl latex paint finish.
      a. Finish/Type: USG/ "Eclipse Clima Plus."
   2. Adhesive: Nontoxic Low-Voc acoustical tile adhesive recommended by tile manufacturer; materials approved by California State Fire Marshal.

PART 3 - EXECUTION

3.01 INSPECTION
A. Examine areas to receive acoustical suspension systems for conditions that will adversely affect installation. Provide written report of discrepancies.
B. Do not start work until unsatisfactory conditions are corrected.
C. Work to be concealed: Verify work above ceiling is complete and installed in a manner that will not affect layout and installation of acoustical suspension systems.
D. Beginning of installation shall signify acceptance of conditions in areas to receive acoustical suspension systems.

3.02 PREPARATION
A. Furnish layouts for inserts, clips and other supports required to be installed by other trades for support of acoustical ceilings.
   1. Install inserts, clips and supports where not previously installed and where additional supports are required for complete installation.
B. Allow acoustical units to adjust to temperature and humidity conditions installation spaces for three days minimum, with cartons opened and stripped sufficiently to allow units to stabilize to ambient conditions.
C. Measure ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling: do not use less than half width units at borders.

D. Coordinate with other work supported by or penetrating through ceilings, including light fixtures.

3.03 INSTALLATION – Suspended Ceilings

A. Install suspended acoustical ceiling systems in accordance with manufacturer’s recommendations and ASTM C636. Comply with CBC chapter 25 and DSA IR 25-3 & IR 19-1.

1. Finished Ceilings: True to lines and levels and free from warped, soiled or damaged grid or acoustical units. At radius ceilings install main tees at varying heights noted, snapping cross tees into main tees to complete shallow radius installation.

B. Install ceiling systems in a manner capable of supporting superimposed loads, with maximum permissible deflection of 1/8" in 10'-0".

C. Install after major above-ceiling work is complete; coordinate location of hangers with other work.

1. Ensure suspension system is located to accommodate fittings and units of equipment which is to be placed after installation of ceiling grid.

D. Where ducts or other equipment prevent regular spacing of hangers, reinforce nearest adjacent hangers and related carrying channels as required to span required distances.

E. Install ceiling suspension system to resist seismic loads as required by state and local codes, including extra hanger wires and compression supports for ceilings and light fixtures.

F. Hang system independently of walls, columns, ducts, pipes, and conduit. Where suspension system members are spliced, avoid visible displacement of the longitudinal axis or face plane of adjacent members.

G. Do not support lighting fixtures from or on main runners or cross runners if weight of fixture causes total dead load to exceed deflection capability.

1. Support fixture loads independently or provide supplementary hangers located within 6" of each corner.

H. Do not install fixtures so main runners and cross runners are eccentrically loaded; where fixture installation would produce rotation of runners, provide stabilizer bars.

I. Install edge moldings at intersection of ceiling and vertical surfaces, using maximum lengths, straight, true to line and level; miter corners. Install edge molding in 2'-0" lengths where radiused ceiling abuts wall.

1. Provide edge moldings at junctions with other ceiling finishes.

2. Provide manufacturers standard 4” tall x 9/16” snap-on molding edge over main tee at suspended free edge of radiused ceiling.

J. Where required form expansion joints to accommodate movement and maintain visual closure without distorting system.
K. Lay-In Ceilings: Fit acoustic units in place, free from damaged edges or defects detrimental to appearance and function.

1. Lay directional patterned units one way with pattern as directed.
2. Fit border units neatly against abutting surfaces.
3. Install units level, in uniform plane and free from twist, warp, and dents.
4. Install hold-down clips where required by applicable codes and where ceiling is within 20'-0" of an exterior door.
5. Adjustment: Adjust sags or twists which develop in ceiling system and replace any part which is damaged or faulty.

3.06 CLEANING

A. Final Cleaning: Wash finished surfaces as recommended by manufacturer.

B. Repainting: Spray a thinned nonbridging vinyl-acrylic flat wall paint as recommended by manufacturer. Repainting plastic coated surfaces with a nonbridging vinyl-acrylic flat enamel or other nonbridging paint, properly formulated to retain natural semi-gloss appearance.

C. Acoustical units shall be clean and free from scratches, dents, tool marks, stains, discoloration, and other defects and damage.

END OF SECTION
SECTION 09665

RESILIENT SHEET FLOORING

PART 1 GENERAL

1.01 WORK INCLUDED

A. Linoleum resilient sheet flooring with accessories as required for complete installation.

1.02 QUALITY ASSURANCE

A. Flamability: Provide materials tested under ASTM E648, Flooring Radiant Panel Test, with results of 0.45 watts/cm² or higher.
   1. Smoke Developed: Less than 450, ASTM E662.

B. Slip Resistance: Maximum 0.6 tested in accordance with ASTM D2047.

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01300.

B. Product Data: Furnish manufacturer's product literature.

C. Samples: Submit each color and pattern selected of each type of flooring and exposed accessory.

1.04 SITE CONDITIONS

A. Ensure floor surfaces are smooth and flat with maximum variation of 1/8" in 10'-0".

B. Ensure concrete floors are dry (maximum 7 percent moisture content) and exhibit negative alkalinity, carbonizing and dusting.

C. Maintain minimum 70 degree F air temperature at flooring installation area for 3 days prior to, during, and for 24 hours after installation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Special Resilient Sheet Flooring: Marbeleized linoleum consisting of oxidized linseed oil and natural resins mixed with wood or corkflour, limestone and pigments, conforming to FS LLL - F 1238A.
   
   1. Acceptable Manufacturers*
      a. Forbo Industries, Inc./Marmoleum Real - Fresco.
      b. Substitutions: Refer to Section 01630.

   2. Physical Characteristics:
      a. Width: Nominal 6' - 6" (200 cm).
      b. Thickness (Gage): Nominal 2.4 mm.
      c. Backing: Jute.
3. Colors and Patterns: As selected by Architect from manufacturer's full range of available colors and patterns.

C. Edge Strips: Homogeneous rubber, tapered or bullnose edge, color as selected by Architect to be compatible with flooring. Provide units of maximum available length, to minimize number of joints.

1. Sheet Flooring to Concrete: #633 Tile Reducer by BurkeMercer Flooring Products or #22 Reducer Strip by Roppe Corporation.
2. Ceramic Tile to Sheet Flooring: #632 Tile Reducer by BurkeMercer Flooring Products or #48 Reducer Strip by Roppe Corporation.
3. Carpet to Sheet Flooring: #150 Tile-Carpet Joiner by BurkeMercer Flooring Products.
4. Approved equal.

D. Adhesives: Low-VOC, water-resistant, mildew-resistant, non-staining type to suit products and subfloor conditions indicated and to comply with flammability requirements for installed carpet tile as recommended by carpet tile manufacturer.

E. Sealer and Wax: Type recommended by flooring manufacturer for material type and location.

F. Wall Base: Top-set 4 inch rubber base by "Burke" or "Roppe."

1. Exterior Corners: Premolded.
2. Interior Corners: Premolded.
3. Color and Pattern: As selected by Architect from manufacturer's full range of colors produced for rubber wall base complying with requirements indicated.

G. Heat weld sticks: Match sheet color, from manufacturer.

PART 3 – EXECUTION

3.01 PREPARATION

A. Remove subfloor ridges and bumps and clean substrate.

B. Prepare substrate in accordance with manufacturer's recommendations and ASTM F710.

3.02 INSTALLATION

A. Install sheet flooring in accordance with manufacturer's recommendations and installation instructions for type of following and substrates indicated.

B. Spread cement evenly in quantity recommended by manufacturer to ensure adhesion over entire area of installation.

C. Set flooring in place press with heavy roller for full adhesion.

D. Lay flooring with minimum seams, with pattern parallel to building lines to produce symmetrical pattern.

E. Heat weld joints.
F. Terminate resilient flooring at centline of door openings where adjacent floor finish is
disimilar.

G. Install edge strips at unprotected or exposed edges where flooring terminates.

H. Scribe flooring to walls, columns, floor outlets and other appurtenances, to produce tight joints.

I. Integral Cove Base (at wet areas): Provide integral coed base including cove support strip or
filler and tip edge strip.
   1. Install top edge strip level with floor lines, with tightly butted joints, mitered corners.
   2. Use longest top edge pieces available, maintain minimum measurement of 48" between joints.

J. Joints aligned with door openings are not acceptable.

3.03 RESILIENT BASE INSTALLATION

A. Inspect substrates to ensure they are plumb, even, free of improper or deleterious materials,
free of protrusions or gaps that could impair installation of resilient base. Starting installation of base
shall signify that Contractor has inspected substrate and found substrate to be
acceptable.

B. Install tight to flooring with hairline butt joints at abutting pieces. Joints shall be neatly cut,
straight and plumb. Apply adhesive recommended by resilient base manufacturer. Install prepared
external corner pieces at all external corners. Do not bend resilient base. Use longest lengths practicable. Wherever possible, provide on continuous length of base, without joints. Provide resilient base lengths no shorter than 12 inches unless required by wall length is less than 12 inches.

3.04 CLEAN-UP AND PROTECTION

A. Remove excess adhesive from floor base and wall surfaces without causing damage.

B. Clean, seal and wax floor surfaces in accordance with manufacturer’s recommendations.

C. Prohibit traffic from floor for 48 hours after installations.

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary
   Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes carpet tile and installation.

B. Related Sections: The following Sections contain requirements that relate to this Section:

   1. Division 2 Sections for removing existing flooring.

1.03 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and
   Division 1 Specification Sections.

B. Product Data for each type of carpet tile material and installation accessory specified. Submit
   manufacturer's printed data on physical characteristics, durability, fade resistance, and fire-
   test-response characteristics. Submit methods of installation for each type of substrate.

C. Shop Drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets,
   and locations where cutouts are required in carpet tile. Indicate the following:

   1. Existing flooring materials to be removed.
   2. Existing flooring materials to remain.
   3. Carpet tile type, color, and dye lot.
   4. Locations where dye lot changes occur.
   5. Type of installation.
   6. Pattern type, location, and direction.
   7. Pile direction.
   8. Type, color, and location of insets and borders.
   9. Type, color, and location of edge, transition, and other accessory strips.
   10. Transition details to other flooring materials.

D. Samples for initial selection in the form of manufacturer's color charts or Samples of materials
   showing the full range of colors, textures, and patterns available for each type of carpet tile
   indicated.

E. Samples for verification of the following products, 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. Label each sample with the manufacturer's name, material type, color, pattern, and designation indicated on Drawings and carpet tile schedule. Submit the following:

1. Full-size sample of each type of carpet tile required.
2. 12-inch (300-mm) Samples of each type of exposed edge stripping and accessory item.

F. Schedule of carpet tile using same room designations indicated on Drawings.

G. Maintenance data for carpet tile to include in the operation and maintenance manual specified in Division 1. Include the following:

1. Methods for maintaining carpet tile, including manufacturer's recommended frequency for maintaining carpet tile.
2. Precautions for cleaning materials and methods that could be detrimental to finishes and performance. Include cleaning and stain-removal products and procedures.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who is certified by the Floor Covering Installation Board (FCIB) or who can demonstrate compliance with FCIB certification program requirements.

B. Single-Source Responsibility: Obtain each type of carpet tile from one source and by a single manufacturer.

C. Fire-Test-Response Characteristics: Provide carpet tile with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet tile with appropriate markings of applicable testing and inspecting agency.

2. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm per ASTM E 648.
3. Critical Radiant Flux Classification: Class II, not less than 0.22 W/sq. cm per ASTM E 648.
4. Flame Spread: 25 or less per ASTM E 84.
5. Smoke Developed: 450 or less per ASTM E 84.

D. Mockups: Prior to installing carpet tile, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of Work.

1. Locate mockups on-site in the location and of the size indicated or, if not indicated, as directed by Architect.
2. Notify Architect one week in advance of the dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before start of final unit of Work.
5. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

a. When directed, demolish and remove mockups from Project site.
b. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.
1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with the Carpet and Rug Institute's CRI 104, Section 5: "Storage and Handling."

B. Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.

C. Store materials on-site in original undamaged packages, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, with continuous blocking off ground.

1.06 PROJECT CONDITIONS

A. General: Comply with CRI 104, Section 6: "Site Conditions."

B. Space Enclosure and Environmental Limitations: Do not install carpet tile until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.

C. Subfloor Moisture Conditions: Moisture emission rate of not more than 3 lb/1000 sq. ft./24 hours (14.6 kg/1000 sq. m/24 hours) when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55 deg F (12.7 deg C).

D. Subfloor Alkalinity Conditions: A pH range of 5 to 9 when subfloor is wetted with potable water and pHydron paper is applied.

1.07 WARRANTY

A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner 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 Carpet Tile Warranty: Submit a written warranty executed by carpet tile manufacturer and Installer agreeing to repair or replace carpet tile that does not meet requirements or that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to, more than 10 percent loss of face fiber, tile curling, snags, runs, and delamination.

C. Warranty Period: 5 years from date of Substantial Completion.

1.08 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.

1. Carpet Tile: Before installation begins, furnish quantity of full-size units equal to 5 percent of amount installed.
PART 2 - PRODUCTS

2.01 CARPET TILE

A. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the products specified below.

B. Products: Interface Flor or approved equal.

Performance requirements:
- Minimum 40% recycled content in the face fiber
- Minimum 100% recycled content for the backing
- Minimum 100% fully recyclable at the end of its useful life (not burning for energy)
- Yarn System - 100% Premium Branded Aquafil Invista/Blue Chip Nylon with Modification Ratio <2.5
- Dye Method - 100% Solution Dyed
- Antimicrobial - Non metallic Intersept®, enabling product to pass ASTM E-2471
- Backing - Non woven primary with GlasBacRE recycled vinyl
- Yarn Weight/Gauge - 18 oz. per yd- / 12th Gauge
- Product Size - 50cm x 50cm (19.69“ x 19.69“)
- Sustainable Carpet Assessment Standard - NSF-140 Platinum or Gold
- Indoor Air Quality - Green Label Plus Certified #GLP0820
- Shall not contain Styrene Butadiene latex backing.

C. Carpet Tile Designation: CT[#] <INSERT NO. IN PLACE OF # WITHIN BRACKETS, REMOVE BRACKETS, AND USE THIS DESIGNATION ON DRAWINGS TO SHOW LOCATIONS WHERE CARPET TILE IS REQUIRED.>

D. Fiber Content: <INSERT CONTENT BY PERCENTAGE.>

E. Face Construction: [Level-loop pile.] [Cut pile.] [Cut-and-loop pile.]

F. Gauge: <SPECIFY IN ENDS PER INCH (25.4 mm).>

G. Stitches: <SPECIFY PER INCH (25.4 mm).>

H. Pile Height: <SPECIFY IN INCHES (mm)> for finished carpet tile per ASTM D 418.

2.02 INSTALLATION ACCESSORIES

A. Use a "floating floor" installation, which requires no adhesive and is easily removed or replaced such as InterfaceFlor TacTiles installation or equal.

B. Wall Base: Top-set 4 inch rubber base by "Burke" or "Roppe."
   1. Exterior Corners: Premolded.
   2. Interior Corners: Premolded.
   3. Color and Pattern: As selected by Architect from manufacturer’s full range of colors produced for rubber wall base complying with requirements indicated.
C. Edge Strips: Homogeneous rubber, tapered or bullnose edge, color as selected by Architect to be compatible with flooring. Provide units of maximum available length, to minimize number of joints.

1. Carpet to Sheet Flooring: #150 Tile-Carpet Joiner by BurkeMercer Flooring Products.
2. Carpet to Concrete: #705 Super Imperial Reducer by BurkeMercer Flooring Products.
3. Approved equal.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine subfloors and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting performance of carpet tile. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Verify that subfloors and conditions are satisfactory for carpet tile installation and comply with requirements specified in this Section and those of carpet tile manufacturer.

3.02 PREPARATION

A. General: Comply with carpet tile manufacturer's installation recommendations to prepare substrates indicated to receive carpet tile installation.

B. Level subfloor within ¼ inch in 10 feet (6 mm in 3 m), noncumulative, in all directions. Sand or grind protrusions, bumps, and ridges. Patch and repair cracks and rough areas. Fill depressions.

1. Use leveling and patching compounds to fill cracks, holes, and depressions in subfloor as recommended by carpet tile manufacturer.

C. Broom or vacuum clean subfloors to be covered with carpet tile. Following cleaning, examine subfloors for moisture, alkaline salts, carbonation, or dust.

D. Concrete-Subfloor Preparation: Apply concrete-slab primer, according to manufacturer’s directions, where recommended by carpet tile manufacturer.

E. Resilient-Flooring Substrate Preparation: Replace missing pieces of existing resilient flooring or patch to level. Cut out peaked seams and fill with latex underlayment as recommended by manufacturer. Repair depressions with material recommended by carpet tile manufacturer.

3.03 INSTALLATION

A. General: Comply with CRI 104, Section 13: "Carpet Modules (Tiles)."

B. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

C. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
D. Install borders parallel to walls.

3.04 CLEANING

A. Perform the following operations immediately after completing installation:

2. Remove surface blemishes using cleaner recommended by carpet tile manufacturer.
3. Remove protruding yarns from carpet tile surface.

3.05 PROTECTION

A. General: Comply with CRI 104, Section 15: "Protection of Indoor Installation."

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure carpet tile is without damage or deterioration at the time of Substantial Completion.
PRODUCT DATA SHEET 1 - CARPET TILE

A. Carpet Tile Designation: CT[#]<INSERT NO. IN PLACE OF # WITHIN BRACKETS, REMOVE BRACKETS, AND USE THIS DESIGNATION ON DRAWINGS TO SHOW LOCATIONS WHERE CARPET TILE IS REQUIRED.>

B. Fiber Content: <INSERT CONTENT BY PERCENTAGE.>

C. Face Construction: [Level-loop pile.] [Cut pile.] [Cut-and-loop pile.]

D. Gauge: <SPECIFY IN ENDS PER INCH (25.4 mm).>

E. Stitches: <SPECIFY PER INCH (25.4 mm).>

F. Pile Height: <SPECIFY IN INCHES (mm)> for finished carpet tile per ASTM D 418.

G. Surface Pile Weight: <SPECIFY IN OZ./SQ. YD. (g/sq. m). THIS DOES NOT INCLUDE WEIGHT OF BACKINGS.>

H. Total Weight: <SPECIFY IN OZ./SQ. YD. (g/sq. m)> for finished carpet tile.

I. Primary Backing: <MFR'S STANDARD MATERIAL. SPECIFY WHERE REQUIRED.>

J. Secondary Backing: <CHOOSE TO SUIT PROJECT. SPECIFY WHERE REQUIRED.>

K. Performance Characteristics: As follows:
   1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm per ASTM E 648.
   2. Critical Radiant Flux Classification: Class II, not less than 0.22 W/sq. cm per ASTM E 648.
   3. Tuft Bind: Not less than 10 lbf (44.5 N) per ASTM D 1335.
   4. Dry Breaking Strength: Not less than 100 lbf (445 N) per ASTM D 2646.
   5. Delamination Strength of Secondary Backing: Not less than 2.5 lbf (11.1 N/25.4 mm) per ASTM D 3936.
   7. Colorfastness to Crocking: Not less than 4, wet and dry, per AATCC-165.
   8. Colorfastness to Light: Not less than 4 after 40 AFU (AATCC fading units) per AATCC-16.
   9. Static Resistance: Not less than 500,000 ohms, nor more than 20,000 megohms, measured according to the test method for conductive flooring specified in Chapter 12 of NFPA 99.
   10. Static Generation: Less than 1.8 kv at 20 percent relative humidity, per AATCC-134 using step and scuff tests with neolite and chrome-tanned leather soles.
   11. Antimicrobial Activity: Not less than 2-mm halo of inhibition for gram-positive bacteria; not less than 1-mm halo of inhibition for gram-negative bacteria; no fungal growth; per AATCC-174.

L. Color and Pattern: [As selected by Architect from the manufacturer's full range of colors and patterns produced for carpet tile specified.] [As specified with product designation below.] <RETAIN 1 COLOR REQUIREMENT FROM 2 CHOICES. IF SECOND CHOICE IS RETAINED, INCLUDE IN PARA BELOW EACH MFR’S DESIGNATION FOR COLOR AND PRODUCT ALONG WITH MFR’S NAME.>

M. [Available ]Products: <INSERT PRODUCT NAMES, WITH COLOR AND PATTERN OF EACH, AND MFR'S NAMES FOR EACH PRODUCT THAT FITS REQUIREMENTS RETAINED ABOVE; RETAIN WITH EITHER THE "AVAILABLE PRODUCTS" PARA OR THE "PRODUCTS" PARA IN PART 2 "CARPET TILE" ARTICLE.>

09690 - 7  CARPET TILE
SECTION 09910
PAINTS

PART 1 GENERAL

1.1 SECTION INCLUDES
A. Surface preparation and field painting of exposed interior items and surfaces, including mechanical and electrical equipment that do not have a factory-applied finish.
B. Surface preparation and field painting of exposed exterior items and surfaces.

1.2 RELATED SECTIONS
A. Section 05500 - Metal Fabrications: Shop priming ferrous metal.
B. Section 06200 - Finish Carpentry: Shop priming architectural woodwork.
C. Section 08110 - Steel Doors and Frames: Factory priming steel doors and frames.
D. Section 09260 - Gypsum Board Assemblies: Surface preparation of gypsum board.

1.3 REFERENCES

1.4 DEFINITIONS
A. General: Standard coating terms defined within Masters Painters Institute (MPI) manual.
1. Gloss level 1 - Flat with a gloss range below 5 when measured at a 60-degree meter and 10 when measured at an 85-degree meter.
2. Gloss level 2 - Low Sheen with a gloss range of 5 to 10 when measured at a 60 degree meter and 10 to 35 when measured at an 85 degree meter.
3. Gloss level 3 - Eggshell with a gloss range between 10 and 15 when measured at a 60-degree meter and 10 to 35 when measured at an 85-degree meter.
4. Gloss level 4 - Satin with a gloss range between 25 to 35 when measured with a 60 degree meter.
5. Gloss level 5 - Semi-Gloss with a gloss range between 50 and 55 when measured at a 60 degree meter.
6. Gloss level 6 - Gloss with a gloss range more than 70 when measured at a 60 degree meter.

1.5 SUBMITTALS
A. Submit under provisions of Section 01300.
B. Manufacturer's data sheets on each product to be used, including:
1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Preparation instructions and recommendations.
3. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
C. Selection Samples: For each finish product specified, two complete sets of color chips
representing manufacturer's full range of available colors and patterns.

D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

C. Paint exposed surfaces. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.

D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label:

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

D. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C), unless manufacturers instructions specifically state's.

E. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).

F. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
   1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.8 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

B. Quantity: Furnish Owner with an additional three percent, but not less than 1 gal (3.8 l) or 1 case, as appropriate, of each material and color applied.
PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer:
   1. Kelly-Moore Paints, 987 Commercial St. ; San Carlos, CA 94070; Tel: 888-MR PAINT; Tel: 888-kmcolor; Fax: 650-592-1215; Email: epatricio@kellymoore.com; Web: www.kellymoore.com
   2. Dunn-Edwards, 3540 Arden Road, Hayward, CA 94545, 800-537-4098, ext 7567, Email: rose.garrison@DunnEdwards.com Web: www.DunnEdwards.com

B. Requests for substitutions will be considered in accordance with provisions of Division 01.

2.2 PAINT MATERIALS - GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. VOC Classification: Provide materials, including primers, undercoats, and finish-coat materials, that meet local air quality management district regulations.

C. Color: Refer to Finish Schedule and Paint Legend for paint colors.

D. Application Rate: Coating thickness for primer, intermediate, barrier and finish coats shall be measured as Dry Film Thickness (DFT) and comply with manufacturer's published recommendations.

E. Kelly Moore products are listed below for standard of quality.

2.3 EXTERIOR METAL

A. Ferrous Metal:
   1. Primer:
      a. 1710 KEL-GUARD Alkyd Rust-Preventative Red Primer.
   2. Finish:
      a. 1250 ACRY-SHIELD 100 percent Acrylic Exterior Semi-Gloss Enamel.

2.4 EXTERIOR WOOD

A. Non-Staining Wood and Hardboard:
   1. Primer:
      a. 250 COLORSHEILD 100 percent Acrylic Exterior Primer-Sealer.
   2. Finish:
      a. 1245 ACRY-SHIELD 100 percent Acrylic Exterior Low Sheen Finish.

B. Wood Trim: Doors, Windows, and Shutters:
   1. Primer:
      a. 255 ACRY-SHIELD 100 percent Acrylic Exterior Wood Primer.
   2. Finish:
      a. 1250 ACRY-SHIELD 100 percent Acrylic Exterior Semi-Gloss Enamel.

2.5 INTERIOR GYPSUM WALLBOARD

A. Stipple Finish-Latex Systems:
   1. Primer:
      a. 966 KM PROFESSIONAL Interior PVA Primer/Sealer.
   2. Finish:
a. 1510 ENVIRO-COAT Zero VOC 100 percent Acrylic Eggshell Enamel.

B. Smooth Wall Finishes:
   1. Primer:
      a. 973 ACRY-PLEX Zero VOC Interior Acrylic Wall Primer & Undercoat.
   2. Finish:
      a. 1510 ENVIRO-COAT Zero VOC 100 percent Acrylic Eggshell Enamel.

2.6 INTERIOR WOOD, HARDBOARD

A. Wood and Hardboard (Painted Finish):
   1. Primer:
      a. 973 ACRY-PLEX Interior Zero VOC Acrylic Wall Primer & Undercoat.
   2. Finish:
      a. 1520 ENVIRO-COAT Zero VOC 100 percent Acrylic Semi-Gloss Enamel.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
   1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.
   2. If a potential incompatibility of primers applied by others exists, obtain the following from the primer Applicator before proceeding:
      a. Confirmation of primer's suitability for expected service conditions.
      b. Confirmation of primer's ability to be top coated with materials specified.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
   1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
   1. Provide barrier coats over incompatible primers or remove and reprime.
   2. Provide barrier coats over incompatible primers or remove primers and reprime substrate.
   3. Wood Substrates: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Smoothly sand surfaces exposed to view and dust off.
3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

B. Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. The number of coats and film thickness required is the same regardless of application method.
2. Completed Work: Match approved Samples for color, texture, and coverage. Remove, refinish, or recoat work that does not comply with specified requirements.

3.4 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:

1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove non-complying paint from Project site, pay for testing, and repaint surfaces previously coated with the non-complying paint. If necessary, Contractor may be required to remove non-complying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING
A. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

C. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces.

END OF SECTION
SECTION 10155

TOILET COMPARTMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes toilet compartments and screens as follows:

1. Type: Steel, color-coated finish.
2. Compartment Style: Overhead braced and floor anchored.

B. Related Sections include the following:

1. Division 10 "Toilet and Bath Accessories" for toilet paper holders, grab bars, purse shelves, and similar accessories.

1.03 SUBMITTALS

A. Product Data: For each type and style of toilet compartment and screen specified. Include details of construction relative to materials, fabrication, and installation. Include details of anchors, hardware, and fastenings.

B. Shop Drawings: For fabrication and installation of toilet compartment and screen assemblies. Include plans, elevations, sections, details, and attachments to other work.

1. Show locations of reinforcement and cutouts for compartment-mounted toilet accessories.

C. Samples for Initial Selection: Manufacturer's color charts consisting of sections of actual units showing the full range of colors, textures, and patterns available for each type of compartment or screen indicated.

D. Samples for Verification: Of each compartment or screen color and finish required, prepared on 6-inch- (150-mm-) square Samples of same thickness and material indicated for Work.

1.04 REFERENCES (including but not limited to)


B. ANSI A117 - Specifications for Making Buildings and facilities Accessible to and Usable by Physically Handicapped People.
C. Title 24, California Code of Regulations
   1. CBC - Chapter 11B – requirements for Access
   2. CBC - Chapter 52 – requirements for toilet partitions


E. American Society for Testing and Materials:
   1. ASTM A167 – Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
   2. ASTM B221 – Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
   3. ASTM D 1929-77 – Self ignition Properties
      ASTM D 635-81 – Rate of Burn
      ASTM D 2843 – Smoke Density.

1.05 REGULATORY REQUIREMENTS

A. Conform to applicable sections of CBC and ADA for provisions for disabled access.

1.06 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions in areas of installation 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 dimensions and proceed with fabricating units without field measurements. Coordinate supports, adjacent construction, and fixture locations to ensure actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   1. Bobrick Washroom Equipment, Inc.
   2. or equal.

2.02 MATERIALS

A. General: Provide materials that have been selected for surface flatness and smoothness. Exposed surfaces that exhibit pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections on finished units are unacceptable.

B. Steel Sheets for Color-Coated Finish: Provide mill-phosphatized steel sheet that is leveled to stretcher-leveled flatness complying with the requirements of standards indicated below:
1. Electrolytically Zinc-Coated Steel Sheet: ASTM A 591 (ASTM A 591M), Class C, of the following minimum thicknesses:
   
a. Panels and Screens: 0.0359 inch (0.9 mm).

C. Core Material for Metal-Faced Units: Manufacturer's standard sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) minimum for doors, panels, and screens and 1-1/4 inches (32 mm) minimum for pilasters.

D. Stirrup Brackets: Manufacturer's standard ear or U-brackets for attaching panels and screens to walls and pilasters of the following material:
   
1. Material: Chrome-plated brass.

E. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories of the following material:
   
1. Material: Chrome-plated brass.

F. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile in manufacturer's standard finish.

G. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum strip in manufacturer's standard finish.

H. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

2.03 FABRICATION

A. General: Provide standard doors, panels, screens, and pilasters fabricated for compartment system. Provide units with cutouts and drilled holes to receive compartment-mounted hardware, accessories, and grab bars, as indicated.

1. Provide internal reinforcement in metal units for compartment-mounted hardware, accessories, and grab bars, as indicated.

B. Metal-Faced Toilet Compartments and Screens: Pressure laminate seamless face sheets to core material and provide continuous, interlocking molding strip or lapped and formed edges. Seal corners by welding or clips. Grind exposed welds smooth.

C. Plastic-Laminate Compartments and Screens: Pressure laminate facing sheets to core material without splices or joints in facings or cores. Apply laminate to edges before broad surfaces to seal edges and prevent laminate from being pried loose. Seal exposed core material at cutouts to protect core from moisture.

D. Overhead-Braced-and-Floor-Anchored Compartments: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, fasteners, and anchors at pilasters to suit floor conditions. Make provisions for setting and securing continuous head rail at top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.
E. Floor-and-Ceiling-Anchored Screens: Provide pilasters and panels of same construction and finish as toilet compartments. Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with leveling adjustment at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.

2.04 ZINC- OR ZINC-ALLOY-COATED STEEL SHEET FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying finishes.

B. Color-Coated Finish: Provide manufacturer's standard baked finish complying with coating manufacturer's written instructions for pretreatment, application, baking, and minimum dry film thickness.

1. Color: One color in each room as selected by Architect from manufacturer's full range of colors.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls. Secure units in position with manufacturer's recommended anchoring devices.

2. Secure panels to walls and panels with not less than 2 stirrup brackets attached near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

B. Overhead-Braced-and-Floor-Anchored Compartments: Secure pilasters to floor and level, plumb, and tighten. Secure continuous head rail to each pilaster with not less than 2 fasteners. Hang doors and adjust so tops of doors are parallel with overhead brace when doors are in closed position.

3.02 ADJUSTING AND CLEANING

A. Hardware Adjustment: Adjust and lubricate hardware according to manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

B. Provide final protection and maintain conditions that ensure toilet compartments and screens are without damage or deterioration at the time of Substantial Completion.

END OF SECTION
SECTION 10400
IDENTIFYING DEVICES

PART 1 - GENERAL

1.01 SUMMARY
   A. Section Includes: Requirements for providing exterior and interior identifying devices for accessibility.
      1. Provide accessibility signage with the raised number/braille text sign at each entry door to each room.
      2. Provide building entry accessibility signage at all exterior entry doors, and as indicated.
      3. Provide building entry identification signage with the raised number/braille text sign adjacent to all exterior entry doors, and as indicated.
      4. Provide site accessibility signage as indicated, except accessible parking signage (see Section 10450)
      5. Provide above-door signage at each corridor door.

1.02 SUBMITTALS
   A. Comply with requirements of Section 01300.
   B. Shop Drawings: Submit showing sizes, materials and details of fabrication and installation, as applicable.
   C. Samples:
      1. Manufacturer's full range of colors, for Architect's selection.
      2. Actual sign, in colors and with graphics selected.
   D. Manufacturer's Information: Printed installation instructions.

1.03 DELIVERY, STORAGE, AND HANDLING
   A. Comply with requirements of Section 01600.

1.04 REGULATORY REQUIREMENTS
   A. 2013 California Building Code (CBC)
      1. Chapter 11B
      2. Division 7
   B. CCR Title 19 for evacuation signs in elevator lobbies

PART 2 - PRODUCTS

2.01 SIGNAGE SYSTEMS
   A. Acceptable Manufacturers:
      1. ASI Sign Systems, 3890 W. Northwest Highway, Suite 102, Dallas, TX 75220; (214) 352-9140 telephone; (214) 352-9741 facsimile; (800) ASI-SPEC [274-7446]
      2. Substitutions: Submit in accordance with Section 01600.
2.02 SIGN MATERIALS

A. Mounting Panel: Acrylic.

B. Face: Vacuum formed 1.5 mil, clear, scratch resistant PVC/vinyl acetate bonded to acrylic mounting panel.

C. Tactile Graphics and Text: Provide tactile copy and California grade 2 Braille raised 1/32 inch minimum from plaque surface using manufacturer’s vacuum-embossing process. Only domed Braille shall be acceptable. Cylindrical braille shall not be acceptable.

1. Provide lettering and graphics precisely formed, uniformly opaque to comply with relevant ADA and Title 24 regulations and requirements indicated for size, style, spacing, content, position, and colors.

D. Colors: High contrast semi-matte integral colors for graphics. All integral resins are U.V. stabilized resins utilizing automotive grade pigments.

2.03 FABRICATION

A. Total Depth: 0.25-inch thickness. Provide 0.125 inch thick matt finished acrylic mounting panel to match surface material.

B. Panel appearance:

1. Selected from manufacturer’s standard, high contrast, semi-matte color chart.

C. Surface Texture: Matte Non-Glare.

D. Letter style, size and layout position: Chosen from manufacturer’s standard letter styles and color charts and complying with requirements indicated.

E. Text schedule: as indicated.

F. Sign Size: as indicated.

G. Sign Shape: Rectangular with Radiused Corners.

2.04 INSTALLATION METHOD

A. System SA: provide manufacturer’s recommended silicone adhesive compatible with signage and substrate required.

2.05 FABRICATION – GENERAL

A. General: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

B. Form panels to required size and shape. Comply with requirements indicated for design, dimensions, finish, color, and details of construction.
C. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

2.06 ACCESSIBILITY AND SIGNAGE TYPES

A. Comply with CBC accessibility requirements. Accessible signage, visual and tactile, materials, colors, and type styles shall meet the following criteria:

1. Finish & Contrast: Characters, symbols and their background shall have a nonglare finish. Characters and symbols shall demonstrate minimum contrast of 70% with their background, either light on a dark background or dark on a light background.

2. Visual characters on signs shall be selected from fonts where the width of the uppercase letter “O” is 60 percent minimum and 110 percent maximum of the height of the uppercase letter “I”. Stroke thickness of the uppercase letter “I” shall be 10 percent minimum and 20 percent maximum of the height of the character.

3. Visual characters on signs shall be sized according to the 2013 CBC, Chapter 11B, Division 7. The minimum height is measured using an uppercase letter “I”. Lowercase characters are permitted only on non-tactile sign. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Generally, accessible signage shall be set between 40 inches and 70 inches above the finished floor with a horizontal viewing distant less than 72 inches; therefore, provide a minimum character height of 5/8 inch.

4. Contracted (Grade 2) Braille must accompany raised text characters.

5. Contracted (Grade 2) Braille dots shall be 1/10 inch (2.54 mm) on center in each cell with 2/10-inch (5.08 mm) space between cells, measured from the second column of dots in the first cell to the first column of dots in the second cell. Dots shall be raised a minimum of 1/40 inch (0.635 mm) above the background. Braille dots shall be domed or rounded.

6. Raised Characters and Pictoral Symbols: comply with 2013 CBC, Chapter 11B, Division 7
   a. Character type. Characters on signs shall be raised 1/32 inch (0.794 mm) minimum and shall be sans serif uppercase characters accompanied by contracted (Grade 2) Braille complying with per 2013 CBC, Chapter 11B, Division 7.
   b. Character size. Raised characters shall be a minimum of 5/8 inch (15.9 mm) and a maximum of 2 inches (51 mm) high.
   c. Pictorial symbol signs (pictograms). Pictorial symbol signs (pictograms) shall be accompanied by the verbal description placed directly below the pictogram. The outside dimension of the pictogram field shall be a minimum of 6 inches (152 mm) in height.
   d. Character placement. Characters and Braille shall be in a horizontal format. Braille shall be placed a minimum of 3/8 inch (9.5 mm) and a maximum of ½ inch (12.7 mm) directly below the tactile characters; flush left or centered. When tactile text is multilined, all Braille shall be placed together below all lines of tactile text.
   e. Proportions. Raised characters on signs shall be selected from fonts where the width of the uppercase letter “O” is 60 percent minimum and 110 percent maximum of the height of the uppercase letter “I”. Stroke thickness of the uppercase letter “I” shall be 15 percent maximum of the height of the character.

B. List of required signage per 2013 CBC, Chapter 11B, Division 7:
   1. International Symbol of Accessibility at all accessible entrances.
   2. Assistive Listening System (ALS) sign indicating availability of ALS, posted in a prominent place.
   3. Tactile exit signage
   4. Tactile room identification signage
   5. California restroom symbols (circle/triangle) on door leaf
6. Restroom identification sign on wall including raised letters, California Contracted Grade 2 Braille, and if desired, a gender pictogram, 6” min height.
7. Building directory or lobby signage informing building users the locations of accessible sanitary facilities
8. Enclosed stairway signage.
9. Elevator and elevator lobby signage.

C. List of other required signage:
1. Evacuation plans per CCR Title 19.
2. No Smoking & Cleaner Air signage.
3. Directional signage at all non-accessible entrances, directing persons to the nearest accessible entrance.
4. “Storage: Limit 50 pounds per square foot” signs at Bldg W rooms 013 and 014.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for installing identifying devices. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 INSTALLATION

A. General: Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer's instructions.

1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.

B. Wall and Door Mounted Signs: Attach panel signs to wall surfaces using the methods indicated below:

1. Interior, Wall Mounted: Apply adhesive to the middle of the back of the sign for alignment, secure sign to wall with bead of adhesive ½” from edge of sign. Adhesive shall be completely concealed behind sign. Any clean-up of exposed adhesive shall include touch-up painting around the sign at the direction of the architect.

2. Exterior, Plastic Sign: Tamper resistant screw mounting

3. Exterior Metal Sign: Shim Plate Mounting: Provide 1/8-inch-thick concealed aluminum shim plates with predrilled and countersunk holes, at exterior locations. Attach the plate with fasteners and anchors suitable for secure attachment to the substrate. Attach sign units to the plate using the method specified above.

C. Completed installation shall have signs securely installed, square, and free of scratches, dents, chips, discoloration and other defects.

END OF SECTION
SECTION 10800

TOILET ROOM ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Requirements for furnishing and installing toilet room accessories.

1.02 SUBMITTALS

A. Comply with requirements of Section 01300.

B. Test data or certification that grab bars meet specified design criteria.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements: Accessories and installation shall conform to applicable accessibility requirements.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Section 01600.

B. Framed mirror units shall have quality designation and guarantee label attached, or manufacturer's certification shall be submitted verifying that mirrors meet specified requirements.

C. Keep protective coverings on units until completion and final cleanup of installation.

PART 2 - PRODUCTS

2.01 MATERIALS AND FABRICATION

A. General: Manufacturers' names and model numbers scheduled are used as a standard of quality, utility, and appearance; equivalent products of other manufacturers will be considered, subject to conformance with specified requirements.

B. Metal: Type 304 stainless steel with satin finish, unless otherwise scheduled or specified; polished chrome-plated brass, or other acceptable finish if accessory is not available in stainless steel. Weld corners and grind smooth; leave no open miters.

C. Accessories: Refer to "Toilet Room Accessory Schedule" on Drawings.

D. Attachment Devices: Furnish backing plates, brackets, anchors, fasteners, and other items necessary for a complete installation. Attachment devices shall be concealed and theftproof, unless otherwise specified or scheduled.

E. Locks: Provide for standard lockable items. Key lockable dispensing units alike. Furnish three keys for each type and size lock.
PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that conditions are satisfactory for the installation of accessories. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 INSTALLATION

A. Install accessories in accordance with manufacturer's printed instructions and as indicated, securely anchoring to substrate.

B. Remove protective coverings in accordance with manufacturer's printed instructions.

C. Test accessories for proper operation; adjust as necessary.

D. Clean and polish exposed surfaces.

E. Deliver keys and maintenance and operating information to Owner.

3.03 COMPLETION

A. Completed installation shall have accessories securely attached, set plumb and level, and accurately aligned.

B. Exposed surfaces shall be clean and free from dirt, discoloration, stains, tool marks, and other defects and damage.

END OF SECTION
SECTION 12490

MANUAL ROLLER SHADES

PART 1 GENERAL

2.1 SUMMARY

A. Section Includes:
   1. Shade Type 1: Manually operated interior roller-screen solar shades where indicated on window schedule exterior window

B. Products Supplied But Not Installed Under This Section:
   1. Metal shade pockets or housings recessed into ceiling system or assembly.

C. Related Sections:
   1. Section 06100-- Rough Carpentry; blocking for support of window shade brackets or pocket assemblies.
   2. Section 09250-- Gypsum Drywall; substrate for window shade systems and installation of shade pockets, pocket closure and/or accessories supplied only under this section.
   3. Section 09510-- Acoustical Ceilings; installations of shade pockets, pocket closure and or accessories supplied only under this section.

2.2 PERFORMANCE REQUIREMENTS

A. Fire: Provide shade fabrics tested in accordance with:
   .1 1989 NFPA 701 small scale Vertical Burn Test and rated "PASS."
   .2 1996 NFPA 701 small scale Vertical Burn (telephone booth test) and rated "PASS."

B. Toxicity: Provide shade fabrics tested in accordance with University of Pittsburgh Toxicity Protocol including LC50 analysis and toxicity characteristics.

C. Anti-microbial:
   1. ASTM G-22-80 results for ATCC6538 (Staphylocaoccus aureus) and ATCC13388 (Psuedomonas aeroginosa) indicating minimum 5mm (0.197 inches) 'No Growth Contact Area'.
   2. ASTM G-21-85 results for ATCC9642, ATCC9644, ATCC9348 and ATCC9645 indicating 'No Growth'.

2.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets, performance data, and installation instructions for each item required.

B. Shop Drawings:
   1. Interior Elevations at 1:32 1/4" = 1'-0" scale min indicating shade layout, seam / batten locations and coordination with surrounding conditions.
   2. Floor plans or reflected ceiling plans showing overall arrangement of shades and control locations.
   3. Head, Jamb and sill details as necessary to coordinate work with surrounding conditions and construction.
   4. Shade schedule coordinating room number, window type, opening size(s), quantities and key to details.

C. Samples:
   1. Selection samples:
      a 3" X 5" (76 mm x 127 mm) shadecloth fabric swatches for initial fabric color selection from manufacturer's full range of available fabrics.
      b Standard aluminum finish color samples from manufacturer's range of standard colors.

D. Design Data, Test Reports, Certificates: Current reports from independent testing laboratories demonstrating compliance with article 1.2.
E. Manufacturers’ Instructions: Manufacturer's standard installation instructions.

2.4 QUALITY ASSURANCE
A. Qualifications:
1. Manufacturer: 20 years minimum experience manufacturing products comparable to those specified in this section.
2. Installer: 5 years minimum experience installing products comparable to those specified in this section.
B. Do not fabricate shades without obtaining field dimensions for each opening. Coordinate construction of surrounding conditions to allow for timely field dimension verification.

2.5 DELIVERY, STORAGE, AND HANDLING
A. Storage and Protection:
B. Do not deliver items to the project until all concrete, masonry, plaster, painting and other wet work has been completed and is dry.
C. Deliver shades to project in labeled protective packaging. Uniquely labeled to identify each shade for each opening. Schedule delivery to prevent delays to completion of work but to minimize on site storage time.
D. Store materials in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic and all other potential damage.

2.6 WARRANTY
A. Special Warranty:
1. Manual Operating Components: Provide Manufacturer’s warranty under provisions of Division 1 - General Requirements. Warranty period to be 10 years from Date of Substantial Completion and contain provisions that installation is to remain operational without fault for the warranty period and include all operating parts, including shadecloth, except for the bead chain which is not covered by the warranty and is deemed to be a maintenance / service item.
2. Installation: Provide Contractor’s warranty under provisions of Division 1 - General Requirements that installation shall be free from defects for a period of not less than 1 year.
3. In the event of a warranted product failure, the Shade Contractor will, at no cost to owner, facilitate acquisition and delivery of all necessary components to the owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Manufacturer: To establish a standard of quality, design and function desired, drawings and specifications are based on products by MechoShade Systems, Inc., Long Island City, NY., USA, Phone: 718-729-2020, Fax: 718-729-2941.
B. Alternate products complying with the performance criteria detailed in Section 2.2. must be approved by the Design Professional not less than ten days prior to bid date.
C. See Division 01 for instructions regarding submittal requirements for alternate or substitute products. If voluntary alternates are accepted, each bidder shall submit a base bid on the specified product and an alternate bid on an equivalent to the voluntary alternate.

2.2 COMPONENTS
A. Shadebands: Construction of shadeband includes the fabric, the hembar and hempocket, and the attachment of the shadeband to the roller tube:
1. Visually Transparent Single-Fabric Shadecloth: MechoShade Systems, Inc., ThermoVeil group, single thickness non-raveling 0.030-inch (.762 mm) thick vinyl fabric, woven from .018-inch (.457 mm) diameter extruded vinyl yarn comprising of
21% polyester and 79% reinforced vinyl, in colors selected from manufacturer's available range.

a. Extra-Dense Linear Weave “0900 series”, 0-1% visually translucent linear weave pattern.

B. Manually Operated Hardware and Shade Brackets:
1. Provide for regular and offset drive capacity (chain fall at front or rear of bracket) on all shade drive end brackets.
2. Provide shade hardware system that allows for removal of shade roller tube from brackets without removing hardware from opening.
3. Provide shade hardware that allows for removal and re-mounting of the shade band without having to remove shade tube, drive or operating support brackets.
4. Provide hardware for installation of a removable fascia, regular or reverse roll, which shall be installed without exposed fastening devices of any kind.
5. Provide shade hardware system that allows for a removable regular and / or reverse roll fascia(s) to be mounted continuously across two or more shade bands without requiring exposed fasteners of any kind.
6. Provide shade hardware system that allows for operation of multiple shade bands by a single chain (Multi-banded shades) operator subject to manufacturer’s design criteria. Connectors shall be offset to assure alignment from the first to the last shade band.
7. Provide shade hardware system that allows multi-banded manually operated shades to be capable of smooth operation when the axis is offset a maximum of 6° on each side of the plane perpendicular to the radial line of the curve (12° total offset).
8. Provide positive mechanical engagement of drive mechanism to shade roller tube. Friction fit connections for drive mechanism to shade roller tube shall not be accepted.
9. Provide shade hardware constructed of minimum 1/8” (3.18 mm) thick cadmium plated steel or heavier as required to support 150% of the full weight of each shade.
10. Provide only Delrin engineered plastics by DuPont for all plastic components of the shade hardware. Styrene polyester and ABS based plastics are not acceptable.
11. Drive Bracket/Brake Assembly:
   a. MechoShade Drive Bracket model 5 shall be fully integrated with all MechoShade Wide accessories and brackets, including but not limited to Fascia, Black Out channels center supports and connectors for multi-band shade operation etc.
   b. M5 bracket shall use the standard 1/8 inch (3.175mm) steel plate for mounting and support of the assembly. The drive sprocket and brake assembly shall rotate and be supported on a welded 3/8 inch steel pin (9.525mm).
   c. The brake means shall be an over running clutch design which shall disengage to 90% during the raising and lowering of a shade. The brake shall stand a pull force of 50 lbs. (22kg) in the stopped position.
   d. The braking (patent pending) means shall be applied to a oil impregnated hub on to which the brake system is mounted. The oil impregnated hub design includes an articulated brake assembly which assures smooth, non-jerky operation in raising and lowering the shades. The brake assembly is warranted for the life of the system, which is in itself warranted to be fit for the use intended for 10 years.
   e. The entire MechoShade 5 assembly shall be fully mounted on the steel support bracket, and fully independent of the shade tube assembly, which may be removed and reinstalled with out effecting the roller shade limit adjustments.

C. Shade roller and shadecloth attachment:
1. Provide an extruded aluminum shade roller tube of diameter and wall thickness required to support shade fabric without (excessive) deflection. Roller tubes less than 1.55” in
diameter are not acceptable. Tube shall have two asymmetrical channels for mounting of the shade band spline.

2. Provide for positive mechanical engagement with drive / brake mechanism.

3. Provide for positive mechanical attachment of shade band to roller tube without the use of adhesives, adhesive tape, staples or rivets. Two sided pressure sensitive adhesive tape shall not be acceptable. Shade bands stapled to roller tubes shall not be acceptable. A mounting method that does not readily allow the shade band to be removed from the shade tube while installed shall not be acceptable.

4. Attach shadebands to tube in such a way that removal and replacement of a shadeband can be accomplished without removing either the tube from the brackets or without removing shade brackets. Shadebands must be replaceable on site without removing shade tube or brackets.

D. Drive Chain: #10 Qualified stainless steel chain rated to 90 pound (41 kg) minimum breaking strength.

2.3 ACCESSORIES

A. Regular Roll Fascia:
   1. Continuous removable extruded aluminum fascia (Design Professional to select color from manufacturer's standards) that attaches to shade mounting brackets without the use of adhesives, magnetic strips or exposed fasteners.
   2. Fascia shall be able to be installed across two or more shadebands in one piece.
   4. Chain drive shall fall behind the bottom return edge of the fascia without requiring notching of the fascia.

2.4 FABRICATION

A. Fabricate units to completely fill existing openings from head to sill and jamb to jamb, unless specifically indicated otherwise. Comply with Manufacturer’s edge clearance standards and recommendations.

B. Fabricate shadecloth to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or raveling. Fabricate unguided shadecloth to roll true and straight without shifting sideways more than 1/8 inch in either direction per 8 feet of shade height due to warp distortion or weave design.

C. Provide battens in non-railroaded shades as required by the Manufacturer to assure proper tracking and uniform rolling of the shadebands, in accordance with the manufacturer's published width x height shade fabrication guide and standards.

D. For railroaded shadebands, provide seams or battens in railroaded multi-width shadebands as required by Manufacturer to meet Width:Height ratios and size requirements. Unless specified elsewhere, manufacturer's standard seam / batten placements are acceptable to Design Professional. If custom placement of seams / battens is required, coordinate these locations with design requirements.

E. Provide batten pockets utilizing self-colored fabric front and back, RF welded into the shadecloth. Provide a self-colored opaque liner front and back to eliminate any see through of the batten pocket and shall not exceed 1-1/2 inches (38 mm) high and be totally opaque. A see-through moiré effect which occurs with multiple layers of transparent fabrics are not acceptable. Reinforce batten pockets using coil coated, roll formed spring steel to insure flatness of shadebands in accordance with manufacturer’s standards. Concave formed profile of batten stiffeners to be compatible with diameter of shade roller tube.

2.5 FINISHES

A. Aluminum Components: Design Professional shall select from Manufacturer’s standard Powder coat in Manufacturer's standard RAL approved finishes.

B. Steel Components: Cadmium-plated, satin-finished, or bonderized prior to painting with Manufacturer’s standard baked-enamel finish.
PART 3 EXECUTION

3.1. EXAMINATION
A. Examine substrate and conditions for installation. Do not commence installation until conditions are satisfactory. Commencement of installation indicates acceptance of site conditions by Contractor. Notify the Design Professional upon inspection when the project conditions are unacceptable for shade installation. "Beginning of installation" means acceptance of substrate and project conditions.

3.2. INSTALLATION
A. Install units to comply with the Manufacturer's instructions for the type of mounting and operation required. Provide units plumb, true, and securely anchored in place with recommended hardware and accessories to provide smooth operation without binding.
B. Install units within the following tolerances:
   1. Maximum variation of gap at window opening perimeter: 1/4 inch, per 8 feet (+/-1/8 inch) of shade height. [6.35 mm, per 2438 mm, +/- 3.2 mm]
   2. Maximum offset from level: 1/16 inch per 5 feet of shade width. [1.587 mm per 1524 mm]

3.3. ADJUSTING
A. Adjust drive / brake mechanism of units for smooth operation. Adjust shade and shadecloth to hang flat without buckling or distortion. Replace any units or components which do not hang properly or operate smoothly.

3.4. CLEANING
A. Touch up damaged finishes and repair minor damage in order to eliminate evidence of repair. Remove and replace work that cannot be satisfactorily repaired.
B. Clean exposed surfaces, including metal and shadecloth, using non-abrasive materials and methods recommended by the Shadecloth Manufacturer. Remove and replace work which cannot be satisfactorily cleaned.

3.5. DEMONSTRATION
A. Demonstrate operation method and instruct Owner's personnel in the proper operation and maintenance of the window shade systems.

END OF SECTION
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Existing fire alarm panel FACP.
B. Remote Power Supply RPS
C. Fire alarm signaling appliances.
D. Automatic heat and smoke detectors.

1.2 SUMMARY WORK

A. Furnish and install additional initiation and notification devices to provide a complete automatic coverage system at the existing Child Care Center at Laney College. The existing fire alarm system is SIMPLEX 4020 system.
B. Due to the schedule of this project, contractor shall prior to start of work perform an extensive survey of the existing building. Contractor shall determine all devices and their interconnection with the fire alarm system.

1.3 SUBMITTALS

A. Contractor shall within two weeks of Notice to Proceed submit the following for the Electrical Engineer's Review and Approval:
   1. Product Data: Provide data cut sheets showing electrical characteristics and connection requirements of fire alarm devices
   3. Fire Alarm Wiring
   4. Installer National Institute for Certification in Engineering Technologies (NICET) Level II Certification
   5. Shop Drawings showing the following:
      a. Fire Alarm Riser Diagram showing each device, conduits, and wiring connection required.

B. Contractor shall within two weeks of testing submit the following for the Electrical Engineer's Review and Approval:
   1. Test Reports: Indicate satisfactory completion of required tests and inspections.
   2. As-built drawings: Drawings shall reflect actual locations of fire alarm devices, equipment, wire gauge, conduit, and routing.
C. See Special Materials for additional submittals.

D. Contractor shall submit an inspection report signed by a SIMPLEX Certified Installer. Inspection report shall indicate satisfactory installation of raceways, wiring, fire alarm devices, and equipment per Simplex installation standards. Inspection shall be submitted on a monthly basis, or as requested by IOR, the District, or the Electrical Engineer. Contractor shall within 3 working days correct deficiencies noted on the inspection report. No additional contract time will be allotted for correction of deficiencies.

1.4 QUALITY ASSURANCE

A. Conform to requirements of NFPA 72, NFPA 70 and NFPA 101.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience with service facilities within 100 miles of Project.

C. Installer Qualifications: Company specializing in installing the products specified in this section.
   1. NICET Certification: The installing contractor shall employ at least one individual full time on the jobsite supporting this project that has attained NICET Level II Certification in Fire Alarm Systems. All submittals and drawings shall be approved, initialed and show the NICET Certification Number of the individual maintaining the certification and taking responsibility for the documentation.
   2. With minimum three years documented experience.
   3. Certified in California as a fire alarm installer

D. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and indicated.

1.5 MAINTENANCE SERVICE

A. Furnish service and maintenance of fire alarm system for one year from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS: SIMPLEX PRODUCTS.

2.2 FIRE ALARM AND SMOKE DETECTION CONTROL PANEL

A. Existing Control Panel: The existing panel on site is a Simplex 4020. It shall remain as existing. It is connected to the campus via a fiber loop. Modular construction with flush wall-mounted enclosure.
B. Remote Power Supply: Adequate to serve control panel modules, remote detectors, and alarm signaling devices. Include battery-operated emergency power supply with capacity for operating system in standby mode for 24 hours followed by alarm mode for 5 minutes.

C. System Supervision: Component or power supply failure places system in trouble mode.

D. Initiating Device Circuits: Supervised zone module with alarm and trouble indication; occurrence of single ground or open condition places circuit in trouble mode but does not disable that circuit from initiating an alarm.

E. Indicating Appliance Circuits: Supervised signal module, sufficient for signal devices connected to system; occurrence of single ground or open condition places circuit in trouble mode but does not disable that circuit from signaling an alarm.

F. Trouble Sequence of Operation: System or circuit trouble places system in trouble mode, which causes the following system operations:
   1. Visual and audible trouble alarm indicated by zone at fire alarm control panel.
   2. Visual and audible trouble alarm indicated at remote annunciator panel.

G. Alarm Sequence of Operation: Actuation of initiating device places circuit in alarm mode, which causes the following system operations:
   1. Sound and display local fire alarm signaling devices with temporal signal.
   2. Transmit non-coded signal to central station.
   3. Transmit signal to release door hold-open devices by zone.

H. Alarm Reset: System remains in alarm mode until manually reset with key-accessible reset function; system resets only if initiating circuits are out of alarm mode.

2.3 INITIATING DEVICES

A. Spot Heat Detector: Fixed temperature, rated 135 degrees F and temperature rate of rise of 15 degrees F.

B. Ceiling Mounted Smoke Detector: NFPA 72, photoelectric type with adjustable sensitivity and visual indication of detector actuation, suitable for mounting on 4 inch outlet box.

2.4 SIGNALING APPLIANCES

A. Horn Strobes: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.

2.5 FIRE ALARM WIRE AND CABLE

A. Fire Alarm Power Branch Circuits:

B. Signaling Device Appliance Circuits: THWN #12 AWG minimum. Refer to Manufacturer for additional requirements.
C. Initiating Device Appliance Circuits: Shielded Twisted Pair #18, minimum. Refer to Manufacturer for additional requirements.

PART 3 - EXECUTION

3.1 INSTALLATION
A. Install products in accordance with NEC, NFPA 72, CBC, and manufacturer's instructions.
B. Install visual or audible/visual devices 80 inches to bottom of device, not greater than 96 inches above finished floor but not less than 6 inches from ceiling.
C. Install fire alarm wiring in 3/4 inch minimum conduit.

3.2 FIELD QUALITY CONTROL
A. Perform field inspection and testing in as specified in the contract specifications and drawings.
B. Testing shall include the testing of the following:
   1. Exiting Fire Alarm System, and the interconnection
C. Test in accordance with NFPA 72, Chapter 7.
D. Conduct tests in the presence of the owner's representative, the local fire authority, and the DSA Inspector of Record.
E. Provide a signed and completed certificate of completion to DSA upon completion of project in accordance with NFPA 72, Section 1-7.2.1.

3.3 FIRE ALARM WIRE AND CABLE COLOR CODE
A. Provide fire alarm circuit conductors with insulation color coded as follows, or using colored tape at each conductor termination and in each junction box.
B. Signal Device Circuit: Blue (positive), white (negative).

3.4 DEMONSTRATION
A. Demonstrate normal and abnormal modes of operation, and required responses to each.

END OF SECTION