PROJECT MANUAL

FOR
THE CONSTRUCTION OF:

John Marshall Elementary School
Window Replacement

DCA PROJECT NO. 2019-008

OWNER:

GLENDALE UNIFIED SCHOOL DISTRICT
349 W. MAGNOLIA AVENUE
GLENDALE CA 91204

ARCHITECT:

DC ARCHITECTS
820 N. MOUNTAIN AVENUE, SUITE 200
UPLAND CA 91786
(909) 985-6939 FAX (909) 985-0864

NOTICE

THE FOLLOWING PORTIONS OF THIS
PROJECT MANUAL FOR

John Marshall Elementary School
Window Replacement

HAVE BEEN PREPARED

IN COOPERATION WITH THE OWNER:

Glendale Unified School District

AND

- DIVISION 01 – GENERAL REQUIREMENTS

GLENDALE UNIFIED SCHOOL DISTRICT
JOHN MARSHALL ELEMENTARY SCHOOL
WINDOW REPLACEMENT PROJECT

DIVISION 01 – GENERAL REQUIREMENTS

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PART 1 - GENERAL

1.1 WORK OF THE CONTRACTOR:

A. Scope of Work: Contractor shall perform, within the time stipulated, the Contract, including all of its component parts, and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all applicable taxes, and all utility and transportation services necessary to perform the Contract and complete, in a workmanlike manner, all of the Work required in connection with the following titled Project in strict conformity with the Contract Documents:

JOHN MARSHALL ELEMENTARY SCHOOL – WINDOW REPLACEMENT
1201 E. BROADWAY ST., GLENDALE, CA 91205

B. This school is on a traditional school year calendar, August through June. During the period of this contract, school events and educational requirements will limit or prevent access, and will affect Contractor work hours for a portion or all of the school building (s) pertinent to the contract. Contractor shall maintain schedule with full knowledge of these times and dates to be determined. A site-specific calendar will include currently known dates of limited access, or times of the school day that noise will have to be limited, or ceased. These shall include during the time of the project, but not be limited to:

1. No work after 6:00 p.m. for back-to-school, open house, and other events per school year at each school site.

2. No work between 8:00 a.m. and 10:00 a.m. on weekdays for assembly events per school year.

3. NO NOISE/WORK will be allowed on an Elementary school site between 8:00 a.m. and 12:30 p.m. for testing (four (4) consecutive weekdays, three times) per school year. Second shift work may be accommodated with the request pre-approved by the District Project Manager.

C. Work hours for the Project shall be from 7:00 a.m. until 10:00 p.m. Monday through Saturday, unless advance permission to deviate from these hours is obtained from the City of Glendale per Glendale Municipal Code, Title 8, Chapter 36, and this request is also approved in writing five working days beforehand by the District Project Manager.

D. Article 3 of the Bid General Conditions requires preparation of a Cost- loaded time logic schedule with a single critical path. If the Board approved lowest responsive and responsible bid Contractor and the Project Manager, on behalf of the District, cannot agree on the contract construction schedule and the project single critical path within fifteen
(15) days after Notice to Proceed, the District may terminate the Contract, for convenience, as outlined in the Project General Conditions. In the event this is

necessary, compensation to the General Contractor and all subcontractors or materialmen shall be limited to Mobilization costs only.

E. The liquidated damages shown in the Supplementary General Conditions shall apply to each phase of the phased construction plan, as defined by and within the plans and specifications.

F. No warranties or guarantees shall go into effect, for any trade, regardless of when completed in the sequence of the project erection, until one (1) day after the Board of Education has accepted the project at a noticed meeting. Attention: Bidders. This will require certain trades to bid for, and provide, a warranty of longer than one (1) year in length from the time of installation or furnishing of their materials to the project, depending upon the sequencing of their work within the overall schedule.

G. All project close-out/punch list items, project record documents, submittals, and operations manuals and spare parts, warranties and guarantees shall be reviewed and accepted prior to the Architect/District agreed upon authorization to file the Notice of Completion with the Los Angeles County Recorder.

H. In the event the General Contractor or any subcontractor or materialman (on or off site) voluntarily accelerates the schedule for their own purposes, and/or voluntarily performs work in excess of eight (8) hours per day, or on the weekends or holidays, the additional cost of the Inspectors' overtime premiums which are required to inspect the work during these hours shall be paid 100% by the Contractor. This charge shall also be subtracted from the monthly "Application for Payment" submitted to the District on behalf of the project.

I. In the event that the Contractor fails to complete all punch list items and turn over all "deliverables, warranties, As-builts, etc." within sixty (60) days after acceptance of completion by the Board of Education, the full salary costs of one (1) construction Project Manager (16 hours per week @ $120.00/hour) and one Inspector (actual hours spent @$80.00/hour) shall be back charged to the Contractor, in addition to the liquidated damages, if any, imposed upon the Contractor for late performance. THIS PARAGRAPH WILL BE STRICTLY ENFORCED.

J. The submission of complete project record documents, as required by the specifications, is critical. A value of Thirty Thousand Dollars ($30,000.00) shall be assigned to these record documents within the Schedule of Values and will not be paid or released until the documents are approved by the Architect and turned over to the District's Administrator of Planning, Development and Facilities.

L. The intent of these contract documents is that the work of alteration, rehabilitation or construction is to be accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration or non-complying construction be discovered which is not covered by the Contract Documents

wherein the finished work will not comply with Title 24, California Code of Regulations, a change order, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by the District before proceeding with the repair work.

1.2 RELATED WORK BY DISTRICT:

A. General: All such work indicated in Contract Documents and/or specified herein.

B. Coordination:

1. Contractor shall schedule and coordinate Owner work with his work; give 5 days min. advance notice of all dates; verify that Owner work has been accomplished prior to beginning his work

C. Owner Furnished Items or Products (IF ANY):

1. Owner Responsibilities:
   a. Delivery of items or products to site.
   b. Schedule delivery date with supplier in accord with Contractor's schedule.
   c. Obtain installation drawings and instructions.
   d. Submit claims for transportation damages.
   e. Arrange guarantees, warranties.

2. Contractor's Responsibilities:
   a. Schedule required delivery date for each product, and inform Owner.
   b. Promptly inspect delivered products, report damaged or defective items.
   c. Unload; handle at site, including uncrating and storage.
   d. Protect from exposure to elements, from damage.
   e. Repair or replace items damaged as result of Contractor's operations.
   f. Install, connect, finish products.

B. The Contractor shall provide adequate storage within his fenced staging area, to store the equipment. The Contractor is solely responsible for the storage of this equipment within his staging area and all subsequent movement of this equipment. The Contractor shall be solely responsible for the maintenance and protection of all material.

C. Bidders submitting under this Contract shall include the price for all necessary coordination with the District and the equipment manufacturer, as required for proper and complete coordination between all trades and all Contractors, within their bid.

1.5 WORK BY OTHERS

A. The District reserves the right to do other work in connection with the project or

adjacent thereto by contract or otherwise, and Contractor shall at all times conduct the work so as to impose no hardship on District or others engaged in District's work nor to cause any unreasonably delay or hindrance thereto.

B. Where two or more Contractors are employed on related or adjacent work, each shall conduct their operation in such a manner as not to cause delay or additional expense to the other.

C. Contractor shall be responsible to others engaged in the related or adjacent work for all damage to work, to persons, or for loss by failure to finish the work within the specified time for completion. Contractor shall coordinate his work with the work of others so that no discrepancies shall result in the project.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

PART1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Price and Contract Time.

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Project Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.

D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization and bonds and insurance.

E. Include in each line item, the amount of Allowances specified in this section.

F. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.

G. Revise schedule to list approved Change Orders, with each Application For Payment.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Form to be used shall be similar to: AIA G702 and Continuation Form G703.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Project Architect for approval.

D. Forms filled out by hand will not be accepted.

E. For each item, provide a column for listing each of the following:

1. Item Number.
2. Description of work.
3. Scheduled Values.
4. Previous Applications.
5. Work in Place under this Application.
6. Authorized Change Orders.
7. Total Completed to Date of Application.

8. Percentage of Completion.
9. Balance to Finish.
10. Retainage.

F. Execute certification by signature of authorized officer.

G. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed.

H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.

I. Submit three copies of each Application for Payment.

J. Include the following with the application:

1. Transmittal letter as specified for Submittals in Section 01 33 13.
2. Construction progress schedule, revised and current as specified in Section 01 32 16.
3. Current construction photographs specified in Section 01 33 13.
4. Partial release of liens from major Subcontractors and vendors.

K. When Project Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.4 MODIFICATION PROCEDURES

A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.

B. For minor changes not involving an adjustment to the Contract Price or Contract Time, Project Architect will issue instructions directly to Contractor.

C. For other required changes, Project Architect will issue a document signed by Glendale Unified School District instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.

1. The document will describe the required changes and will designate method of determining any change in Contract Price or Contract Time.
2. Promptly execute the change.

D. For changes for which advance pricing is desired, Project Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 15 calendar days.

E. Contractor may propose a change by submitting a request for change to Project Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 60 00.

F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.

1. For change requested by Project Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.

2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Project Architect.

3. For change ordered by Project Architect without a quotation from Contractor, the amount will be determined by Project Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

G. Substantiation of Costs: Provide full information required for evaluation.

1. On request, provide following data:

a. Quantities of products, labor, and equipment.

b. Taxes, insurance, and bonds.

c. Overhead and profit.

d. Justification for any change in Contract Time.

e. Credit for deletions from Contract, similarly documented.

2. Support each claim for additional costs with additional information:

a. Origin and date of claim.

b. Dates and times work was performed, and by whom.

c. Time records and wage rates paid.

d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

H. Execution of Change Orders: Project Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.

J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

K. Promptly enter changes in Project Record Documents.

1.5 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Price, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:

1. All closeout procedures specified in Section 01 77 00.

PART 2 PRODUCTS- NOT USED

PART 3 EXECUTION- NOT USED

END OF SECTION

PART 1 – GENERAL

1.1 DESCRIPTION

A PRODUCT LIST:

1. Within ten (10) working days after date of Contract, submit to the Architect five (5) copies of complete lists of all products which are proposed substitutions and those proposed as “or equal:” to products specified, and in accordance with Contract documents.
2. For products specified only by reference standards, select any product meeting standards, by any manufacturer.
3. For products specified by naming several products or manufacturers, select any products and manufacturer named.

1.2 SUBSTITUTIONS

1. Requests for substitutions shall be made only in writing on the “SUBSTITUTIONS REQUEST" form attached with all blanks completed except those reserved for the Design Consultant. All substitution requests shall be made by the Contractor.

2. In connection with the use of any substitute item approved by the Architect it shall be the Contractor’s responsibility to see that such items meet all space requirements, and that any alterations to connecting items necessitated by use of the alternate items are properly made, at no increase in cost to the District.

3. In making request for substitutions, Bidder/Contractor represents that:
   1. He has investigated the proposed products or method and determined that it is equal or better in all respects to that specified and that it fully complies with all requirements of the Contract Documents.
   2. He will meet all contract obligations with regards to this substitution;
   3. He will coordinate installation of accepted substitutions into the work, making all such changes and any required schedule adjustments, at no additional cost to the District, as may be required for the work to be completed in all respects;
   4. He waives all claims for additional costs and additional time related to substitutions which consequently become apparent. He also agrees to hold the District and Architect harmless from claims for extra costs and time incurred by other subcontractors and suppliers, or additional services which may have to be performed by the Architect, for changes or extra work that may, at some time or date, be determined to be necessary in order for the work to function in the manner intended in the Contract Documents.
   5. He shall provide the same warranty and guarantee, and perform any work required in accordance therewith, for the substitution that is applicable to the specified item for which the substitution is requested;

6. Material shall be installed, handled, store, adjusted, tested, and operated in accordance with the manufacturer’s recommendation and as specified in the

Contract Documents.

7. In all cases, new materials shall be used unless this provision is waived by written notice from the Architect or unless otherwise specified in the Contract Documents; and
8. All material and workmanship shall in every respect be in accordance with and in conformity with approved modern and accepted industry practices, and shall conform to all applicable codes, regulations, laws, ordinances, and Contract Documents.

1.3 DESIGN PROFESSIONAL OPTIONS

1. The Architect will be sole judge of acceptability of any proposed substitutions, and only approved substitutions that are accepted in writing may be used on contract work.

2. Each request for substitution approval shall include:
    1. "Substitution Request" form with all required data completed, and accompanying specifications, etc., in triplicate.
    2. Identity of product for which substitution is requested; include specifications page and paragraph number.
    3. Identity of substitution; include complete product description, drawings, photographs, performance and test data, and any other information necessary for evaluation.
    4. Quality and technical specification comparison of proposed substitution with specified products.
    5. A description of changes required in other work because of substitution.
    6. Effect on construction progress schedule.
    7. Cost comparison of proposed substitution with specified product.
    8. Any required license fees or royalties.
    9. Availability of local maintenance service within a 50-mile air radius of the project.
    10. Source of replacement material or spare parts; if necessary, within a 50-mile air radius of the project.

1.4 SUBSTITUTION REQUESTS DURING BIDDING PERIOD

No request for substitution approval will be considered unless written request in triplicate has been submitted on the "Substitution Request" form included herein, and has been received by the Architect at least ten (10) working days prior to bid opening date. The Architect will issue addenda prior to bid opening listing all approved substitutions, should there be any approved.

1.5 SUBSTITUTION REQUESTS AFTER CONTRACT AWARD

1. Approval will be granted only when:
    1. Specified product cannot be delivered without project delay, or
    2. Specified product has been discontinued, or,
    3. Specified product has been replaced by superior product, or
    4. Specified product cannot be guaranteed as specified, or

5. Specified product will not fit within designated space, or
6. Substitution otherwise determined by the District to be in its best interest.

2. The Contractor's request for substitution shall be accompanied by evidence documenting the reason for the substitution falls within one or more of the cases listed in A1 through A6 above.

3. A Change Order authorizing substitutions and revising Contract Sum where appropriate will be issued for approved substitutions.

PART 2 - PRODUCTS - (NOT USED)

PART 3 - EXECUTION - (NOT USED)

END OF SECTION

SUBSTITUTION REQUEST (in triplicate)

TO: GLENDALE UNIFIED SCHOOL DISTRICT

PROJECT: JOHN MARSHALL ELEMENTARY SCHOOL WINDOW REPLACEMENT

SPECIFIED ITEM:

SECTION	PAGE	PARAGRAPH	DESCRIPTION

The undersigned requests consideration for the following:

PROPOSED SUBSTITUTION: _____

STATE THE REASON(S) FOR PROPOSED SUBSTITUTION: (REASON MUST CONFORM TO ONE OR MORE CASES LISTED IN PARAGRAPH 1.05 A1 THROUGH 1.0A6.)

_____

_____

_____

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request and applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents which the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments are correct:

1. The proposed substitution does not affect dimensions shown on drawings:
2 The undersigned will pay for changes to the building design, including Architect's and engineering design, detailing, and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse effect on other trades, the construction schedule or specified warranty requirements.
4. Maintenance and service parts will be locally available (<50 miles from project) for the proposed substitution.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item.

Submitted by:

Signature: _____

Firm: _____

Address: _____

_____

Date: _____

Remarks: _____

Telephone: _____ _____

Attachments: _____

_____

For Use by the Architect:

☐ Accepted ☐ Accepted as noted

☐ Not Accepted ☐ Received too late

By: _____

Date: _____

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies administrative and procedural requirements for making modifications to the contract including:
   1. Change Orders
   2. Contract Credits
   3. Contract Additions
   4. Construction Change Directives
   5. Instructions

B. Modifications
   1. Provide full written data required to evaluate contract modifications, including breakdown of labor, material, equipment, and description of work with unit costs for each category.
   2. Maintain detailed records of work done on a time-and-material basis.
   3. Provide full documentation for all proposed change orders to the Architect to his review.

C. Designate in writing the member of Contractor's organization:
   1. Who is authorized to accept change in the work.
   2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the work.

D. School District will designate in writing the person who is authorized to execute change orders for the School District.

1.2 RELATED SECTIONS

A. Addenda: All issued addendums.

B. Agreement: The amount of unit prices if any as established in the Contract.

C. General Conditions, Article 7, Changes in the Work.

D. Section 01 33 13 - Submittals.

E. Section 01 25 13 - Product Options and Substitutions.

1.3 REFERENCES

A. Change Order Requirements per Title 24 Part 1 CCR

   1. Change Orders: Changes or alterations of the approved plans or specifications after a contract for the work has been awarded are to be made by means of Change Orders. State the reason for the change and provide supplementary drawings where necessary. Change Orders must be manually signed by the Architect or Engineer in general responsible charge of observation of the work or by the Architect or Engineer delegated responsibility for observation of the portion of the work affected by the change order.

2. Change orders are required to bear the approval of the School Board or their authorized representative.

1.4 PRELIMINARY PROCEDURES

A. The Architect or School District may initiate changes by submitting a Request for Proposal. The request will include:
   1. Detailed description of the Change, Products, and location of the change in the project. Changes may include additions and deletions from the contract.
   2. Supplementary or revised drawings and specifications.
   3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not, authorized.
   4. A specific period of time during which the requested price will be considered valid.
   5. Such request is for information only, and is not an instruction to execute the changes, nor to stop work in progress.

B. Contractor may initiate changes by submitting a written change order request to the Architect or School District containing:
   1. Description of the proposed change.
   2. Statement of the reason for making the changes.
   3. Statement of the effect on the Contract sum and the Contract time.
   4. Statement of the effect on the work of separate contractors with breakdown of costs for labor, materials, and equipment.
   5. Documentation supporting any change in the Contract sum of Contract time, as appropriate.

1.5 CONSTRUCTION CHANGE DIRECTIVES

A. In lieu of proposal request, the School District through the Architect may issue a Construction Change Directive for Contractor to proceed with a change which shall state a basis for adjustment, if any, in the Contract sum of time, or both.

B. Authorization will describe changes in the work, both additions and deletions, with attachments of revised contract documents to define details of the change, and will designate the method of determining any change in the Contract sum and any changes in the Contract time.

C. The School District and Architect will sign and date the construction change authorization as authorization for the contractor to proceed with the changes.

D. Contractor may sign and date the construction change authorization to indicate agreement with the terms herein.

1.6 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Support each quotation for a lump sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow the Architect and School District to evaluate the quotation:

B. On request provide additional data to support time and cost computations:
   1. Labor required in hours with units costs.
   2. Equipment required.
   3. Product required in units.
      a. Recommended source of purchase and unit cost.
      b. Quantities required.
   4. Taxes, insurance, and bonds.
   5. Credit for work deleted from Contract, similarly documented.
   6. Overhead and profit.
   7. Justification for any change in Contract time.

C. Support each claim for additional costs, and for work done on a time and material basis, with documentation as required for a lump sum proposal, plus additional information.
   1. Name of the School District's authorized agent who ordered the work, and the date of the order.
   2. Dates and times work was performed, and by whom.
   3. Time record, summary of hours work, and hourly rates period.
   4. Receipts and invoices for:
      a. Equipment used, listed dated and time of use.
      b. Products used, listing of quantities.
      c. Subcontractors.

D. Document requests for Substitutions of Products as specified in Section 01 25 13.

1.7 CONSTRUCTION CREDITS

A. Work deleted and no work has been completed by the Contract: Work deleted from the contract is to be credited back to the district and subtracted from the contract amount. Credits are to be included in Change orders.
   1. Contractor shall credit back to the District total value for the work deleted from the contract. Cost of credits shall be determined by the amount stated in the contractor's schedule of values.
   2. Where the value of credits cannot be determined from the contractor's schedule of value, total value of the credit is to be determined by the cost of materials, labor, overhead and profit, insurance, bonds, etc. All general contractor, subcontractor and material supplier levels of the contract are to be included in the total value of credits back.
   3. No amount at any level of the contract shall be withheld from credits back for overhead and profit, insurance, bonds, time delays, construction schedule changes and administrative expenses.

B. Work deleted and a portion of the work has been completed by the Contractor: Work deleted from the contract is to be credited back to the District and subtracted from the contract amount. Credits are to be included in the Change Orders.
   1. Contractor shall credit back to the District total value for the work deleted from the contract less any work already completed on the credit item. Cost of credits shall be

determined by the amount stated in the contractor's schedule of values less and work already completed. Completed work may include cost of shop drawings, submittals, site preparation, partially completed work on the credit item or other expenses related to the item.

2. Where the value of credits cannot be determined from the contractor's schedule of value, total value of the credit is to be determined by the cost of materials, labor, overhead and profit, insurance, bonds, etc. All general contractor, subcontractor and material supplier levels of the contract are to be included in the total value of credits back.
3. An amount equal to the percentage of work already completed on the deleted item may be withheld from credit back for overhead and profit, insurance, bonds, time delays, construction schedule changes and administrative expenses.

1.8 PREPARATION OF CHANGE ORDERS

A. The Architect will prepare each Change Order.

B. Change Order will describe changes in the work, both additions and deletions, with attachments of revised contract documents to define details of the change.

C. Change Order will provide an accounting of the adjustment in the Contract sum and in the Contract time.

1.9 LUMP SUM/FIXED PRICE CHANGE ORDER

A. Content of Change Orders will be based on either:
   1. The School District's proposal request and Contractor's responsive proposal as mutually agreed with the school district.
   2. Contractor's proposal for a change, as recommended by the School District or their authorized agent.

B. The School District and Architect or Engineer in responsible charge will sign and date the Change order as an authorization for the contractor to proceed with the changes.

C. The contractor will sign and date the change order to indicate agreement with the terms therein.

1.10 UNIT PRICE CHANGE ORDER

A. Content of Change orders will be based on either:
   1. The School District's definition of the scope of the required changes.
   2. Contractor's proposal for a change, as recommended by the school district or authorized agent.
   3. Survey of completed work.

B. The amounts of the unit prices to be:
   1. Those stated in the Agreement.
   2. Those mutually agreed upon between School District and Contractor.

C. When quantities of each of the items affected by the Change order can be determined prior to start of the work:
   1. The School District and Architect or Engineer in responsible charge will sign and date the Change order as authorization for Contractor to proceed with the changes.
   2. Contractor is to sign and date the Change order to indicate agreement with the terms

therein.

D. When quantities of the items cannot be determined prior to the start of the work:
   1. The School District through the Architect will issue a construction change directive directing the contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
   2. At completion of the change, the School District or its authorized agent will determine the cost of such work based on the unit prices and quantities used.
   3. The contractor shall submit documentation to establish the number of units of each item and any claims for a change in contract time.
   4. The School District and Architect or Engineer in responsible charge will sign and date the Change Order as authorization for the contractor to proceed with the changes.
   5. The contractor will sign and date the change order to indicate agreement with the terms therein.

1.11 TIME AND MATERIALS CHANGE ORDER/CONSTRUCTION CHANGE DIRECTIVE

A. The School District through the architect will issue a construction change directive directing the contractor to proceed with the changes.

B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article 1.06, " Documentation of Proposals and Claims," of this section.

C. The School District or its authorized representative will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.

D. The School District and Architect or Engineer in general responsible charge will sign and date the change order to authorize the change in the contract sum and in the contract time.

E. The contractor will sign and date the change order to indicate agreement with the terms therein.

1.12 INSTRUCTIONS

A. Architect's Supplemental Instructions:
   1. Minor changes in the work shall be carried out in accordance with supplemental instruction issued in accordance with the contract documents without change in contract sum or contract time.
   2. The Architect will issue, sign, and date Supplemental Instructions.
   3. The Contractor will sign and date Supplemental instructions to indicate acceptance of minor changes consistent with the contract documents and return signed copy to Architect.

1.13 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Periodically revise schedule of values and request for payment forms to record each change as a separate item of work and to record the adjusted contract amounts.

B. Periodically revise the construction schedule to reflect each change in contract time.

C. Revise sub-schedules to show changes for other items or work affected by the changes.

D. Upon completion of work under a Change Order, enter pertinent changes in record documents.

1.14 FORMS

A. Submit proposal request type on AIA Document G709. A copy of this form may be obtained from the local American Institute of Architects, Chapter Office.

B. Submit change order type on the change order form included in this project manual. Form is included in General Conditions and at the end of this section.

C. Submit construction change directive on the construction change directive form included in this project manual. Form is included in general conditions and at the end of this section.

D. Submit supplemental instructions type on the form included in this project manual at the end of Document 00 31 43, Request for Interpretation (RFI's).

PART 2 - PRODUCTS
Not Applicable.

PART 3 - EXECUTION
Not Applicable.

END OF SECTION

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

A. Submit to Architect a Schedule of Values at least thirty (30) days prior to submitting first Application for Payment.

B. Upon request of Architect, furnish additional data to support values given with data that will substantiate their correctness.

C. Approved schedule will be used as basis for Contractor's Applications for Payment.

1.2 RELATED REQUIREMENTS

A. Requirements in Addenda, Alternates, Conditions, and Division 01 collectively apply to this Work.

B. Related Requirements Specified Elsewhere:
1. Section 01 33 13, Submittals.
2. Section 01 32 16, Construction Progress Schedule
3. Section 01 32 26, Construction Progress Reports

1.3 FORM AND CONTENTS

A. Submit typewritten Schedule of Values on AIA Form G602A, Continuation Sheet of Application and Certificate for Payment.

B. Identify each line item with number and title as listed in Table of Contents of this Project Manual.

C. Schedule shall list installed value of component parts of work in sufficient detail to serve as basis for computing values for progress payments.

D. Each item shall include a directly proportional amount of Contractor's overhead and profit.

E. For items on which progress payments will be requested for stored equipment and/or materials, break down value into:

F. Cost of equipment and/or materials, delivered and unloaded, with taxes paid.
Total installed value.

G. Change Order shall be listed separately, per school site, wording to match description on Change Order. For each line item which has installed value of more than $20,000.00, break- down costs to list major products or operations under each item.

H. Sum of total costs of items listed in schedule shall equal total Contract Sum.

1.4 REVIEW AND RESUBMITTAL

A. After review by Architect, revise and resubmit schedule if required.
B. Resubmit revised schedule in same manner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

A. Procedures for processing Change Orders.

B. Procedures for distribution of Shop Drawings.

C. Procedures for Correspondence (Request for Interpretation).

D. Procedures for Inspector of Record (IOR).

E. Supervision of on-site personnel.

1.2 RELATED REQUIREMENTS

A. Section 01 31 43 - Request for Information Form.

B. Section 01 33 13 - Submittal Transmittal Form.

C. Section 01 20 00 - Change Order Form.

D. Section 00 72 00 - General Conditions: Governing requirements for changes in the Work, correspondence, and the Inspector of Record (IOR).

1.3 CHANGE ORDERS

A. Architect shall submit a Request for Proposal (Job Instruction and Interpretation Report) to the Contractor per Article 59, General Conditions.

B. If the Job Instruction and Interpretation Report is considered by the Contractor as involving a change in contract price, inform the Architect prior to compliance with instructions and within seven (7) days of receipt of the instructions. Contractor shall submit his Request for a Change Order to the Architect as provided in Article 59, General Conditions.

C. Upon Architect's review, his recommendations shall be sent to the District for approval.

D. Upon Owner's approval, Architect will issue a Notice to Proceed, instructing Contractor to proceed with a change in the Work for subsequent inclusion in a Change Order.

E. Change Orders shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed as noted in the Notice to Proceed.

F. The Architect will prepare Change Orders and may authorize minor changes in the Work as provided in Article 59, General Conditions.

G. Architect will issue Change Orders, under the cover of the Change Order Form in Section 01 20 00, for signatures of parties as provided in General Conditions.

H. Change Order Proposals shall isolate individual costs for each Segment.

I. Change orders must be approved by the Architect and District prior to implementation, as

stated in Section 01 11 00. In order to expedite construction, preliminary change orders may be submitted to the District. Field Change Documents requirements necessary for a change order, with the exception of the approval of the school board and the associated change, if any, in costs. The Field Change Document does not require the stamp of deal, but does require the signature of the Architect or Engineers. Work may proceed in accordance with the approved Field Change Document. An official change order shall be submitted to follow up on the Field Change Document as soon as possible. The IOR will assist parties involved by providing field information concerning the proposed change(s) and code related information as requested. The IOR is not authorized to and will not request nor approve proposed change or deviation from the approved Contract Documents. Only the Architect and District have the authority to issue changes.

J. Duties of the Contractor are indicated in Section 4-343, Part 1 of Title 24 California Code of Regulation, as follows:
1. Responsibilities: It is the duty of the Contractor to complete the Work covered by his or her contract in accordance with the approved Contract Documents. The Contractor in no way is relieved of any responsibility by the activities of the Architect/Engineer or District in the performance of their duties.
2. Performance of the Work: The Contractor shall study carefully the approved Contract Documents and shall plan his schedule of operations well ahead of time. If at any time it is discovered that Work is being done which is not in accordance with the approved Contract Documents, the Contractor shall correct the Work immediately.
3. Inconsistencies or items which appear to be in error in the Contract Documents shall be promptly called to the attention of the Architect/Engineer, through the IOR, the interpretation or correction. Local conditions which may affect the structure shall likewise be brought to the Architect's/Engineer's attention at once. In no case, however, shall the instruction of the Architect/Engineer cause work to be done which is not in conformity with the approved Contract Documents and Change Orders.
4. Do not carry on Work except with the knowledge of the IOR.

K. Unapproved documents such as sketches, Shop Drawings, request for information and outdated (superseded) Drawings will not be recognized as Contract Documents.

1.4 SUBMITTALS

A. Deliver submittals such as shop drawings, product data, and samples to Architect at address listed on title sheet of Project Manual.

B. Prepare a Shop Drawing Transmittal Form in Section 01 33 13 for each material or item.

C. Transmit each item under the Shop Drawing Transmittal Form; identify Project, Contractor, Subcontractor, and major supplier. Identify pertinent Drawing sheet and detail number, and Specifications Section Number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor’s and Architect’s review stamps.

D. After Architect's review of submittal, revise and resubmit as required, identifying changes made since previous submittal.

E. Distribute copies of reviewed submittals to concerned persons, including the District and the IOR.

1.5 CORRESPONDENCE

A. Communications Facilitating Construction Contract Administration: Except as otherwise provided in the Contract Documents or when direct communications have been specially

authorized, the District and Contractor shall endeavor to communicate through the Architect.

1. Communications by and with the Architect's consultants shall be through the Architect.
2. Communications by and with the Subcontractors and material suppliers shall be through the Contractor.
3. Communications by and with separate Contractors shall be through the Architect.
4. Communications by and with the IOR shall be through the Architect.

B. Correspondence shall be submitted on a Request for Interpretation or Information format and submitted to the Architect. The Architect shall review and respond to the Contractor as provided in the General Conditions. Architect will distribute copies to District, Contractor, and the IOR. Contractor shall promptly comply with instructions from Architect or his authorized representative.

C. Contractor shall distribute copies of Architect's response to concerned persons.

D. Contractor shall not correspond directly with the District unless it is an emergency.

1.6 INSPECTOR OF RECORD (IOR)

A. The IOR shall work at the direction of the Architect.

B. Correction Notices:

1. Correction notices shall be issued to the Contractor with a copy to the Architect. The Architect will review and render his opinion per Article 8, General Conditions. The decision of the Architect shall be binding on all parties.
2. The IOR's correction notices shall be tracked at the regular job meeting.

C. The IOR will serve as inspector. He will be available for project inspection as required during the normal workweek. He shall have personal knowledge of all aspects of Work performed on this project either through personal observation or through the observation of special inspectors hired by the Owner. Through his personal observation, he shall verify that the Work, materials, and equipment installed are correct per approved Drawings and Specifications. Under no circumstances shall Work be closed up or covered over until it has been checked and accepted by the IOR. Work elements (such as coat of paint or framing) that may be fully checked after completion may take place in the absence of the IOR. These elements must, however, be accepted by the IOR prior to additional work being done that would cover them up. During the daily walk-through, the IOR will review Work in progress with the General Contractor noting potential problem areas that are detected. In all cases, apparent discrepancies will be brought to the attention of the General Contractor as soon as they are noted. The IOR shall work at the direction of the Architect.

D. On-site final inspections and tests required by the project documents and Title 24 of the California Code of Regulations shall be requested in writing 48 hours prior to the inspection being conducted. Prior to final inspections, the General Contractor shall insure that the Work to be inspected is substantially complete on short notice when his schedule permits. Required final inspections shall be performed and accepted by the IOR and Architect/Engineer before the facility or utility is turned over to the Owner for use.

E. Requests for special inspections by the testing laboratory shall be made in writing to the IOR 48 hours prior to the day the Work is scheduled. The testing laboratory will not accept calls for testing and inspections services on this project from anyone other than the IOR or the District Project Manager.

F. Materials and equipment installed shall be as required by the Contract Documents and approved submittals. Materials requiring prior approval by the Architect (submittals) shall be approved prior to storage and/or use on- site. The IOR will verify materials upon delivery and prior to off loading on-site.

G. Overtime work requiring the presence of the IOR must be previously requested in writing by the Contractor and approved by the Owner.

H. Payment request reflecting the percentage of Work accomplished shall be reviewed and signed by the IOR prior to submittal to the Architect and Owner for payment. The IOR shall review and verify percentages of Work completed to date. Payment shall be approved only for work satisfactorily installed unless otherwise specifically approved by the Owner.

I. The IOR shall review the Contractor's As-Built Drawings and verify that they are current and accurate at the same time each payment application is reviewed.

J. The IOR is not in any capacity a safety inspector. If a hazardous or unsanitary condition is noted by the IOR, it will be reported to the Contractor or his authorized agent for action in accordance with the terms of the Contract and State regulation.

K. The IOR has no authority to, and will not give direction to, or supervise any person working for the Contractor under any circumstances; supervision is the responsibility of the Contractor.

L. The Contractor shall provide access and means of access to all parts of the Work at all time for the IOR and special inspectors required on-site. Denial of access shall be grounds for rejection of Work.

M. The IOR's field office is a private office for the use of the IOR, Architect, and Owner. It is not for the use of the Contractor, subcontractors or any person in the employ of either. When parking areas are reserved for construction work, a total of two (2) spaces shall be reserved for use by the IOR, Architect, and Owner.

1.7 SUPERVISION OF WORKFORCE

The Contractor shall enforce the following standards of conduct throughout the course of this Contract for employees, subcontractors, subcontractor employees, management personnel, and vendors under the control of the Contractor.

A. The use of drugs, alcohol, and tobacco during work hours, on District property is prohibited. Work hours include weekends or evening overtime.

B. While on District property, personnel are expected to use language, which is socially and ethically acceptable. Workers shall not use profanity, vulgar talk on District property.

C. With the exception of the Project Superintendent, there is to be no interaction between employees of the Contractor or subcontractors and District staff. Conversation in any context other than warning of an emergency situation between Contractor personnel and District personnel is expressly prohibited.

D. Employees of the Contractor or his subcontractors shall be provided a means of identification indicating the firm that he or she is employed. This identification shall be prominently displayed at all times when the employee is on school property.

E. Violation of any of the items noted above will be grounds for immediate and permanent

removal of the violator from District property.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

A. Coordination of Work of Contract.

1.2 RELATED REQUIREMENTS

A. General Conditions

B. Section 017329 — Cutting and Patching

D. Section 013119 — Project Meetings

E. Section 013313 — Submittals Procedures

F. Section 012513 — Substitutions and Product Options

G. Section 017700 — Contract Closeout

1.3 SUBMITTALS

A. Coordination Drawings: Submit in accordance with Section 013313, as specified herein.

B. Work Plans: Submit as specified herein.

1.4 DESCRIPTION

A. Coordinate scheduling, work activities, submittals, including deferred approvals, District separate contracts and work of the various sections of Specifications in accordance with the Master Project Schedule.

B. Coordinate sequence of Work to accommodate District's separate contract and District's Occupancy as specified in Section 011100.

C. Set up control procedures so that the Master Project Schedule is adhered. Contractor's responsibility is to properly notify District's Project Manager of anticipated and actual time delays. Refer to General Conditions.

D. Coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.

E. Anticipate the interrelationship of all Subcontractors, District separate contracts, and their relationship with the Work

F. Resolve differences or disputes between Subcontractors concerning coordination, OR interference of Work between SECTIONS.

1.5 NOT USED

1.6 NOT USED

1.7 COORDINATION

A. General: Work of the Contract includes coordination of the entire work of the Project, from beginning of construction activity through Project close- out and warranty periods.

B. Mechanical/Electrical Requirements of General Work: Comply with applicable requirements of Division 23 Sections for Mechanical Provisions within units of General Work, and comply with applicable requirements of Division 26 for Electrical provisions within units of General Work.

C. Service Connections: Except as otherwise indicated, final connection of mechanical services to general work is defined as being mechanical work, and final connection of electrical services to general work is defined as electrical work.
Coordination: The Project will require close cooperation and coordination with the school site administration, the Architectural team, District Project Manager, and Contractor and Subcontractors. The Contractor shall consider all such coordination in his work inclusive, but not limited to, scheduling and proper sequencing of the Work with subcontractors and the District school site calendar and times that work cannot be, or occupied areas of the project school site that cannot be undertaken, during the entire project. In particular, the coordination of work before District's substantial completion of each project phase, and ensuring the site administration, the Architectural team, Inspector, and District Project Manager are fully advised of his activities to complete the Work in accordance with the Master Project Schedule.

D. Coordination/Engineering Drawings:

1. Contractor shall prepare and submit complete 1/4 " = 1'0" coordination drawings, Including plans, sections, details, etc., indicating the complete layout and all mechanical and electrical materials and equipment in all areas and within the ceiling spaces for new and existing conditions, including bottom of duct, pipe, conduit and elevations to allow District Architectural team to review with other Prime Trade Contractors' work that Contractor ensures will be coordinated properly.
2. Mechanical, plumbing and electrical Prime Trade Contractors shall be responsible for providing all vertical sections through floors showing structural physical restraints, architectural restraints, plenum spaces and all other physical obstructions that may affect work.
3. Electronic reproduction or photo reproduction of the project's Architectural, Structural, or MEP drawings will not be acceptable.

E. Mechanical, plumbing and electrical Prime Trade Contractors shall prepare a 1/4" sleeving layout indicating size and location of sleeves. Provide copies to applicable trades and District Architectural team.

F. Coordination/Engineering Drawings: These drawings are for the Contractor's and District’s Representative's use during construction and shall not be construed as replacing any shop drawings, "as-built", or Record Drawings required elsewhere in these Contract Documents.

G. Debris Removal and Material Access: An area will be designated for debris removal and material access as agreed by the Contractor and Architectural team at the school site.

1.8 EQUIPMENT COORDINATION

A. Equipment Coordination: With respect to mechanical and electrical features of Contractor and/or District supplied equipment, complete data must be exchanged directly between the Contractor and those vendors and subcontractors involved as the progress of the Project requires. The person requesting the information shall advise when it will be required.

B. The Prime Trade Contractor's for casework and equipment are expressly required to provide large scale layout drawings for casework and equipment showing the required rough-in locations of all services (dimensioned from building features) service characteristics, and locations of studs where the location is critical to mounting or otherwise installing equipment and casework. Furnish sizes and spacing required for Mechanical and Electrical cutouts, and a complete brochure of fittings, sinks, outlets, or other information to provide complete data on the items and accessories being furnished.

1.9 In the event of incorrect, incomplete, delayed or improperly identified information, the entity causing the delay or error shall be responsible and pay for any modifications or replacements necessary to provide a correct, proper and new installation, including relocations r MEETINGS

A. In addition to progress meetings specified in Section 013119, attend coordination meetings and pre-installation conferences with requisite personnel to assure coordination of Work when scheduled with the Architectural, Engineer, Inspector, or Project Manager.

1.10 COORDINATION OF SUBMITTALS

A. Schedule and coordinate submittals as required and as specified in Section 013313.

B. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such materials and equipment.

C. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.

D. Prime Trade Contractors shall submit the following drawings for review and approval:
1. Fire Protection Drawings: Refer to Division 21.
2. Fire Alarm System: Refer to Division 26.

1.11 COORDINATION OF SPACE

A. Mechanical, plumbing and electrical Prime Trade Contractors shall coordinate use of Project space and sequence of installation of mechanical, and electrical work which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

B. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

C. Off-Site Fabrication: Off-site fabrication is encouraged as much as possible and deliveries scheduled so materials and equipment can be installed immediately after delivery. The Contractors shall alert and advise materialmen of the need to hold

deliveries until they are notified the materials are required on the site.

1.12 ELECTRICAL COORDINATION

A. Provide supervision, communications, and coordination necessary to meet the requirements of electrical power connection as set forth by the designated power company (e.g. Glendale Water and Power; SoCal Edison).

B. Provide reasonable and convenient staging and access areas near buildings to permit the respective Utility or its vendors or subcontractors, to install, modify or remove equipment and other components of the electrical power system furnished and installed by the designated power company.

1.13 COORDINATION OF CONTRACT CLOSEOUT

A. Coordinate completion and cleanup of work of separate sections in preparation of District school site occupancy with approval of final cleanup by the Inspector and Project Manager.

B. After District occupancy of premises, coordinate access to site by various sections for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of District/school activities.

C. Assemble and coordinate closeout submittals specified in Section 017700.

1.14 NOT USED

1.15 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. The Drawings show, if applicable, existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, and other utilities which are known to the District.

B. Locate all known existing installations before proceeding with construction operations which may cause damage to such installations. Existing installations shall be kept in service where possible and damage to them shall be repaired with no adjustment of Contract Sum. District archives as- built drawings, and Contractor shall be responsible to request to view any and all drawings for the areas that may be affected in the construction before the work begins.

C. If any unforeseen structures or utilities are encountered, request District's Architectural Team to provide direction on how to proceed with the Work.

D. If any structure or utility is damaged, take appropriate action to ensure the safety of persons and property and report the same to the District's Architectural Team, and begin immediate remediation of any safety- related condition.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specifications Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
   1. General project coordination procedures.
   2. Conservation.
   3. Administrative and supervisory personnel.
   4. Cleaning and protection.

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Section 01 77 00 - Project Closeout for coordinating contract closeout.

1.3 COORDINATION

A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of schedules.
   2. Project closeout activities.

C. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS
Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

3.2 CLEANING AND PROTECTION

A. Clean and protect adjoining materials in place, during construction operations. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.

B. Limiting Exposures: Supervise construction operations to assure that no part of the adjacent construction is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Soiling, staining, and corrosion.
3. Unusual wear or other misuse.
4. Contact between incompatible materials.
5. Vandalism.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included in this Section:

1. The Contractor's participation in preconstruction conference, application for payment, and guarantees, bonds, service and maintenance contracts review meetings.
2. The Contractor's administration and participation in project weekly progress meetings, pre-installation conferences and other meetings, as necessary.

1.2 PRE-CONSTRUCTION CONFERENCE

A. Prior to commencement of Work, attend a pre-construction conference at time and a place selected by the School District to discuss procedures to be followed during the course of the work.

B. The purpose of the conference is to introduce the Marshall Elementary School Window Replacement Project with the Architectural Team, the Inspector, the Construction/Project Managers, and the School's Representative key personnel, to review the contract provisions, project procedures, and other items pertaining to the Project; distribute documents including sample forms referenced in the Contract Documents; answer any questions related to construction contract administration; and establish schedule and procedures for future meetings. (This meeting is NOT to discuss any construction related specific specifications and drawings, nor address any requests for substitutions, etc.)

C. Attending shall be:

1. District Representatives from Facilities Planning, Development and Support Operations, and/or the Business Office.
2. School Site Representatives, including the Construction Liaison
3. The Project Inspector of Record
4. The Architect of Record, and Architect's Construction Architect
5. The Engineering Consultants
6. The Contractor's Contracts Representative/Project Manager
7. The Contractor's on Site Representative/Superintendent
8. Representatives of the major subcontractors, as necessary

1.3 CONSTRUCTION PROGRESS MEETINGS

A. During the course of construction, progress meetings will be held to discuss and resolve field problems.

B. Meeting Schedule: At maximum one-week intervals or more often when required by the Architect/Inspector and/or Project Manager.

C. Meeting Location: As designated by the District's Project Manager, in conjunction with the School Site liaison.

D. Attending shall be:

1. The District’s Representative from Facilities Planning, Development and Support Operations, and/or the Business Office
2. The Project Inspector of Record
3. The Architect's Construction Architect

4. The Engineering Consultants as appropriate to the Meeting Minute format, and as agreed upon by the Contractor and the Project Manager beforehand
5. The Contractor's On-Site Superintendent
6. The Contractor's Representative/Project Manager
7. Representatives of subcontractors/major suppliers as appropriate to a specific item of the Meeting Minute format, and at the time the specific item is reflected on the Meeting Minutes.
8. Others as appropriate to the Meeting Minute format and as agreed upon by the Contractor and the Project Manager beforehand.

NOTE: Representatives of the Contractor, subcontractors and suppliers attending Construction Progress Meetings shall be qualified and authorized to act on behalf of the entity each represents.

F. Suggested Agenda:
1. Review of work progress since previous meeting.
2. Review of upcoming work to take place in project schedule.
3. Discuss School Site concerns with regard to safety, paths of travel, and any upcoming events that may affect the work schedule. Dismiss School Site liaison.
4. Review and approve Minutes of previous meeting.
Discuss field observations, problems, and decisions, affecting the work.
5. Review submittals schedule and status of submittals.
6. Review status of proposed substitutions, if any.
7. Review RFI's, PCO's, and Change Orders, if any.
8. Review off-site fabrication and delivery schedules.
9. Review maintenance of progress schedule.
10. Agree on corrective measures to regain projected schedules, as necessary.
11. Review planned progress during succeeding work period.
12. Review coordination of projected progress.
13. Review maintenance of quality and work standards.
14. Review project safety of workers and practices.
15. Review any Inspector of Record Field Notices, or Deviations logs.
16. Other items relating to the Work.

G. The Architect, in coordination with the Project Manager, will make physical arrangements for project meetings, and the Architect shall prepare agenda, preside at meetings, record minutes, and distribute electronic draft copies of Minutes within three working days after Construction Project Meetings to the Project Manager, Inspector, conference participants and those affected by the decisions made at the conference. The Architect will record in the minutes significant discussions and agreements and disagreements.

1.4 PRE-INSTALLATION CONFERENCES

A. The Architect/Inspector may conduct a pre-installation conference at the site before each construction activity that the Architect/Inspector deems requires coordination with other construction or when required by the Construction documents.

B. Attendance will be required of parties directly affecting, or affected by, or involved in the installation, and its coordination or integration with other materials and installations that have preceded or will follow the particular item of work or activity under consideration. Parties attending the conference shall be qualified and authorized to

act on behalf of entity each represents.

C. Conference Schedule: Schedule conference to assure a sufficient amount of time prior to the scheduled work or activity under consideration so that any concerns, problems or disagreements can be resolved without delaying the Project.

D. The Architect, on conjunction with the Inspector, will make physical arrangements for conferences, prepare the agenda, preside at conferences, record minutes, and distribute copies within two working days after a conference to the Project Manager, Inspector, conference participants and those affected by the decisions made at the conference. The Architect will record in the progress meeting minutes significant discussions and agreements and disagreements as takes place in pre-installation conferences.

E. Suggested Agenda: Review the progress of other construction activities and preparations for the particular activity under consideration, including requirements for:
1. Contract Documents
2. Options
3. Related Change Orders
4. Purchases
5. Deliveries
6. Shop Drawings, Product Data and quality control Samples
7. Possible conflicts
8. Compatibility problems
9. Time Schedules
10. Weather limitations
11. Manufacturer's recommendations
12. Compatibility of materials
13. Acceptability of substrates
14. Temporary facilities
15. Space and access limitations
16. Governing regulations
17. Safety
18. Inspection and testing requirements
19. Required performance results
20. Recording requirements
21. Protection

F. Do not proceed with the work or activity if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of work and reconvene the conference at the earliest feasible date.

1.5 OTHER REQUIRED MEETINGS

A. Project Closeout Meeting:

1. Thirty (30) days prior to the estimated substantial completion the project/phase, the Architect, Inspector, and Project will coordinate a meeting to review required construction maintenance manuals, guarantees, closeout submittals, bonds, and service contracts for materials and equipment; review and implement repair and replacement of defective items, and extend

service and maintenance contracts, and schedule site training for all equipment.

2. Attending shall be:
   a. The District's Representative of Facilities Planning, Development and Support Operations, and/or Business Office
   b. The Project Inspector
   c. The Construction/Project Manager
   d. The Engineering Consultants, as appropriate
   e. The Contractor's on-site Superintendent
   f. Subcontractors, as appropriate
   g. Suppliers, as appropriate
   h. Others, as appropriate

B. Guarantees, Bonds, and Service and Maintenance Review Meeting:
   1. Eleven months following the date of Substantial Completion, the District Project Manager will convene a meeting for the purpose of reviewing the guarantees, bonds, and service and maintenance contracts for materials and equipment.

   2. Attending shall be:
      a. The District's Representative
      b. The Architect
      c. The Engineering Consultants, as appropriate
      d. The Contractor's Representative
      e. Subcontractors and Suppliers, only as appropriate
      f. Others as appropriate

1.6 PRIME TRADE CONTRACTOR MEETINGS
   A. Construction Progress Meetings:
      1. To be held at maximum one-week intervals or more often when required by the Architect/Inspector/Construction Project Manager.
      2. Meeting Location: Contractor Jobsite trailer
      3. All Prime Trade Contractors shall attend in order to review progress of work, and submit any questions or requests to the Contractor in order to ensure coordination of installations during the work schedule.

END OF SECTION

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Procedures to be followed by Contractor upon discovery of any apparent conflicts, omissions, or errors in Contract Documents or upon having any question concerning interpretation.

1.2 PROCEDURES

A. Notification by Contractor:

1. Submit all requests for clarification and additional information in writing to Project Architect using the Request for Information (RFI) form provided by Project Architect or a similar form approved by Project Architect.
2. RFI received directly from a subcontractor will be returned unprocessed to the Contractor.
3. Number RFIs sequentially. Follow RFI number with sequential alphabetical suffix as necessary for each resubmission. For example, the first RFI would be "001". The second RFI would be "002". The first resubmittal of RFI "002" would be "002a".
4. Limit each RFI to one issue on one subject and to no more than five questions.
5. Submit RFIs if one of the following conditions occur:
   a. Contractor discovers an unforeseen condition or circumstance that is not described in the Contract Documents.
   b. Contractor discovers an apparent conflict or discrepancy between portions of the Contract Documents that appears to be inconsistent or is not reasonably inferred from the intent of the Contract Documents.
   c. Contractor discovers what appears to be an omission from the Contract Documents that cannot be reasonably inferred from the intent of the Contract Documents.
   d. RFIs will not be recognized or accepted if, in the opinion of Project Architect, one of the following conditions exist:
      1) Contractor submits the RFI as a request for substitution.
      2) Contractor submits the RFI as a submittal.
      3) Contractor submits the RFI under the pretense of a Contract Documents discrepancy or omission without thorough review of the Documents.
      4) Contractor submits the RFI in a manner that suggest that specific portions of the Contract Documents are assumed to be excluded or by taking an isolated portion of the Contract Documents in part rather than whole.
      5) Contractor submits an RFI in an untimely manner without proper coordination and scheduling of work or related trades.
      6) Contractor submits and RFI that does not conform to Paragraph 1.02.A.4.
   e. Ask for any clarification or request for information immediately upon discovery. Submit RFIs in a reasonable time frame so as not to affect the project schedule while allowing the full response time described below.
   f. RFIs shall carry the following information:
      1) Applicable specification section, article, and paragraph numbers.
      2) Drawing number and detail references as needed.

B. Response Time:

1. Project Architect, whose decision will be final and conclusive, shall resolve such questions and issue instructions to Contractor within a reasonable time frame. In most cases, RFIs will receive a response within 7 calendar days. In some cases this

time may need to be lengthened for complex issues, or shortened for emergency situations, as mutually agreed by all parties.

2. Should Contractor proceed with the work affected before receipt of a response from Project Architect, within the response time described above, any portion of the work which is not done in accordance with Project Architect's interpretations, clarifications, instructions, or decisions is subject to removal or replacement and Contractor shall be responsible for all resultant losses.
3. Additional Detailed Instructions:
   a. Project Architect may furnish additional detailed, written instructions to further explain the work and such instructions shall be a part of Contract Documents. Should additional detailed instructions in the opinion of Contractor constitute work in excess of the scope of Contract, Contractor shall submit written notification thereof to Project Architect within seven calendar days following receipt of such instruction, and in any event prior to the commencement of work thereon. Project Architect will then consider such notice and if Project Architect considered it justified, Project Architect's instructions will be revised, or an extra work authorization will be issued.
   b. Contractor has no claim for additional compensation or extension of the schedule because of any such additional instructions unless Contractor gives Project Architect written notice thereof within the time frame as specified above.
   c. Prepare and maintain an RFI log. Update on a weekly basis. Log RFI number, brief description of content or subject discussed, date submitted, and date answered. Keep log current and furnish copy when so requested by the Project Architect.; when records are kept on line, keep RFI log accessible to all concerned.
   d. Failure to Agree: In the event of failure to agree as to the scope of Contract requirements, Contractor shall follow procedures set forth in the disputes clause.

PART 2 – PRODUCTS – NOT USED.

PART 3 – EXECUTION – NOT USED.

END OF SECTION

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, with network analysis diagrams and reports.

1.2 SUBMITTALS

A. Within 14 calendar days after date established in Notice to Proceed, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 21 calender days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 14 calender days after joint review, submit complete schedule.

E. Submit updated schedule when project deviates from current schedule by more than 7 calender days in either direction and when a Change Order that effects time is issued.

F. Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect.

G. Submit under transmittal letter form.

1.3 QUALITY ASSURANCE

A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with three years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

B. Contractor's Administrative Personnel: Five years minimum experience in using and monitoring CPM schedules on comparable projects.

1.4 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

B. Diagram Sheet Size: Maximum 22 x 17 inches or width required.

C. Sheet Size: Multiples of 8-1/2 x 11 inches.

D. Scale and Spacing: To allow for notations and revisions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a preliminary network diagram.

3.2 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification section number.

C. Identify work of separate stages and other logically grouped activities.

D. Provide sub-schedules to define critical portions of the entire schedule.

E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, Products identified under Allowances, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.

G. Coordinate content with schedule of values specified in Section 01 20 00.

H. Provide legend for symbols and abbreviations used.

3.3 NETWORK ANALYSIS

A. Prepare network analysis diagrams and supporting mathematical analyses using the Critical Path Method.

B. Illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.

C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:

1. Preceding and following event numbers.
2. Activity description.
3. Estimated duration of activity, in maximum 15 day intervals.
4. Earliest start date.
5. Earliest finish date.
6. Actual start date.
7. Actual finish date.
8. Latest start date.
9. Latest finish date.
10. Total and free float; float time shall accrue to Glendale Unified School District and to Glendale Unified School District's benefit.
11. Monetary value of activity, keyed to Schedule of Values.

12. Percentage of activity completed.
13. Responsibility.

D. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, accepting revised completion dates, and recomputation of all dates and float.

E. Required Reports: List activities in sorts or groups:

1. By preceding work item or event number from lowest to highest.
2. By amount of float, then in order of early start.
3. In order of latest allowable finish dates.
4. Contractor's periodic payment request sorted by Schedule of Values listings.
5. Listing of basic input data that generates the report.
6. Listing of activities on the critical path.

F. Required Daily Reports:

1. List of Contractor personnel at the site
2. List of Subcontractors at the site
3. Accurate count of personnel at the site by trade, and Subcontractor
4. Material and Equipment Deliveries
5. High/low temperatures; and general weather conditions.
6. Accidents or Injuries.
7. Meetings and significant decisions.
8. Unusual events.
9. Stoppages; delays; shortages; losses.
10. Emergency procedures; field orders.
11. Orders/requests by governing authorities; signed.
12. Services connected; disconnected
13. Equipment or system tests and start-ups.
14. Partial completions, occupancies.
15. Substantial completion requested
16. Substantial completion authorized.
17. Requests for Inspections.

3.4 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Owner and Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule. C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.5 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Annotate diagrams to graphically depict current status of Work.

D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit reports required to support recommended changes.

3.6 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Architect, Glendale Unified School District, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

PART 1 – GENERAL

1.1 SECTION INCLUDES
Construction Progress Reports

1.2 RELATED DOCUMENTS AND SECTIONS

A. Section 01 31 19 – Project Meetings: Review of construction progress and submittals status at Project meetings.

B. Section 01 32 16 – Construction Progress Schedules: Construction Progress Schedule and Submittals Schedule.

C. Section 01 77 00 – Project Closeout: Notice by Contractor of progress of the Work sufficient for Substantial Completion upon review and acceptance by Owner.

1.3 CONSTRUCTION PROGRESS REPORTS

A. Daily Log: Contractor shall maintain a written daily log at the job site with the following information as a minimum:
1. Date.
2. Weather Conditions.
3. Subcontractors and trades performing work under the Agreement on the Site, and number of workers each and number of hours worked by each worker.
4. Others on Site performing work for Owner and under separate contracts.
5. List of visitors to site, giving name, company or agency affiliation and telephone number.
6. Descriptions of situations and circumstances which could delay normal progress of Work or which could be basis of claim for change in Contract Time or Contract Sum.
7. Changes to Work and who authorized changes.
8. Comments, as Contractor determines are appropriate for Project record.

B. Submission of logs: Submit one copy of daily logs to Owner at weekly intervals.

PART 2 – PRODUCTS - Not applicable to this Section.

PART 3 – EXECUTION - Not applicable to this Section.

END OF SECTION

PART1 GENERAL

1.1 SECTION INCLUDES

A. Procedures for submitting the following types of submittals.

1. Shop Drawings.
2. Product Data.
3. Samples.
4. Calculations.
5. Certificates of Compliance.
6. Manufacturer's Instructions

B. Related Work Not Included in this Section:

1. Specific section reference requiring submittal. Make submittals only where specifically required.
2. Requirements of other types of submittals including but not necessarily limited to, test reports, operating instructions, maintenance data, and maintenance materials.
3. Specific requirement for Commissioning Submittals, Seek the Commissioning Section in Division One for requirements.

1.02 GENERAL REQUIREMENTS

A Submittals, except for deferred approvals, are not Contract Documents and do not become Contract Documents by virtue of their submission, review, and stamping by Project Architect.

1.03 SUBMISSION REQUIREMENTS

A Make submittal promptly in accordance with the Submittal Schedule and in such sequence as to cause no delay in the Work or in the work of any separate contractor.

B. Make submittals to Project Architect or to an individual designated by Project Architect.

C. Contractor's failure to indicate approval on submittal prior to submission to Project Architect will result in their being returned to Contractor without being acted upon.

D. No delays in construction occasioned by Contractor's failure to submit material for approval in accordance with the Submittal Schedule will be excused.

E. Package each submittal appropriately for transmittal and handling.

F. Number and type of copies to be submitted, distributed, and returned will be as stated herein, unless otherwise specified in technical Specification Sections.

G. Submittal of information not required as a submittal, or covering work for which the submittal has been returned as "approved" or "approved as noted", will be returned without review.

H. Approval of a separate material, product, or component does not imply approval of assembly in which the item functions.

I. Incomplete submittals will be returned without review.

J. Submittal received from sources other than Contractor will be returned without action.

K. Submit complete submittals for each portion of the work; submit components of the work interrelated as a system at the same time.

L. When submittal acceptability is dependent on conditions, items, or materials included in separate subsequent submittals, the submittal will be returned without review.

M. Transmittal:

1. Transmit each submittal with Project Architect accepted form containing the following information.

a. Submittal number.

b. Submittal date.

c. Project name.

d. Project Architect's Project Number.

e. Project Architect's name.

f. Contractor's name.

g. Subcontractor's name and address.

h. Applicable Specification Section, Article, and Paragraph number.

i. Drawing number and detail references, as appropriate.

j. Quantity and type of submittals.

k. Listing of documents and components that comprise the submittal.

l. Date submittal is requested back from Project Architect.

m. Distribution record (for both transmittal and submittals).

n. Notice of any deviations from the Contract Documents contained in the submittal. Supply on separate sheets of Contractor's letterhead.

o. Contractor's certification that the information complies with Contract Document requirements.

p. Signature of transmitter.

q. Any other pertinent information, including HPI material buy-out forms and back-up documentation for HPI related materials.

r. Sequentially number transmittal forms. Mark revised or resubmitted submittals with original number and sequential alphabetic suffix.

s. Incomplete transmittal forms are unacceptable and the entire submittal will be returned to Contractor without review at Project Architect's discretion.

N. Submittal Identification: Place a permanent label or title block on each document or component of each submittal for identification. Mark each copy of each submittal identically. Include the following information in label or title block.

1. Submittal/transmittal number.
2. Project name.
3. Project number.
4. Contractor's name.
5. Subcontractor's name.
6. Completely identify Samples with manufacturer's name and model number, material name and source, or similar information.
7. Provide space for Contractor's and Project Architect's review stamps.

0. Resubmittals:

1. If a submittal is returned for correction or is not satisfactory and is disapproved by Project Architect, resubmit the corrected material in the same quantity, including reproducibles, as specified for the original submittals.
2. Make resubmittal within 14 calendar days after receipt by Contractor of the disapproved material.
3. If the same document is used for resubmittal, clear identify revised portions of the document by clouding.
4. Keep each resubmittal intact and do not add new drawings, materials, or information outside the scope of the original submittal, except to answer Project Architect's comments.

1.4 CONTRACTOR'S RESPONSIBILITIES

A. It shall be the responsibility of Contractor to obtain Project Architect's approval of required submittals prior to initiating work represented. It is imperative that Contractor allow a minimum of fifteen (15) calendar days for submittals that require the review of Architect and Engineer(s) of Record.

B. Maintain a log of submittals showing the submittal number, the name of the Subcontractor making the submittal (where applicable), date submitted, date received, and action by Project Architect. Submit current copy of submittal log each month with Application for Payment.

C. Provide the following where applicable:

1. Field measurements.
2. Field construction criteria.
3. Catalog numbers and similar data.
4. Relation to adjacent structure or materials.
5. Field dimensions, clearly identified as such.
6. Notes identifying deviations from the Contract documents.

D. Prior to sending submittals to Project Architect, Contractor is to review them for:

1. Submittal completeness and accuracy including dimensions.
2. Compliance with requirements of Contract Documents.
3. Compatibility with other submittals, shop drawings, substitutions and work of other trades.

4. Coordination with existing job conditions.

5. Field verification of dimensions.

E. Apply Contractor's stamp to each document and component of each submittal certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of Work and Contract Documents.

1. Stamp all drawings with submittal number.

2. Contractor to wet sign first page of bound sets including shop drawings.

3. The person signing the stamp shall be one designated in writing by Contractor as having that authority.

4. Signature shall be in original ink. Stamped signature is not acceptable.

F. Notify Project Architect in writing, at the time of submission, of deviations in submittals from the requirements of the Contract Documents.

1. Contractor's responsibility for deviations in submittals shall not be relieved by Project Architect's review of the submittals, unless Project Architect gives written acceptance of specific deviations clearly identified by Contractor by clouding and the words "CONTRACT DEVIATION" and "SUBSTITUTION" in bold face print.

2. When submittal is revised for resubmission, identify changes made since previous submittal.

G. Contractor's responsibility for errors and omissions in the submittals shall not be relieved by Project Architect's review.

H. Be responsible for the accuracy of the submittals and for the proper fitting, verification of dimension, construction of the work, furnishing of materials, and work required by the Contract Documents but not indicated on the submittals.

I. Submission of Shop Drawings, Product Data, Calculations, or other submittals in either original submission or when resubmitted with corrections, constitutes evidence that Contractor has checked all information, thereon, and that it accepts and is willing to perform the work as shown, in a workmanlike manner, and in accordance with the best standard practice.

J. Do not submit Shop Drawings, Product Data, or Samples for products that have not been specified unless such products have been formally reviewed as a substitute in accordance with Section 01 60 00- Product Requirements.

K. Do not allow copies of submittals without Project Architect's stamp indicating reviewed by Project Architect to be used in connection with the Work. Do not permit submittals marked "Rejected" or "Revise and Resubmit" to be used at the Project site, or elsewhere where work is in progress.

L. Do not proceed with fabrication or installation of materials, products or systems until final approved submittals are in the possession of the fabricator or installer as appropriate.

M. Prepare and distribute additional sets of reviewed submittals to subcontractors, manufacturers, fabricators, suppliers, erectors, installers, and others as required for performance of the Work. Instruct parties to promptly report inability to comply with requirements.

N. Maintain one set of each submittal at the project site, available for reference.

0. Maintain one set of reviewed submittals for Record Documents as described in Section 0178 00 - Closeout Submittals.

1.5 ARCHITECT'S RESPONSIBILITIES

A. Project Architect will review submittals with reasonable promptness and in accordance with the Submittal Schedule.

B. Project Architect will only review submittals for general conformance to the design concept and Contract Documents.

C. Do not construe Project Architect's review of relieving Contractor of its responsibility for:

1. Errors in details, dimensions or quantities.

2. Departures from additional details or instructions previously furnished by Project Architect.

3. Integrating and coordinating various trades and separate contracts.

4. Any violation indicated on such submittals, of State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or public utilities having jurisdiction.

5. Quantity, fit, and dimensions.

6. Full compliance with the Contract Documents.

D. Project Architect shall reject the following submittals:

1. Which do not show evidence of being reviewed and approved by Contractor.

2. Which are incomplete or lack sufficient information.

3. Which are for products or materials that have not been specified unless such products and materials have been formally reviewed as substitutes in accordance with Substitution Section.

4. Withhold action on a submittal requiring coordination with other submittals until related submittals are received.

5. Return without reviewing submittals with multiple items and no clear indication as to which item is to be used in the Work.

6. Resubmittals that do not clearly indicate where revisions have been made to the provisions submittal.

E. Return without reviewing submittals with multiple items and no clear indication as to which item is to be used in the Work.

F. Project Architect will withhold action on a submittal requiring coordination with other submittals until related submittals are received.

G. Project Architect's review is only for items to be furnished by the submitting subcontractor or supplier and does not constitute approval of any assemblage of which the submitted item is a component or approval of construction sequence or method.

H. Project Architect will return without actions submittals not requested or required by Contract Documents or Project Architect.

I. Architect's Actions:

1. Where action and return is required, Project Architect will review Contractor's submittals, apply Project Architect's action stamp and indicate action, sign, and date.

2. The terms of Project Architect's action stamp have the following meaning:

   a. "REVIEWED" -- indicates that Project Architect takes no specific exception to the information contained in the submittal; Contractor may proceed with that portion of the Work described in the submittal -- subject to compliance with all applicable requirements of the Contract Documents.

   b. "REVIEWED AS NOTED"-- indicates that Project Architect approves the submittal for general design conformance with the specific exceptions noted; Contractor may proceed with that portion of the Work provided that the notations made by Project Architect are incorporated in the work-- and subject to compliance with all applicable requirements of the Contract Documents.

   c. "REVISE AND RESUBMIT"-- indicates that Project Architect has noted nonconforming work on the submittal, and/or desires clarification on some aspects of the submittal; the Contractor must make revisions and resubmit. Contractor may not proceed with the work described in the submittal.

   d. "REJECTED"-- indicates that Project Architect believes the submittal contains significant error or non conformance and is, therefore, rejected. A new submittal is required. Contractor may not proceed with that portion of the Work described by the submittal.

   e. Where a submittal does not require Project Architect's action, the submittal will be returned, marked "Action Not Required" or "Not Reviewed".

J. Project Architect will retain one copy of each submittal for Project Architect's file and one copy for each major consultant who has reviewed the submittal, unless otherwise noted.

K. When appropriate Project Architect will return submittals to Contractor for distribution, or for resubmission.

1.6 SUBMITTALS

A. Shop Drawings:

1. Shop Drawings facilitate integration, coordination, and progress of the Work.

2. Shop Drawings include fabrication, erection, and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings.

3. Shop Drawings include specially-prepared technical data for this Project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to a range of similar projects. Shop Drawings shall be prepared by Contractor or through Contractor by way of a subcontractor, manufacturer, supplier, distributor, or other lower tier contractor, to illustrate a portion of the work.

4. Submit shop drawings when specified and to illustrate every custom fabricated item or assembly.

5. Preparation:

   a. Provide newly prepared information with graphic information at accurate scale, except as otherwise noted. Do not reproduce Contract Documents and do not copy standard information as basis of Shop Drawings. Standard information prepared without specific reference to the project is not considered Shop Drawings.

   b. Contractor may request electronic files versions of specific drawings from

Project Architect to assist in the preparation of Shop Drawings. The Contract is to remove the Title Block including all references to Project Architect and their consultants. Contractor will be liable for information contained on Shop Drawings developed using electronic files provided by Project Architect. The format of electronic files will be AUTOCAD drawings

c. Include plans, sections, and details complete with information for making connections with other work and any other information necessary to adequately describe the unit of Work.

d. Identify materials, products, and finishes and, where applicable, use specification section numbers as reference.

e. Identify details by reference to Contract Drawings drawing and detail, schedule, or room numbers shown or specified.

f. Use same equipment, fixture, or item reference used in the Contract Documents.

g. Identify applicable standards.

h. Identify coordination requirements.

i. Dimension drawings, except diagrams and schematic drawings, and indicate which are based on field measurement. Prepare dimensioned drawings to scale..

j. Identify deviations from the Contract Documents by clouding and the words "CONTRACT DEVIATION" in boldface type or lettering.

k. Shop Drawings shall be not less than 8-1/2 by 11 inches or more than 30 by 42 inches, unless approved in advance by Project Architect.

l. Where coordination requirements necessitate scope of Shop Drawing to include more than one item, label Shop Drawing with specification section number of dominant trade involved. "Dominant" shall be defined as greatest quantity, greatest cost, or principal detail subject of drawing, whichever may be appropriate.

m. Draw Shop Drawings at large scale, fully detailed and with all materials and stock or purchased components fully identified.

n. Submission:
   1} For Shop Drawings presented on sheets larger than 11 inches by 17 inches, submit three opaque reproductions of each required shop drawing prepared for this project. Shop drawings can be no larger than 30 x 42 inches without prior of approval of Project Architect.
      (a} Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to the information required in the paragraph entitled "Submittals Identification".
      (b} Each drawing shall have clear space of approximately 4 by 10 inches to receive review stamps.
      (c) One copy of reviewed Shop Drawings will be returned to Contractor.
   2} For shop drawings presented on sheets 11 inches by 17 inches or less, conform to the format and quantity requirements for Product Data.

B. Coordination Drawings:

1. Prepare separate composite, detailed coordination drawings consisting of plans, elevations, and sections as required to clearly delineate and show relationship between utilities, mechanical, and electrical work.

2. Include and show due consideration for utilities, architectural elements, and structural elements (including excavations and shoring, utility vaults, manholes, and foundations for permanent and temporary construction) and identify potential interface trouble spots.
3. Individual drawings for single element will not be accepted or reviewed unless and until coordination drawings have been previously reviewed and accepted.
4. Purpose for coordination drawings is to determine, for mutual benefit of all concerned, precedence of trade work and allocation of available physical space for installation of trade work.
5. Coordination drawings are not to be construed to be shop drawings or as a replacement for shop drawings.
6. Generate and submit coordination drawings in timely manner and in support of Contract Schedule.

C. Product Data:

1. Product Data includes standard preprinted information on materials, products, equipment, and systems; not specially prepared for this Project, other than the designation of selections from among available choices printed therein.
2. Product Data permits Project Architect to determine which materials, products, and systems will be accepted in the project.
3. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings".
4. Preparation:
    a. Collect required data into one coordinated submittal for each unit of work, element of construction or system.
    b. Mark the manufacturer's brochures and catalog data to clearly indicate the items to be included as a part of the work. Product Data submitted with multiple items and no clear indication as to which item is to be used in the work will be returned to Contractor without being reviewed.
    c. Mark all submittals indicating item, options, and finishes proposed, and referencing technical Specification Section and paragraph covering the work in question.
    d. Use same equipment, fixture, or item reference used in the Contract Documents.
    e. Include the following as appropriate:
        1) Manufacturer's standard printed recommendations for application, installation and use. Supplement standard information to provide additional information applicable to the Project.
        2) Physical dimensions and clearances required. Indicate field dimensions that have been checked and verified.
        3) Performance characteristics, limitations and capacities.
        4) Structural, mechanical and electrical engineering information.
        5) Conformance with applicable standards, codes, fire ratings and acoustical ratings.
        6) Test data.
        7) Appearance characteristics.
        8) Samples of color and finishes.
        9) Identify coordination requirements.

10) Manufacturer's standard schematic drawings and diagrams:
    (a) Modify the drawings and other diagrams to delete information that is not applicable to the Work.
    (b) Supplement standard information to provide information specifically applicable to the Work.
11) Identify deviations from the Contract Documents by clouding and the words "CONTRACT DEVIATION" in bold face print.
12) Identify each document with information required in the paragraph entitled "Submittal Identification".
13) Statements such as "as specified" will not suffice.

f. Submittal:
1) Submit six copies of Product Data.
2) Heat transfer or other impermanent reproduction method or fading type of reproduction will not be accepted.
3) Three copies of reviewed Product Data will be returned to Contractor.

D. Samples:

1. Samples include both fabricated and unfabricated physical examples of products, materials, products equipment, fixtures, devices, assemblies, or workmanship, physically identical to a portion of the Work, illustrating a portion of the Work or establishing standards for evaluating the appearance of the finished Work or both or (where indicated) for more detailed testing and analysis. Mock-ups are a special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.

2. Review of Samples shall permit Project Architect to physically verify conformance of materials, products, fixtures, devices, assemblies, or workmanship with Contract Documents either by inspection or testing, and to select textures, colors, or other characteristics as stipulated in the Contract Documents.

a. Review of Samples will be only for characteristics or uses named in such review and shall not be taken to change or modify any contract requirement except as specifically authorized or requested by Project Architect.

b. Samples shall set standards for items or characteristics of which Samples are representative.

c. After a sample has been accepted, no change in brand, manufacturer, or quality will be permitted unless satisfactory written evidence is presented to, and accepted by, Project Architect that the manufacturer cannot make scheduled delivery of the accepted material, or that the material delivered has been rejected and substitution of suitable materials is an urgent necessity.

d. Refer to technical Specification Sections for additional requirements of samples, if any, which are intended for examinations or testing for other characteristics.

e. Format and Quantity of Samples
1) Furnish samples in the sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:
    (a) Sample of equipment or device: Full size.
    (b) Sample of materials less than 2 by 3 inches: Attach to an 8-1/2 by 11 inch sheet.
    (c) Sample of materials exceeding 8-1/2 by 11 inches: Cut down to 8-1/2 by

11 inches as appropriate to indicate color, texture, and material variations unless directed by individual Section to submit larger size.

(d) Sample of linear devices or materials, such as, conduit and handrails: 12-inch length or length to be supplied, if less than 12 inches.
(e) Sample of non-solid materials, such as, sand and paint: Pint.
(f) Color selection samples: 2 inches by 4 inches.
(g) Sample panel: 4 feet by 4 feet.
(h) Sample installation: 100 square feet.
(i) Sizes of samples shall be of their respective standard unit, insofar as possible or practical, unless otherwise noted.
G) Refer to Section 09 90 00 – Paint for paint color sample requirements

2) Samples showing range of variation: Where variations are unavoidable due to the nature of the materials, submit sets of samples of not less than three units showing the extremes and middle of the range.
3) Where. Samples are for selecting of color, pattern, texture, or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
4) Quantity, unless otherwise specified:
(a) Submit three samples, or three sets of samples showing range of variation, of each required item. Project Architect will retain one approved sample or set of samples and two will be returned to Contractor.
(b) Submit one sample panel. Include components listed in technical Specification Section or as directed.
(c) Submit one sample installation, where directed.
(d) Submit one sample of non-solid materials.
5) Mount, display, or package samples in the manner specified to facilitate review of qualities indicated.
6) When a color, texture, or pattern is specified in naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.
7) Identify each Sample with information required by the paragraph entitled "Submittal Identification". Also, include information with each Sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards.
8) Refer to technical Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

f. Requirements for Mock-Ups and Field Samples:
1) Mock-ups and similar field samples specified in technical Specifications Sections are recognized as a special type of Sample. Comply with requirements for "samples" to greatest extent possible, and process transmittal forms to provide a record of activity.
2) Erect at site in locations acceptable to Project Architect.
3) Construct each mock-up or field sample; include all items required in the finish work.
4) Mock-ups or field samples shall remain in place until the work it represents has been completed and accepted by Project Architect.
5) Note and preserve the notation of the area constituting the sample installation but remove the notation at the final clean up of the Project.

g. Quality Control Set of Samples:
1) Maintain returned final set of Samples at project site, properly protected and in

suitable condition and available for quality control comparisons by Project Architect and others.

2) Quality control set shall serve as the basis for comparison for following work, and shall establish the standard of color, pattern, texture, workmanship, and other qualities as applicable when in conformance with the requirements of the Contract Documents.

h. Reusable Samples: Returned Samples that are intended or permitted to be incorporated in the Work are so indicated in other Specification Sections.

i. Incorporated Samples must be undamaged at the time of use and in complete conformance with all requirements of the Contract Documents.

E. Calculations:

1. Where calculations are required by the specifications, they shall be prepared by a registered California professional engineer who shall sign and stamp the submittal prior to submission to the Project Architect.

2. Submit five copies of required calculations for the record only. Project Architect nor its Consultants are not responsible for checking calculations.

3. Indicate all formulae and criteria used in the preparation of calculations.

4. Submit calculations on 8-1/2 by 11 inch sheets.

5. In addition to the information required by the "Submittal Information" Paragraph, include the name, address, license number, stamp and signature of the engineer.

F. Certificates of Compliance:

1. Certificates shall certify compliance with published specifications of trade, industry, or governmental organizations or specification of Project Architect and shall attest to Contractor's compliance with such specifications.

2. Where these specifications set standards by referencing published specification, submittal of certification may not be required; however, if inspection or performance at the job site after delivery and until Glendale Unified School District's final acceptance creates doubt regarding compliance, Project Architect reserves the right to receive such certification or, in event compliance cannot be certified, demand removal of questionable Work and its replacement with certifiable Work.

3. When specified in technical Specification Sections, submit manufacturers' certificate to Project Architect for review, in quantities specified for Product Data.

4. Follow same procedure as for Product Data. Where feasible, or where required by technical Specification Sections, indicate compliance with the specified standard by means of a label on the container, or on an inconspicuous place on the product.

5. Indicate how material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.

6. Certificates may be recent or previous test results on material or product, but must be acceptable to Project Architect.

7. Each certificate shall be signed by an official authorized to certify in behalf of the Contractor, supplier or manufacturer and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Certification shall not be construed as relieving

Contractor from furnishing materials and products conforming to Contract Documents.

G. Manufacturer's Instructions:

1. When specified in technical Specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
2. Identify conflicts between manufacturers' instructions and Contract Documents.
3. Installation of the items will not be allowed to proceed until the information is received. Failure to furnish the information can be cause for rejection of the material.

J. Manufacturer's instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

K. Manufacturer's field reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
    a. Statement on condition of substrates and their acceptability for installation of product.
    b. Statement that products at Project site comply with requirements.
    c. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
    d. Results of operational and other tests and a statement of whether observed performance complies with requirements.
    e. Statement whether conditions, products, and installation will affect warranty.
2. Other required items indicated in individual Specification

Sections. L. Verified Reports

1. Submit Verified Reports to Glendale Unified School District.
    a. Comply with Title 24, California Code of Regulations, Part 1, Sections 4-336 and 4-343

PART 2 PRODUCTS - Not Used.

PART 3 EXECUTION – Not Used.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

A. Included in this Section: This Section sets forth certain codes, standards, and relevant requirements applicable to the work required under this Contract.

1.2 STATUTORY AND JURISDICTIONAL REGULATIONS

A. Perform the Work in accordance with 2016 Edition of California Building Code (CBC) and other Applicable Code Requirements and applicable requirements of all other regulatory agencies listed in Drawings.

B. Unless otherwise specified, specific references to codes, regulations, standards, manufacturer's instruction, or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the latest edition of each in effect on the date of Contract Documents, or date of the Change Order or Field Order, as applicable, except where a specific date is established by codes.

C. Applicable Building Codes: References on the Drawings or in the Specifications to "Code" or "Building Code" not otherwise identified shall mean the codes indicated together with all additions, amendments, changes, and interpretations adopted by code authorities of the jurisdiction having authority over the Project.

D. Maintain copy of California Code of Regulations (CCR), Title 24, Part 1 and Part 2 in the field office during construction.

E. Maintain copy of ADAAG (American with Disability Act Accessibilities Guidelines) in the field office during construction.

1.3 PRECEDENCE

A. Where specified requirements differ from the requirements of applicable codes, ordinances and standards, the more stringent requirements shall take precedence.

B. Where the Drawings and Specifications require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, the Drawings and Specifications take precedence so long as such increase is legal.

C. Where no requirements are identified in the Drawings or Specifications, comply with requirements of applicable codes, ordinances and standards of authorities having jurisdiction.

1.4 QUALITY ASSURANCE

A. Conflicts: If a conflict exists between referenced regulatory requirements, comply with more stringent establishing requirement, unless otherwise directed by Project Architect.

1.5 VERIFIED REPORTS

A. Comply with submission of Verified Reports as required by Inspector of Record.

PART 2 – PRODUCTS - Not used.

PART 3 – EXECUTION - Not used.

END OF SECTION

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Testing and inspection services to meet requirements of the California Building Code (CBC), Title 24, Parts 1 and 2, as indicated on the Drawings.

B. Tests of materials are required by a certified testing agency as set forth in Section 4-335 of the California Building Standards Administrative Code.

1.2 RELATED SECTIONS

Provisions of the General Conditions, Supplemental Conditions and Division 01 apply to this Specification. Specifications that are referenced or related may include:

A. Section 01 31 13: Project Coordination

B. Section 01 73 29: Cutting and Patching

C. Section 01 33 13: Submittals

D. Section 01 32 16: Construction Schedule

E. Section 01 50 00: Construction Facilities and Temporary Controls

F. Section 01 77 00: Project Closeout

G. Section 01 78 00: Closeout Submittals PART 2 -

PRODUCTS (Not used)

PART 3 - EXECUTION

3.1 INSPECTION BY OWNER

A. OWNER, and its representatives, shall have access, for purposes of inspection, at all times to all parts of the Work and to all shops wherein the Work is in preparation. CONTRACTOR shall, at all times, maintain proper facilities and provide safe access for such inspection.

B. OAR shall have the right to reject materials and/or workmanship deemed defective Work and to require correction. Defective workmanship shall be corrected in a satisfactory manner and defective materials shall be removed from the premises and legally disposed of without charge to OWNER. If CONTRACTOR does not correct such defective Work within a reasonable time, fixed by written notice and in accordance with the terms and conditions of the Contract Documents, OWNER may correct such defective Work and proceed in accordance with related Articles of the Contract Documents.

C. CONTRACTOR is responsible for compliance to all applicable local, state, and federal regulations regarding codes, regulations, ordinances, restrictions, and requirements.

3.2 INSPECTOR OF RECORD

A. An approved and certified Inspector of Record (IOR) shall be employed by OWNER in accordance with requirements of Title 24 of the California Code of Regulations with their duties specifically defined therein. Additional certified inspectors may be employed and assigned to the Work by OWNER in accordance with the requirements of California Building Standards Administrative Code with their duties as specifically defined in Section 4-333(b).

B. Inspection of Work shall not relieve CONTRACTOR from any obligation to fulfill all terms and conditions of the Contract Documents.

C. CONTRACTOR shall be responsible for scheduling times of inspection, tests, sample taking, and similar activities of the Work.

3.3 TESTS AND INSPECTIONS

The following tests and inspections do not limit inspection of the Work but are required by other agencies, or are required in related Sections of the Contract Documents.

A. Aluminum - CBC, Chapter 20A:

1. Aluminum	2002.1
2. Inspection:	2003.1

B. Exterior Wall Coverings - CBC, Chapter 14A, 25A:

1. Materials:

a. Portland Cement Plaster	2510

END OF SECTION

PART1 GENERAL

1.01 SECTION INCLUDES

A. Supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

C. This section includes Industrial Standards.

1.02 DEFINITIONS

A. Approved, Approved Equal, Or Equal: As approved and accepted by Project Architect and Owner as defined in the General Conditions and Section 01 60 00 of the Specifications.

B. As Necessary: Essential to the completion of the Work.

C. As Required: As required by the Contract Documents.

D. As Selected, As Approved, As Directed or words of similar import: As selected by, as approved by, or as accepted by the Project Architect. No implied meaning shall be interpreted to extend Project Architect's responsibility into the Contractor's area of Contractor's supervision.

E. As shown, As Detailed, As Indicated and words of similar import: As indicated on the Drawings.

F. Building Department and Authorities Having Jurisdiction: All agencies, individually or collectively, charged by statute with administration/enforcement of the requirements of the Building Code at the Project location.

G. Control Sample: Sample of material of approved color, finish and texture, available for the Contractor's review in Project Architect's office.

H. Concealed: Embedded in masonry, concrete or other construction, installed within furred spaces, within wall/partitions or above suspended ceilings, in trenches, in crawl spaces, or in enclosures.

I. Cutting: Removal of material by cutting, sawing, drilling, breaking, chipping, grinding, excavating and similar operations.

J. Division: Division of these Specifications except where the obvious intent is the act or process of dividing. Divisions are groups of related Sections.

K. Directed, Requested, Authorized, Selected, Reviewed, Required, Accepted, and Permitted: Directed by Architect, requested by Architect, and similar phrases. However, no such implied meaning will be interpreted to extend Project Architect's responsibility into the Contractor's area of construction supervision.

L. Defective Work: Work that is unsatisfactory, faulty, omitted, incomplete, deficient, or does not conform to the requirements of the Contract Documents, or the requirements of inspection, reference standard, test, or approval specified in the Contract Documents, or has been damaged prior to final completion, unless responsibility for the protection of such work has been assumed by the Owner through beneficial occupancy in accordance with provisions of the Contract.

M. Furnish, except as otherwise defined in greater detail: "Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations," as applicable in each instance.

N. Install, except as otherwise defined in greater detail: Used to describe operations at project site, including "unloading, unpacking, assembly, erection, placing, anchoring. applying, working to dimension, finishing, curing, protecting, cleaning, and similar operation," as applicable in each instance.

O. Equipment: A product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

P. Experienced, when used with an entity: Having successfully completed a minimum of 5 previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

Q. Exposed: Not installed underground or concealed as defined above.

R. Exterior: A space that does not meet the definition for "interior" below.

S. Fabricated: Items specifically assembled or made out of selected materials to meet individual design requirements for the Project.

T. Factory Finished/Prefinished: Finished under controlled environmental conditions off site, and requiring no additional finish, except for touchup, at the Project site.

U. Furnish: To supply, deliver, unload, and inspect for damage.

V. Indicated: Graphic representations, notes or schedules on Drawings, reference to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in the Contract Documents. Similar terms such as "shown," "noted," "scheduled," and "specified" may be used in lieu of "indicated," are used for the purpose to help the reader locate the reference; no limitation of location is intended except as specifically noted.

W. Include/Including: Include/including, without limitation.

X. Install (Services or Labor): To place in final position, complete, anchored, connected, and in operable condition.

Y. Installer: Means the Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

Z. Interior: A space completely enclosed by walls, solid door(s), floor and ceiling.

AA. Manufactured applies to standard units usually mass-produced.

AB. Manufacturer's Directions, Instructions, Recommendations, Specifications: Manufacturer's written directions, instruction, recommendations, specifications.

AC. Manufacturer Warranty is a pre-printed warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

AD. Match: Providing a portion of the Work using the same product, technique, sequence, dimensions, finishes, color, texture, and degree of craftsmanship as (a) another portion of the Work, (b) existing conditions adjacent to the new portion of the Work, (c) as an approved sample, range of samples, or mockup or sample panel, or

(d) as a control sample in the Owner's or Architect's possession.

AE. Materials: Products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

AF. Named Products are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer published product literature current as of the date of the Contract Documents.

AG. Patching: To restore a surface to its original completed condition by filling, repairing, refinishing, closing and similar operations.

AH. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.

2. New Products: Items not previously incorporated in another project or facility, except that products consisting of recycled-content materials are allowed, unless stated otherwise. Products salvaged or recycled from other projects are not considered new products.

3. Comparable Product: Product demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

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

AJ. Provide: To supply, fabricate, deliver, place, and connect, complete in-place, ready for operation and use. When neither furnish, install nor provide is stated, provide is implied.

AK. Regulations: Includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

AL. Remove: To remove item completely including attachments, frames, anchors, fittings, bases, pipes, conduits and supports, capping behind finished surfaces and repairing floors, bases and walls to match color and texture and be smooth with existing adjacent surfaces.

AM. Section: Section of these Specifications, except where the obvious intent is one of several components, a piece. Section is usually a basic unit of Work.

AN. Shall is mandatory.

AO. Similar: A portion of the Work that matches the whole or part of another portion of the Work but has a different geometric configuration.

AP. Special Warranty: A warranty, sometimes pre-printed, required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty

or to provide additional warranty coverage for Owner.

AQ. Submit, Submittal and Submission: To submit to Project Architect for review, unless otherwise stated.

AR. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

AS. Symmetrical: A portion of the Work which matches adjacent work, or itself, but reversed about centerline(s) or the axis of a surface or a space.

AT. Testing Laboratories: An independent entity engaged to perform specific inspections or tests of the work, either at the Project site or elsewhere, and to report, and (if required) interpret results of those inspections or tests.

AU. Weather tight: That the assembly, joint and/or material specified will not allow water, in any form, and air to penetrate the assembly, joint and/or the material so specified in the building.

1.3 INDUSTRIAL STANDARDS

A. Applicability of standards:

1. Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

2. No provisions of any referenced standards or specifications (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the Owner, or Contractor, or any of their consultants, agents or employees from those set forth in the Contract Documents.

3. If compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding, including preparation of shop drawings.

4. Where both a standard and a brand name are specified for a product in the Project Manual, the proprietary product named shall conform to or exceed the requirements of the specified reference standard.

5. The listing of a trade name in a Project Manual is not a warranty that such product conforms to the respective reference standard.

B. Publication dates: Comply with standards in effect as of date of the Building Permit, unless otherwise indicated and listed in applicable Codes.

C. Minimum quantity or quality levels:

1. The quantity or quality level shown or specified shall be the minimum provided or performed.

2. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits.

3. To comply with these requirements, indicated numeric values are minimum or

maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

D. Copies of standards:

1. Each entity engaged in construction on Project must be familiar with· industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

a. Where copies of standards are needed to perform a required construction activity, obtain them directly from publication source and make them available on request.

2. Abbreviations and acronyms: Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the US".

PART 2 PRODUCTS- NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 – GENERAL

1.1 DESCRIPTION

A. All inspection and testing required to establish compliance with Contract Documents and Title 24 CCR requirements, except as may be otherwise specified, shall be made by an independent professional testing agency or firm selected and paid by the Owner/District (or as otherwise noted). All work prior to the call out of the inspection services shall be approved by the Inspector of Record as ready for the inspection services.

B. The cost of most services for testing and inspection in compliance with Contract Documents requirements will be paid by the Owner. If initial tests indicate non-compliance with Contract Document requirements, any non-compliance testing shall be performed by the same inspection service and back charged to the General Contractor. Schedule portions of the work requiring testing and inspection services so that the time of the agency on the work is as continuous and brief as possible. Should an inspection service be called out without proper pre-inspection and approval by the Inspector of Record, and the Contractor causes the inspection service to be on site for longer than the minimum call-out costs, or the Contractor causes the inspection service to make a return call to the site for the same inspection, the additional costs shall be back- charged to the Contractor.

C. Concrete Coring Procedures: Prior to the start of any concrete coring, the Contractor shall submit a detailed coring plan, indicating the size and precise locations of the cores, for approval by the Architectural Team/Structural Engineer. Proposed coring locations must be marked in the field and verified by the District IOR. The project Architectural Team/Structural Engineer may also request to perform a field inspection if deemed necessary. The Contractor SHALL arrange for and bear the costs of all Pachometer tests of the areas to be cored.

1.2 CONTRACTOR'S RESPONSIBILITY

A. Coordination: The Contractor shall initiate and coordinate testing and inspections required by the Contract Documents and public authorities having jurisdiction over the work through the Architect and/or Inspector of Record.

B. Access: Furnish free and safe access to the various parts of the work and assist testing and inspection personnel in the performance of their duties at no additional cost to the Owner.

C. Data: Furnish records, drawings, certificates, and similar data as may be required by the testing and inspection personnel to assure compliance with the Contract Documents.

D. Notification: Provide the Architect and/or Inspector of Record and Testing Laboratory with at least 72 hours advance notification of required testing.

E. Defective work: Remove and replace any work found defective or not complying with

Contract Document requirements at no additional costs to the Owner (shall apply to 1, 2, and 3 immediately below). Where testing personnel take cores or cut-outs to verify compliance, repair prior to acceptance and as approved by the District IOR.

1. Concrete: If test cylinders for concrete fail to meet design stresses, make core and load tests as may be directed by the Design Professional; make core tests in accordance with an ASTM C42 or most recent update and load tests in accordance with ACI 318 or most recent update. Correct all deficiencies found in forms, reinforcing steel and embedded items.
2. Structural Steel: Should any weld or structural connection fail to meet design stresses, provide sonic or x-ray examination of all structural connections as directed by the Architect/engineer. Replace or repair all defective connections as directed.
3. Roofing membrane work: Should roofing membrane, including associated flashing and jointing, indicate non-compliance with Contract Document requirements, provide corrective work as directed.

F. Lead Levels in Water: The domestic water piping system shall be protected during tie-ins or other construction activities that have the potential to elevate the lead levels in the water. The water in the domestic water piping shall be tested prior to the start of work and the lead levels documented. Testing shall also be performed upon the completion of all work and any lead contamination, above the levels documented prior to the start of work shall be the Contractors responsibility to reduce the levels to the pre-project levels.

1. If the domestic water system is contaminated as a result of construction activities, the Contractor shall decontaminate the domestic water system. The procedures shall comply with applicable regulatory requirements.

1.3 TESTING LABORATORY RESPONSIBILITY

A. Taking Specimens: Specimens and samples for testing, unless otherwise provided in the Contract Documents, will be taken by the testing personnel. Sampling equipment and personnel will be provided by the testing laboratory. Deliveries of specimens and samples of the testing laboratory will be performed by the testing laboratory.

1. When the testing laboratory is ready to test, but is prevented from testing or taking specimens due to incompleteness of the work or other scheduling lapses, all extra charges for testing attributable to the delay may be back-charged to the Contractor and shall not be borne by the Owner.

B. Test Reports: Reports shall include all tests made, regardless of whether such tests indicate that material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Reports shall state which requirements with which the material or materials were sampled and tested. Test reports shall show the indicated or specified design strength(s) and state definitely whether or not the materials tested comply with the specification requirements.

Report distribution shall be made as follows:

Owner's Rep	1 copy, and 1 electronic pdf
Architect	1 copy, and 1 electronic pdf
Structural Engineer	1 copy
Contractor	2 copies

C. The inspection agency shall cooperate with the Contractor so as to cause no delay in the progress of the work, but shall be directly responsible to the Owner for his actions. The inspection agency shall have no authority to direct the work of the Contractor.

D. Submittals: Promptly submit copies of reports of inspections and tests, mill analysis, concrete mix designs and certifications per applicable sections of the specification.
   1. Comply with requirements of each technical specification section requirements.
   2. Reports shall include all tests made, regardless of whether such test indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were samples and tested in accordance with the requirements of the Title 24 and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.
   3. Testing Agency is not authorized to:
      a. Release, revoke, alter, or enlarge on, requirements of Contract Documents.
      b. Perform any duties of the Contractor.

1.4 REQUIRED INSPECTIONS & TESTS

The following are inspection services and tests required of but not limited to the Inspection and Testing Agency.

A. Sitework inspections & tests: Perform the following services as required to assure compliance with requirements of Division 2 of the technical specifications.

   Compaction & bearing: Test and verify bearing capacity of all load bearing earth, test compaction fills for compliance with required densities.

B. Concrete work inspections & tests: Perform the following services as required to assure compliance with requirements of Division 3 of the technical specifications.
   1. Cast-in-place concrete: Make slump tests for each batch delivered or at least 1 test per hour during continuous pours in accordance with requirements of ASTM C143; check and verify batch consistency. Inspect forms and verify sizes and conditions. Inspect reinforcing and verify its proper placement. Furnish continuous inspection during replacement, repair and patching operations, and curing of concrete. Make cure, and test at least 3 test cylinders of each strength, of concrete for each 50 cubic yards (38.23 m3) placed or for each day's pour, whichever is greater. Report exact mix tested, minimum size aggregate, location of pour in the work, cylinder identification,

data of receipt of cylinder in laboratory, slump data, cement brand and type, admixtures used, dates and records offset cylinders, names of inspectors and laboratory personnel, and evaluation or analysis of cause, in case of test failure, and recommendations of remedial action.

2. Cure specimens under laboratory conditions except when there is possibility of surrounding air temperature falling at project below 40F. In this case, additional specimens will be required to be cured under job conditions. For all test unless otherwise directed, break 1 cylinder at 7 days, 2 at 28 days.
3. If 7 day tests appear to be marginal or fall below normal requirements, concrete shall be tested with an approved impact hammer. Should these readings verify low test cylinders, procedure of work beyond this point will be Contractor's responsibility until decision is reached as to removal of substandard concrete at each of 28 day period.

C. Metal work inspection & tests: Perform the following services as required to assure compliance with requirements of Division 5 of the technical specifications.

1. Structural steel fabrication: Furnish visual inspection of all shop fabricated parts including joists and joist girders. This inspection may be done in shop or in field after delivery. Furnish inspection and testing of shop welds in accordance with requirements for welding specification hereinafter. Check shapes, sizes, classes, and types of steel. Verify conformance of structural steel materials with requirements of Contract Documents. Test end welded studs, replace studs damaged by test.
2. Structural steel field inspection & tests: Check location and fit of all anchorage and inserts. Verify adjustments to fit inaccuracies. Furnish visual inspection of erection of all structural steel components of the work. Furnish inspection and testing of all field welding in accordance with requirements for welding in accordance with requirements for bolting specific hereinafter. Inspect and test all bolted connections in accordance with requirements for welding specified hereinafter. Inspect for compliance with AISC Code of Standard Practice with requirements of the Contract Documents; other duties and responsibilities as may be noted on drawing.
3. Welding requirements: Furnish visual inspection of all field fillet welding. Furnish inspection of fillet welds in accordance with requirements of AWS D1.1 (Rev. I): allow for inspection of a minimum of 15% of fillet welds by magnetic particle or dry penetrant methods
4. Bolting requirements: Furnish visual inspection of structural joints where ASTM A325 bolts are used; verify the applicable requirements of AISC specifications are met.

D. Thermal and moisture protection work testing & inspection: Perform services as required to assure compliance with requirements of Division 7 of the technical specification.

E. Roofing: Check deck surfaces prior to application of roofing materials and verify that substrate is in satisfactory conditions to receive roofing. Furnish continuous

inspection during application of roofing, including application of vapor barriers, insulation and roofing. Inspect all sheet metal flashings, counterflashing and reglets for satisfactory and waterproof installation.

F. Wood: Check framing lumber moisture content prior to framing.

PART 2 - PRODUCTS - (NOT USED)

PART 3 - EXECUTION - (NOT USED)

END OF SECTION

PART 1 – GENERAL

1.1 SECTION INCLUDES:

A. Tests and inspections.

1.2 RELATED SECTIONS:

A. Work to be tested or inspected: Respective Sections.

1.3 TESTS AND INSPECTIONS; GENERAL:

A. General:

1. See General Conditions and Supplementary General Conditions.
2. Inspection: Per Title 24, 108 & 1701.

B. Contractor: Shall furnish labor, materials, and equipment and perform all operations required to take and prepare test samples, and required to permit inspection of all work.

C. Contractor responsibility: Each contractor responsible for the construction of a main wind- or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the *building official* and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgment of awareness of the special requirements contained in the statement of *special inspection*, per Section 1709A.1 2010 CBC.

D. Payment of Tests & Inspections Costs:

1. District: District will pay all costs for required testing and inspection of both on-site and off-site work; except where specifically noted otherwise.
2. Costs to be reimbursed to District by Contractor:
   a. Cost of testing materials, which fail to meet requirements of Contract Documents.
   b. Overtime Costs: Whenever Contractor elects to work during hours other than normal work week and laboratory inspection is required, District will pay normal cost of laboratory inspection and Contractor shall pay that portion of laboratory inspection cost due to "overtime".
   c. Where specifically noted.

1.4 TESTING AGENCY:

A. All tests shall be made by a well-established, independent Testing Laboratory(s) selected by District and satisfactory to the Architect .

1.5 RESULTS:

A. Test Reports:
1. Testing Laboratory to report results of all tests in writing.
2. Reports shall state that:
a. Tests were made under responsible charge of a Testing Engineer, licensed to practice Civil/Structural Engineering, State of California.
b. Material(s) PASSED or FAILED TO PASS requirements.
3. Report (s), Distribution:

Architect.....1 hard copy;1 electronic pdf
Inspector.....1 hard copy
Contractor.....1 hard copy
District.....1 electronic pdf

B. Certificate: Each time work on this project is suspended and upon completion of the work, the Testing Laboratory shall furnish a notarized certificate in duplicate to the District stating:
1. Tests for the work were made per requirements of Contract Documents.
2. All such tests and reports made for the work were reported.
3. A list of all tests performed.

1.6 REQUIRED TESTS AND INSPECTIONS (CRC, 1998):
A. General: Tests and inspections are referenced to Specification Divisions and Sections.

B. Division 5, METALS:
1. Testing; Structural Steel:
a. General:

1) Conform to Title 24, Section 2231A.
2) Contractor to obtain manufacturer's certified mill analysis and test report for each heat.
3) Identification: Conform to Title 24, Section 2203A.
4) Testing Lab to verify steel identification, per ASTM A6, at fabricator's shop.
b. Tests:
1) Where not accompanied by acceptable identification, test material.
2) Contractor to reimburse District for testing costs.
3) Structural Steel; Title 24, Section 2231A.1.
2. Inspectors, General: All Inspectors shall be specially qualified and approved by the District for the particular type of work they are inspecting.
3. Inspection, Welding:
a. Conform to Title 24, Section 2231A.5. Keep a systematic record of all welds.

b. AWS certified Welding Inspector from Testing Lab approved by the District, shall inspect all shop and field welding for structural steel.
c. Welding Inspector shall check qualifications and ability of all welders to perform satisfactory work.
1) Inspector shall spend first fabrication day in shop observing specific techniques, welds, and welders to be used on the work.
d. Welding Inspector shall check and approve the type and capacity of all welding equipment, which shall conform to manufacturers' recommendations.

7. Testing, Welds: By Testing Lab.
a. Ultra Sonic Tests: Perform for all full penetration welds of 1/4" or greater.
b. Other Tests: As noted or required.

8. Inspection, Shop Fabrication: Conform to Title 24, Section 2231A.4 by specially qualified Inspector from Testing Lab.

9. Certificates: Testing Lab and its Inspectors shall certify that all material, equipment, fabrication, installation, welding, procedures, and work observed and/or tested by them is satisfactory and conforms to requirements of Contract Documents; and that they have used all means necessary to determine quality of welds.

C. Wood – CBC, Chapter 23A:

1. Materials:		
a.	Lumber and Plywood Grading	2305A
b.	Glue – Laminated Members	2312A.3, 2312A.6
2. Inspection:		
a.	Glue-Laminated Fabrication	2327A.1
b.	Timber Connectors	2327A.2
c.	Manufactured Trusses	2327A.3

D. Exterior Wall Coverings – CBC, Chapter 14A:
1. Materials:
a. Portland Cement Plaster Chapter 25A

PART 2 - PRODUCTS - (NOT USED)

PART 3 - EXECUTION - (NOT USED)

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. The Contractor shall ensure that all employees, visitors, subcontractors, subcontractor employees, and suppliers, while on the worksite, comply with the requirements of OSHA, these requirements, and the safety precautions contained in the several Specification Sections.

B. The Contractor shall promptly and fully comply with and execute, without separate charge thereof to the District, shall enforce compliance with the provisions of the Williams Steiger Occupational Safety Health Act of 1970 (Public Law 91-596 with most recent updates and amendments) with particular attention paid, but not limited to, Title 29-Labor, Chapter XVII - Occupational Safety and Health Administration, Department of Labor Part 1926- (Safety and Health Regulations for Construction), and part 1910 - (Occupational Safety and Health Standards), as printed, respectively, in the June 24, 1974, and June 27, 1974, Federal Register, and latest adopted amendments and changes thereto.

1.2 PRELIMINARY WORK

A. Prior to the start of and during the course of the work (above and below ground) the Contractor shall make a thorough survey of the entire worksite to determine all potential hazards. Workmen shall be made aware of those hazards and shall be instructed in procedures and the use of equipment for their protection. The Contractor shall verify the location and condition ("live" or "dead") of all utilities on and near the worksite and take precautions to protect his employees, subcontractors, material men, the general public, and the property.

1.3. IMMINENT DANGER

A. The District may stop those operations which create an imminent danger to employees (as defined by OSHA), to the public and to property.

B. The Contractor shall be wholly responsible for any accident (including death) occurring at any time during the progress of the work and until the final acceptance of the work by the District which may happen to any of his employees/workmen or those of any Subcontractor employed on the building, the property, or for any damage or injuries (including death) which his work and operations may cause to the work being constructed, or to existing buildings, or to any tenants and occupants of the property, or of the adjoining properties, or to the public, or to any public or private property.

1.4 COOPERATION:

A. The Contractor shall cooperate with the safety representatives of the District, District's Insurance Managers and the District's Insurance Company in any and all inquiries before, during, and after the project.

1.5 SAFETY RESPONSIBILITIES:

A. Contractor's Superintendent shall:

1. Ensure compliance with these requirements, OSHA requirements and other safety requirements, and provide and implement an Injury and Illness Prevention Program (IIPP) at the project site.
2. Provide, supervise, and support a Contractor's Project Safety Supervisor and enable him/her to execute effectively their duties and responsibilities.
3. Authorize immediate action to correct substandard safety conditions.

4. Review and act to ensure compliance with safety procedures with his supervisors, subcontractors and suppliers.
5. Take an active part in all supervisory safety meetings.
6. Cooperate with safety representatives of the District, District Insurance Managers, and the District's insurance company.
7. Ensure that all security and temporary fencing has been secured to prevent any movement or causal action that could contribute to any hazardous or unsafe condition, or which ultimately may cause harm.

B. Contractor's Project Safety Supervisor shall:

1. Make thorough daily safety inspections of the worksite and immediately act to eliminate unsafe acts and unsafe conditions, and record all suggestions make and corrective action taken.
2. Investigate worksite accidents and recommend immediate corrective action.
3. **Weekly safety meetings shall be conducted and documented in the daily report of activity by the contractor. Weekly safety meeting notes shall be recorded, noting the contractors and trades on site, the topics that were discussed and the signatures of those workers who attended. These notes shall be submitted to the Project Manager on a weekly basis.**
4. Review safety meetings reports submitted by job foremen and act to ensure that meaningful weekly safety meetings are held by the job foremen.
5. Attend foremen "tool box" safety meetings and evaluate effectiveness.
6. Assist in the preparation of accident investigation and reporting procedures.
7. Implement training programs for supervisors and employees as they apply to their specific responsibilities.
8. Be responsible for the control, availability, and use of safety equipment, including employee personal protective equipment.
9. Coordinate his activities with those of the District's Inspector and/or Project Manager, and immediately implement their safety suggestions.
10. Coordinate public relations aspects of the Contractor's safety program.

C. Contractor's Job Foreman shall:

1. Instruct workmen regarding safe work practices and work methods at the time workmen are given work assignments.
2. Furnish and enforce the use of personal protective equipment and suitable tools that are equipped with all the manufacturer's supplied safety features, and have not been altered in any way, for the job.
3. Continuously check to see that no unsafe practices and conditions are allowed to exist on this portion of the work.
4. Set a good example for his personnel.
5. Make a complete investigation of accidents to determine facts necessary to take corrective action to prevent a recurrence, and record the facts in a written report to accompany the daily report as set forth in the IIPP.
6. Promptly supply information for, or complete, an Accident Report and Investigation Form as directed by the Contractor Safety Supervisor and Contractor's Superintendent/Project Manager.
7. Hold weekly "tool box" safety meetings with his personnel to:
   a. Discuss observed unsafe work practices and unsafe conditions.
   b. Review the accident experience of his crew and discuss correction of the accident causes.

c. Encourage safety suggestions from his crew and report those suggestions to the Safety Supervisor.

8. Ensure that first aid is promptly administered to an injured employee.
9. Report immediately, to Contractor's Superintendent/Project Manager, or Safety Supervisor, any injuries, or violations of job safety and security.

D. Subcontractor's Job Superintendent shall:
1. Plan and execute his work so as to comply with the Construction Safety Program.
2. Furnish and enforce the use of personal protective equipment.
3. Attend supervisory personnel safety meetings schedule by the Contractor.
4. Schedule and attend weekly "tool box" safety meetings to be held by job foremen for all employees.
5. Report to the Contractor's Project Safety Supervisor or Contractor's Superintendent all observed unsafe conditions, unsafe practices, and violations of job security. Cooperate with the District's safety representative.

1.6 CONTRACTOR'S SAFETY SUPERVISOR:

A. Contractor shall designate a full-time employee as Contractor Project Safety Supervisor.

B. Qualifications must be approved by the District. Supervisor shall:
1. Have heavy construction experience of not less than three (3) years, one of which must have been in a supervisory capacity.
2. Be familiar with job safety laws and regulations.
3. Have accident prevention experience.

C. Duties: Project Safety Supervisor shall conduct regular inspections of the work, shall ensure compliance with job safety requirements, shall maintain the Contractor's safety program IIPP on site and available for review by the District's Inspector and/or Project Manager and shall enforce safe practices, use of safety equipment and personal protective equipment, and other such activities as may be required by OSHA, the safety requirements, and the safety precautions contained in the several Specification Sections.

D. If the Project Safety Supervisor is not effective in executing the duties assigned him, the District may request, in writing, that the Contractor furnish a new Project Safety Supervisor.

E. If the Contractor desires to replace the Project Safety Supervisor, he shall so notify the District and the District's Insurance Managers, in writing and shall submit the name, experience and qualifications of the proposed Project Safety Supervisor for approval.

1.7 REQUEST FOR VARIANCES

A. Request for variances to deviate from OSHA requirements must follow the current established procedures by that Agency.

1.8 FAILURE TO COMPLY

A. If the Contractor fails to comply with the requirements of OSHA, the safety requirements, and the safety precautions contained in the Specifications Sections, or to provide an on- site IIPP, the District may modify or stop the work and portions thereof, until such failure is remedied. Willful and repeated failure to comply could result in the shutdown of the work, and portions thereof. No part of the time lost due to any such modification of operations or stop orders shall be made the subject of a claim for extension of time or for increased costs of damage by the Contractor.

PART 2- PRODUCTS- (NOT USED)

PART 3- EXECUTION –(NOT USED)

END OF SECTION

PART1 GENERAL

1.1 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Field offices.

1.2 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.3 QUALITY ASSURANCE

A. Standards: Comply with ANSI A10.6, NECA, Temporary Electrical Facilities, and NFPA 241, Standard For Safeguarding Construction, Alteration, And Demolition Operations.

1. Trade jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.

2. Electric service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70, National Electrical Code.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits..

1.4 TELECOMMUNICATIONS SERVICES

A. Provide, maintain and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:

1. Telephone Land Lines: One line, minimum; one handset per line.

2. Internet Connections: Minimum of one; DSL modem or faster.

3. Email: Account/address reserved for project use.

4. Facsimile Service: Fax-to-email software on personal computer.

1.6 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of

project mobilization.

B. Maintain daily in clean and sanitary condition.

1.7 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.8 FENCING

A. Construction: Commercial grade chain link fence, including full height wind screen fabric, Color = Black, and securely fastened at top, bottom and sides, to all temporary screening.

B. Provide minimum 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1. Portable Chain-Link Fencing: Minimum 2-inch, 9-gage, galvanized steel, chain-link fabric fencing; with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and
2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete bases for supporting posts.

1.9 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.10 SECURITY AND FACILITY PROTECTION

A. Provide security and facilities to protect Work, and Glendale Unified School District's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Glendale Unified School District's security program.

C. Stormwater control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of stormwater from heavy rains, per the approved Storm Water Pollution Prevention Plan.

D. Tree and plant protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage, flooding, and erosion. Ensure adequate irrigation is maintained, or self-watering means are approved by the Project Manager and FASO Grounds Supervisor for existing tree and plant protection.

E. Pest control:

1. Before deep foundation work has been completed, retain a local exterminator or pest-control company to recommend practices to minimize attraction and harboring of

rodents, roaches, and other pests.

2. Engage this pest-control service to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion.

3. Obtain extended warranty for Owner.

4. Perform control operations lawfully, using environmentally safe materials, in compliance with the Healthy Schools Act, as a minimum.

F. Temporary fire protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.

a. Field offices: Class A stored-pressure water-type extinguishers.

b. Other locations: Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.

c. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.

2. Store combustible materials in containers in fire-safe locations.

3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas.

4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

5. At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

VEHICULAR ACCESS AND PARKING

Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

Coordinate access and haul routes with governing authorities and Glendale Unified School District.

Provide and maintain access to fire hydrants, free of obstructions.

Provide means of removing mud from vehicle wheels before entering streets.

Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

WASTE REMOVAL

See Section 01 74 19 - Construction Waste Management and Disposal, for additional

requirements.

Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

Provide containers with lids. Remove trash from site periodically.

If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

G. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, including a desk of minimum size 30” by 60”, and a drawing rack and drawing display table, 2-drawer lockable file cabinet, office chair with casters, and one side chair with casters.

1. Provide HVAC equipment capable of maintaining a uniform indoor temperature of 68-degree F. to 76-degree F.

2. Provide light fixtures capable of maintaining average illumination of 20 fc at desk height. Provide 110- to 120-V duplex outlets spaced at not more than 12-foot intervals, 1 per wall in each room

B. Provide space for Project meetings, with table and chairs to accommodate 8 persons.

C. Provide separate Field Office similarly equipped and furnished, for use of Inspector of Record, and Project Manager, which have separate entrances, and are separated by a full height wall.

D. Locate offices a minimum distance of 30 feet from existing and new structures.

1.14 ACCESSORIES

A. Fire extinguishers:

1. Hand-carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.

2. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

B. Drinking-water fixtures: Drinking-water fountains or containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.

C. Electrical outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

D. Power distribution system circuits: Where permitted, overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection, with a minimum of 10 working days written notice in advance of removal to the IOR and PM of the date the removal and disconnect of power, data, communications, etc., will take place.

B. Remove underground installations to a minimum depth of 2 feet and cap and seal all conduit and piping with like material. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS- NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1-GENERAL

1.1 REQUIREMENTS INCLUDED

A. Protection for Products, including District - Provided Products, After Installation.

B. Protection of Existing Utilities and Interference.

1.2 EXISTING UTILITIES

A. The known existing utilities are shown on the drawings in their approximate location and the Prime Trade Contractor shall exercise care in avoiding damage to these facilities as the Prime Trade Contractor will be held responsible for their repair if damaged. Hand excavation shall be utilized when digging in close proximity to existing utilities. The District's Architectural Team does not guarantee that all utilities or obstructions are shown or that the locations indicated are accurate.

B. No work shall be performed on energized electrical equipment unless scheduled with the District Inspector of Record. The District Inspector of Record reserves the right to specify specific conditions for all work involving energized high voltage electrical equipment, and its scheduled modification proposal.

C. If interferences occur at locations other than the general locations shown on the plans, and such utilities are damaged before their locations have been established, or create an interference, the Prime Trade Contractor shall notify the District's Construction/Project Manager and a method for correcting said interference shall be supplied by the District's Engineering representatives. Payment for additional work due to interferences not shown on the plans shall be in accordance with the General Conditions.

D. Drawings showing location of equipment, piping, etc., are diagrammatic and job conditions will not always permit their installation in location shown. When this situation occurs, bring to the District Architect's, and/or Inspector's attention immediately to determine relocation in joint conference.

E. Information shown relative to existing power and signal service is based upon available records and data but shall be regarded as approximate only. Minor deviations found necessary to conform to actual locations and conditions shall be made without extra cost to the District.

PART 2- PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 PROTECTION AFTER INSTALLATION

A. Adequately protect all installed equipment and materials until completion and acceptance by the Architect, Inspector, and Project Manager.

B. Protect installed products and control traffic in immediate area to prevent damage in subsequent operations.

C. Provide protective coverings at walls, projections, corners, and jambs, sills, and stiff openings in and adjacent to traffic areas.

D. Cover walls and floors of elevator cabs, and jambs of cab doors, when elevators are used by construction personnel. Protect elevator area until final acceptance.

E. Protect finished floors and stairs from dirt, wear, and damage:
   1. Secure heavy sheet goods or similar protective materials in place, in areas subject to construction foot traffic, and/or material deliveries.
   2. Lay planking or similar rigid materials in place, in areas subject to movement of heavy objects over existing surfaces.
   3. Lay planking or similar rigid materials in place in areas where storage of products will occur.

F. Protect waterproofed and roofed surfaces:
   1. Restrict use of surfaces for traffic of any kind, and for storage of products.
   2. When an activity is mandatory, obtain recommendations for protection of surface from manufacturer. Install protection and remove on completion of activity. Restrict use of adjacent unprotected areas.

G. Restrict traffic of any kind across planted lawn and landscape areas through the use of temporary barricades, fencing, signage, and until final acceptance and maintenance period.

H. Care shall be exercised to prevent damage to adjacent facilities including walks, curbs, and gutters, etc. Where equipment will pass over these obstructions, suitable planking and protection shall be placed, and damaged facilities, due to the Contractor(s) operations, shall be removed and replaced at the Prime Trade Contractor's expense.

I. Prime Trade Contractor shall be responsible for overloading of any part or parts of structures beyond their safe calculated carrying capacities by placing of materials, equipment, tools machinery or any other item thereon.

J. All existing improvements and facilities shall be protected from damage of any type resulting from the operations, equipment or workers of the Contractor(s) during the time the project.

K. All damaged work shall be replaced, repaired and restored to its original condition with no additional cost to the District.

L. Where existing utilities are damaged or disrupted on account of any act, omission, neglect or misconduct by the Contractors in the manner or method of executing the work, or due to non-execution of work, such damage shall be immediately repaired to maintain operation regardless of the time of occurrence with no cost to the District.

M. Provide temporary construction necessary for protection of the building and their parts. Close buildings as soon as possible as protection from the weather and vandalism. Protect existing buildings and controlled temperature areas from excessive temperature variances below 68 degrees Fahrenheit, and above 76 degrees Fahrenheit, and from any damage.

N. Protect doors, millwork and mill counters and cases and hardware from damage, including abrading and scratching of finishes.

O. Protect doors and frames and hardware from mechanical damage and damage to finish coatings.

P. Remove protective coatings, wrappings, temporary coverings, etc., as required to leave work in condition for painting and finishing, final cleaning, etc.

Q. Protect all exterior work, including existing asphalt paving, concrete flatwork, common sidewalk, and City curb, gutter, and aprons. Protect all existing and newly placed landscaping and irrigation systems.

R. Repair or replace all damaged work promptly as directed by District Construction/Project Manager, District IOR, or District Architect at no cost to the District.

END OF SECTION

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Security Program.

B. Entry Control.

C. Personnel Identification.

D. Miscellaneous Restrictions

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 SECURITY PROGRAM

A. Protect work, existing premises, and School operations from theft, vandalism and unauthorized entry.

B. Security of the job area shall be strictly maintained. The Prime Trade Contractor shall be responsible for keeping areas involved in the work locked and secure at all times when work is not in progress, and no Contractor representative is on site.

3.2 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into Project site and existing facilities under construction. Allow entrance only to authorized persons with proper identification, and appropriate footwear, and hard hats, as determined by the Contractor Project Safety Inspector, and/or District Inspector.

B. Prime Trade Contractor shall control entrance of own persons and vehicles related to construction operations in accordance with the conditions during work, and not allow intrusion by others.

3.3 BADGES AND ESCORT REQUIREMENTS

A. All personnel shall wear badges distinguishing personnel requiring an escort (YELLOW badges) to areas of the campus outside of the work area from those not requiring an escort (GREEN badges).

B. Personnel without fingerprint and acceptable background check on file with the District shall require an escort to any area outside of the work area.

C. The Contract and Pre-Construction meeting wording lays out the appropriate procedures for Contractor and Subcontractor personnel in working on the school site.

END OF SECTION

PART 1-GENERAL

1.1 SECTION INCLUDES

A. The Environmental Mitigation requirement for this project is recorded in this specification section 01 56 40. The measures and mitigations may include, but are not limited to, procedures and standards to control:

1. Dust
2. Noise
3. Fumes
4. Timing of work activities
5. Erosion
6. Archaeological resources found during excavation
7. Preservation of trees
8. Demolition process and materials.

1.2 EXECUTION

A. The Contractor shall comply with the mitigation below in terms of what is to be controlled, acceptable methods, and standards (e.g. equipment must be muffled and noise levels may not exceed specified decibel levels).

B. The Contractor shall provide documentation of having met the mitigation requirements as described below to the Inspector and/or Project Manager within five (5) working days of the Notice to Proceed and at each phase of the project.

C. To reduce dust emissions and noise during construction by implementing the following:

1. Exposed surfaces should be watered twice daily.
2. Stockpiles of excavated materials should be covered.
3. Trucks carrying excavated materials from the site should be covered and should have their tires and undercarriages washed prior to exiting the site.
4. Streets affected by fugitive sand and dust are to be swept regularly by Prime Trade Contractors responsible for tracking of mud and/or sand to these streets.
5. Uncovered soil should be bound (by grass or similar groundcover) as soon as is reasonably possible.
6. Excavation should not be conducted when surface winds exceed 11 mph.
7. Unnecessary idling of construction vehicles and equipment should be avoided adjacent to areas of instruction, or adjacent to fresh air ductwork, or where noise will affect the areas of instruction.
8. Limit construction activities to a schedule that minimizes disruption as much as possible to area residences surrounding the project site property boundaries.
9. Schedule activities with the highest noise potential for the times when disruption of any instruction, or area of residences surrounding the project site will be at a minimum.
10. Require contractors to employ the lowest-decibel level equipment, or employ alternative equipment or to muffle/control noise from available equipment to the maximum extent possible.
11. Perform noisy operations (e.g., mixing concrete, hydraulic/mechanical demolition) off-site or on portions of the site furthest from noise sensitive receptors whenever possible, and in consult with the Inspector and/or Project Manager.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Construction procedures to promote adequate indoor air quality after construction.

B. Testing indoor air quality after completion of construction.

1.02 PROJECT GOALS

A. Dust and Airborne Particulates: Prevent deposition of dust and other particulates in HVAC ducts and equipment.

1. Cleaning of ductwork is not contemplated under this Contract.

2. Contractor shall bear the cost of cleaning required due to failure to protect ducts and equipment from construction dust.

B. Airborne Contaminants: Procedures and products have been specified to minimize indoor air pollutants.

1. Furnish products meeting the specifications.

2. Avoid construction practices that could result in contamination of installed products leading to indoor air pollution.

C. Ventilation: HVAC system has been designed to achieve the minimum requirements for ventilation specified in ASHRAE 62.1.

D. Environmental Tobacco Smoke Control: No smoking is allowed on any Glendale Unified School District Property at any time during the project.

1.03 DEFINITIONS

A. Adsorptive Materials: Gypsum board, acoustical ceiling tile and panels, carpet and carpet tile, fabrics, fibrous insulation, and other similar products.

B. Contaminants: Gases, vapors, regulated pollutants, airborne mold and mildew, and the like, as specified.

c. Particulates: Dust, dirt, and other airborne solid matter.

D. Wet Work: Concrete, plaster, coatings, and other products that emit water vapor or volatile organic compounds during installation, drying, or curing.

1.04 SUBMITTALS

A. See Section 01 33 13 - Submittal Procedures.

B. Indoor Air Quality Management Plan: Describe in detail measures to be taken to promote adequate indoor air quality upon completion; use SMACNA IAQ Guidelines for Occupied Buildings Under Construction as a guide.

1. Submit not less than 60 days before enclosure of building.

2. Identify potential sources of odor and dust.

3. Identify construction activities likely to produce odor or dust.

4. Identify areas of project potentially affected, especially occupied areas.

5. Evaluate potential problems by severity and describe methods of control.
6. Describe construction ventilation to be provided, including type and duration of ventilation, use of permanent HVAC systems, types of filters and schedule for replacement of filters.
7. Describe cleaning and dust control procedures.
8. Describe coordination with commissioning procedures.

C. Interior Finishes Installation Schedule: Identify each interior finish that either generates odors, moisture, or vapors or is susceptible to adsorption of odors and vapors, and indicate air handling zone, sequence of application, and curing times.

D. Duct and Terminal Unit Inspection Report.

E. Air Contaminant Test Plan: Identify:

1. Testing agency qualifications.
2. Locations and scheduling of air sampling.
3. Test procedures, in detail.
4. Test instruments and apparatus.
5. Sampling methods.

F. Air Contaminant Test Reports: Show:

1. Location where each sample was taken, and time.
2. Test values for each air sample; average the values of each set of 3.
3. HVAC operating conditions.
4. Certification of test equipment calibration.
5. Other conditions or discrepancies that might have influenced results.

1.05 QUALITY ASSURANCE

A. Testing and Inspection Agency Qualifications: Independent testing agency having minimum of 5 years experience in performing the types of testing specified.

PART 2 PRODUCTS

2.01 MATERIALS

A. Auxiliary Air Filters: MERV of 8, minimum, when tested in accordance with ASHRAE

52.2. PART 3 EXECUTION

3.01 CONSTRUCTION PROCEDURES

A. Prevent the absorption of moisture and humidity by adsorptive materials by:

1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.

2. Delivery and storage of such materials in fully sealed moisture-impermeable packaging.
3. Provide sufficient ventilation for drying within reasonable time frame.

B. Begin construction ventilation when building is substantially enclosed.

C. If extremely dusty or dirty work must be conducted inside the building, shut down HVAC systems for the duration; remove dust and dirt completely before restarting systems.

D. HVAC equipment and supply air ductwork may be used for ventilation during construction:

1. Operate HVAC system on 100 percent outside air, with 1.5 air changes per hour, minimum.
2. Ensure that air filters are correctly installed prior to starting use; replace filters when they lose efficiency and at time of Substantial Completion.
3. Do not use return air ductwork for ventilation unless absolutely necessary.
4. Where return air ducts must be used for ventilation, install auxiliary filters at return inlets, sealed to ducts; use filters with at least the equivalent efficiency as those required at supply air side; inspect and replace filters when they lose efficiency.

E. Do not store construction materials or waste in mechanical or electrical rooms.

F. Prior to use of return air ductwork without intake filters clean up and remove dust and debris generated by construction activities.

1. Inspect duct intakes, return air grilles, and terminal units for dust.
2. Clean plenum spaces, including top sides of lay-in ceilings, outsides of ducts, tops of pipes and conduit.
3. Clean tops of doors and frames.
4. Clean mechanical and electrical rooms, including tops of pipes, ducts, and conduit, equipment, and supports.
5. Clean return plenums of air handling units.
6. Remove intake filters last, after cleaning is complete.

G. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.

H. Use other relevant recommendations of SMACNA IAQ Guideline for Occupied Buildings Under Construction for avoiding unnecessary contamination due to construction procedures.

3.02 AIR CONTAMINANT TESTING

A. Contractor's Option: Either full continuous flush-out OR satisfactory air contaminant testing is required, not both.

B. Perform air contaminant testing before occupancy.

C. Do not start air contaminant testing until:

1. All construction is complete, including interior finishes.
2. HVAC systems have been tested, adjusted, and balanced for proper operation.
3. New HVAC filtration media have been installed.

D. Indoor Air Samples: Collect from spaces representative of occupied areas:

1. Collect samples while operable windows and exterior doors are closed, HVAC system is running normally as if occupied, with design minimum outdoor air, but with the building unoccupied.
2. Collect samples from spaces in each contiguous floor area in each air handler zone, but not less than one sample per 25,000 square feet; take samples from areas having the least ventilation and those having the greatest presumed source strength.
3. Collect samples from height from 36 inches to 72 inches above floor.
4. Collect samples from same locations on 3 consecutive days during normal business hours; average the results of each set of 3 samples.
5. Exception: Areas with normal very high outside air ventilation rates, such as laboratories, do not need to be tested.
6. When retesting the same building areas, take samples from at least the same locations as in first test.

E. Outdoor Air Samples: Collect samples at outside air intake of each air handler at the same time as indoor samples are taken.

F. Analyze air samples and submit report.

G. Air Contaminant Concentration Determination and Limits:

1. Carbon Monoxide: Not more than 9 parts per million and not more than 2 parts per million higher than outdoor air.
2. Airborne Mold and Mildew: Measure in relation to outside air; not higher than outside air.
3. Formaldehyde: Not more than 50 parts per billion.
4. Formaldehyde: Measure in micrograms per cubic meter, in relation to outside air; not more than 20 micrograms per cubic meter higher than outside air.
5. Total Volatile Organic Compounds (TVOC): Not more than 500 micrograms per cubic meter.
6. Total Volatile Organic Compounds (TVOC): Measure in micrograms per cubic meter, in relation to outside air; not more than 200 micrograms per cubic meter higher than outside air.
7. Particulates (PM10): Not more than 50 micrograms per cubic meter.
8. Total Particulates (PM): Measure in micrograms per cubic meter, in relation to outside air; not more than 20 micrograms per cubic meter higher than outside air.

H. If air samples show concentrations higher than those specified, ventilate with 100 percent outside air and retest at no cost to Glendale Unified School District, or conduct full building flush-out specified above.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

Provide one project sign as specified herein.

PART 2 - PRODUCTS

2.1 SIGN REQUIREMENTS

A. Project sign shall be 4' x 8' and shall be constructed of exterior grade plywood.
   1. Paint sign with exterior grade paint, as specified in Section 09 91 00.
   2. Colors: Maximum of six (6) custom colors shall be selected by Architect.

B. The sign shall contain the logo and name of the School District, name of school, the logo and name of the Architect and general Contractor as designed by the Architect.

C. The sign shall contain the following language:
   1. Funded in part by Statewide School Construction Bonds administered by the State Allocation Board and the Department of General Services through the Office of Public School Construction.
   2. Said language shall be 3" high upper and lower case letters as designed by the Architect.

D. The final design of the project sign shall be as shown on Drawings. PART 3

PART 3 - EXECUTION

3.1 INSTALLATION

A. The project sign shall be placed in a prominent frontage location on the project site. It shall be clearly visible from the major street bordering the site as directed by the Architect.

B. The sign shall be installed within eighteen (18) days after receipt of Contract and removed following the dedication of the facility and delivered per District's instructions.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product

B. requirements.

c. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations and procedures.

Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

A. Proposed Products List: Submit list tabulated by Section Number of major products proposed for use, with name of manufacturer, trade name, and model number of each product. Indicate which products are being proposed as substitutions.

1. Submit within 15 days after date of Notice to Proceed.

2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

1. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Glendale Unified School District, or otherwise indicated as to remain the property of the Glendale Unified School District, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

1. Provide new products unless specifically required or permitted by the Contract Documents.
2. Made of wood from newly cut old growth timber.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Glendale Unified School District; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Project Architect will consider requests for substitutions only within 15 days after date of Agreement.

B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

D. A request for substitution constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
2. Will provide the same warranty for the substitution as for the specified product.
3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Glendale Unified School District.
4. Waives claims for additional costs or time extension that may subsequently become apparent.

5. Will reimburse Glendale Unified School District and Project Architect for review or redesign services associated with re-approval by authorities.

E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure:

1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.

2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.

3. The Project Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

G. Cover products subject to deterioration with impervious sheet covering. Provide

ventilation to prevent condensation and degradation of products.

H. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

PART 1 GENEAL

1.01 SECTION INCLUDES

A. VOC restrictions for product categories listed below under "DEFINITIONS."

B. All products of each category that are installed in the project must comply with High Performance Incentive Program (HPI), project goals do not allow for partial compliance.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 42 00 - Quality Requirements: Procedures for testing and certifications.

C. Section 01 57 21 - Indoor Air Quality Controls: Procedures and testing; SCAQMD requirements.

D. Section 01 60 00- Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

E. Section 06 10 00 – Rough Carpentry.

F. Section 06 20 00 – Finish Carpentry.

G. Section 07 90 00 – Sealants and Caulking.

H. Section 05 16 43- Gypsum Board Assemblies.

I. DEFINITIONS

J. VOC-Restricted Products: All products of each of the following categories when installed or applied on-site in the building interior:

K.

L.

1. Adhesives, sealants, and sealer coatings.
2. Carpet tile.

1.03

A.

3. Resilient floor coverings.
4. Paints and coatings.
5. Insulation.
6. Gypsum board.
7. Acoustical ceilings and panels.
8. Cabinet work.
9. Wall coverings.
10. Composite wood and agrifiber products used either alone or as part of another product

including architectural wood casework.

11. Other products when specifically stated in the specifications.

B. Interior of Building: Anywhere inside the exterior weather barrier.

C. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

D. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

1.04 REFERENCE STANDARDS

A. CAL (CHPS LEM) - Low-Emitting Materials Product List; California Collaborative for High Performance Schools (CHPS).

B. CAL (VOC)- Standard Practice for the Testing of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers (including Addendum 2004-01); State of California Department of Health Services.

C. CRI (GLCC)- Green Label Testing Program- Approved Product Categories for Carpet Cushion; Carpet and Rug Institute.

D. CRI (GLP)- Green Label Plus Carpet Testing Program- Approved Products; Carpet and Rug Institute.

E. GEI (SCH)- GREENGUARD "Children and Schools" Certified Products; GREENGUARD Environmental Institute.

F. GreenSeal GS-03 - Anti-Corrosive Paints; Green Seal, Inc.

G. GreenSeal GS-11 - Paints; Green Seal, Inc..

H. GreenSeal GS-36 - Commercial Adhesives; Green Seal, Inc..

I. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; www.aqmd.gov.

J. SCAQMD 1168- South Coast Air Quality Management District Rule No.1168; www.aqmd.gov.

K. SCS (CPO)- SCS Certified Products; Scientific Certification Systems.

1.05 SUBMIITALS

A. See Section 01 30 00- Administrative Requirements, for submittal procedures.

B. Evidence of Compliance: Submit for each different product in each applicable category.

C. Product Data: For each VOC-restricted product used in the project, submit product data showing compliance, except when another type of evidence of compliance is required.

D. Installer Certifications for Accessory Materials: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have been used in the installation of his products, or 2) that such products used comply with these requirements.

1.06 QUALITY ASSURANCE

A. Testing Agency Qualifications: Independent firm specializing in performing testing and

inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. All VOC-Restricted Products: Provide products having VOC content of types and volume not greater than those specified in State of California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers.

1. Evidence of Compliance: Acceptable types of evidence are:

a. Current GREENGUARD Children & Schools certification; www.greenguard.org.

b. Current Carpet and Rug Institute Green Label Plus certification; www.carpet-rug.org.

c. Current SCS Floorscore certification; www.scscertified.com.

d. Current SCS Indoor Advantage Gold certification; www.scscertified.com.

e. Product listing in the CHPS Low-Emitting Materials Product List at www.chps.net/manual/lem_table.htm.

f. Current SCAQMD Rule 1168 "Adhesive and Sealant Applications" certification, www.aqmd.gov.

g. Current certification by any other agencies acceptable to CHPS.

h. Report of laboratory testing performed in accordance with CHPS requirements for getting a product listed in the Low-Emitting Materials Product List; report must include laboratory's statement that the product meets the specified criteria.

2. Product data submittals showing VOC content are NOT acceptable forms of evidence.

B. Adhesives and Joint Sealants: Provide only products having volatile organic compound (VOC) content not greater than required by South Coast Air Quality Management District Rule No.1168.

1. Evidence of Compliance: Acceptable types of evidence are:

a. Report of laboratory testing performed in accordance with requirements.

b. Certification by manufacturer that product complies with requirements.

C. Aerosol Adhesives: Provide only products having volatile organic compound (VOC) content not greater than required by GreenSeal GS-36.

1. Evidence of Compliance: Acceptable types of evidence are:

a. Current GreenSeal Certification.

b. Report of laboratory testing performed in accordance with GreenSeal GS-36 requirements.

D. Paints and Coatings:

1. Provide coatings that comply with the most stringent requirements specified in the following:

a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

b. Architectural coatings VOC limits of SCAQMD.

c. High Performance Incentive Program (HPI) for interior wall and ceiling finish (all coats), anti-corrosive paints on interior ferrous metal, clear wood stains and finishes, sanding sealers, other sealers, shellac, and floor coatings.
   1) Architectural Paints and Coatings: Do not exceed VOC content limits established in GreenSeal GS-11.
   2) Anti-Corrosive and Anti-Rust Paints: Do not exceed VOC content limits established in GreenSeal GS-03.
   3) Clear Wood Finishes, Floor Coatings, Stains, Primers and Shellacs: Do not exceed the VOC content limits established in SCAQMD Rule No. 1113.

2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

3. Evidence of Compliance: Acceptable types of evidence are:

   a. Report of laboratory testing performed in accordance with requirements.

   b. Published product data showing compliance with requirements.

   c. Certification by manufacturer that product complies with requirements.

E. Carpet and Adhesive: Provide products having VOC content not greater than that required for CRI Green Label Plus certification.

1. Evidence of Compliance: Acceptable types of evidence are:

   a. Adhesives shall meet the volatile organic chemicals (VOC) content requirements in the applicable category of South Coast Air Quality Management District (SCAQMD) Rule 1168, Adhesive and Sealant Applications (amended January 2005, or current version).

   b. Adhesives must follow the specifications of the CDPH Standard Practice

   c. Report of laboratory testing performed in accordance with requirements.

F. Carpet Resilient Underlayment: Provide products having VOC content not greater than that required for CRI Green Label certification.

1. Evidence of Compliance: Acceptable types of evidence are:

   a. Adhesives shall meet the volatile organic chemicals (VOC) content requirements in the applicable category of South Coast Air Quality Management District (SCAQMD) Rule 1168, Adhesive and Sealant Applications (amended January 2005, or current version).

   b. Adhesives must follow the specifications of the CDPH Standard Practice

G. Carpet Tile and Adhesive: Provide products having VOC content as specified in Section 09 6813.

H. Composite Wood and Agrifiber Products and Adhesives Used for Laminating Them: Provide products having no added urea-formaldehyde resins.

1. Evidence of Compliance: Acceptable types of evidence are:

   a. Current SCS "No Added Urea Formaldehyde" certification; www.scscertified.com.

   b. Published product data showing compliance with requirements.

I. Other Product Categories: Comply with limitations specified elsewhere.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Glendale Unified School District reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Glendale Unified School District.

B. All additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section specifies administrative and procedural requirements for cutting and patching.

1.02 RELATED SECTIONS

A. Section 013113: Project Coordination

B. Section 013119: Project Meetings

C. Section 013313: Submittals

D. Section 013216: Schedule and Reports

E. Section 017700: Contract Closeout Submittals (Warranties & Bonds)

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 SUBMITTALS

A. The word “cutting” as used in the Contract Documents includes, but is not limited to, cutting, drilling, chopping, and other similar operations and the word “patching” includes, but is not limited to, patching, rebuilding, reinforcing, repairing, refurbishing, restoring, replacing, or other similar operations.

B. Cutting and Patching Proposal: CONTRACTOR shall submit a proposal describing procedures well in advance of the time cutting and patching will be performed if the Contract Documents requires approval of these procedures before proceeding. The Contractor shall be responsible for locating existing utilities within the Limits of Work, whether shown or not, prior to any excavation. Contractor shall protect in place all utilities not identified to be removed, relocated or abandoned. Include the following information, as applicable, in the proposal:

1. Describe the extent of cutting and patching required. Denote how it will be performed and indicate why it cannot be avoided.

2. Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the building’s appearance or other significant visual elements.

3. List products to be used and firms or entities that will perform this Work.

4. Indicate dates when cutting and patching will be performed.

5. Utilities: List utilities that cutting and patching operations will disturb or affect. List utilities to be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.

6. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.

7. Review by ARCHITECT/Engineer and INSPECTOR prior to proceeding with cutting and patching does not waive ARCHITECT/Engineer right to later require complete removal and replacement of defective Work.

3.02 QUALITY ASSURANCE

A. Requirements for structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.

1. Obtain approval from ARCHITECT/Engineer and Inspector of the cutting and patching proposal before cutting and patching the following structural elements:

a. Bearing and retaining walls

b. Structural concrete

c. Structural steel

d. Lintels

e. Timber and primary wood framing

f. Miscellaneous structural metals

B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safely.

1. Obtain review of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:

a. Primary operational systems and equipment

b. Air or smoke barriers

c. Water, moisture, or vapor barriers

d. Membranes and flashings

e. Fire protection systems

f. Noise and vibration control elements and systems

g. Control systems

h. Communication and/or data systems

i. Electrical wiring systems

j. Operating systems of special construction in Division 13 Sections

C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the opinion of ARCHITECT/Engineer/District, or Inspector reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually satisfactory manner.

1. If possible, retain the original installer or fabricator to cut and patch the exposed Work listed below. If it is impossible to engage the original installer or fabricator, engage another recognized experienced and specialized firm.

a. Ceramic and quarry tile

b. Gypsum board

c. Masonry (exterior and interior where exposed)

d. Casework

e. Finish carpentry

3.03 WARRANTY

A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

3.04 INSPECTION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

1. Before proceeding, meet at the Project site with District Inspector, District Project Manager and District Maintenance Supervisors and all contractors involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding. ENSURE THAT ALL AVAILABLE AS- BUILT DRAWINGS ARE PULLED AND REVIEWED PRIOR TO ANY CUTTING.

3.05 PREPARATION

A. Temporary support: Provide adequate temporary support of existing improvements or Work to be cut, with prior approval by the Structural Engineer and/or Inspector.

B. Protection: Protect existing improvements and Work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of existing improvements or Work that might be exposed during cutting and patching operations.

C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Where the Work requires sandblasting of existing surfaces in order to receive new materials secured by cementitious, adhesive or chemical bond, completely remove existing finishes, stains, oil, grease, bitumen, mastic and adhesives or other substances deleterious to the new bonding and/or fastening of new Work. Utilize wet sand blasting for interior surfaces and for exterior surfaces where necessary to prevent objectionable production of dust.

3.06 PERFORMANCE

A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay. Carefully remove existing Work to be salvaged and/or reinstalled. Protect and store for reuse into the Work. Verify compatibility and suitability of existing substrates before starting the Work.

B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining Work. Where possible, review proposed procedures with the original installer; comply with the original installer's recommendations.

1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

3. Cut through concrete and masonry using a cutting machine, such as a carborundum saw or a diamond-core drill. Saw cut reinforcing bars and paint ends with bituminous paint except where bonded into new concrete or masonry.

4. Woodwork: Cut and or remove to a panel or joint line.

5. Sheet Metal: Remove back to joint, lap, or connection. Secure loose or unfastened ends or edges and seal watertight.

6. Glass: Remove cracked, broken, or damaged glass and clean rebates and stops of setting materials.

7. Lath and Plaster: Cut back to sound plaster on straight lines, and back bevel edges of remaining plaster. Trim existing lath and prepare for new lath.

8. Gypsum Wallboard: Cut back on straight lines to undamaged surfaces with at least two opposite cut edges centered on supports.

9. Tile: Cut back to sound tile and backing on joint lines.

C. Patching: Patch with durable seams that are as invisible as possible. Comply with required tolerances.

1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation. Verify conditions of existing substrates prior to executing Work.

2. Restore exposed finishes of patched areas and extend finish restoration into retaining adjoining construction in a manner that will eliminate all evidence of patching and refinishing.

3. Concrete: Maintain cut edges in a moist condition for twenty-four (24) hours prior to the placement of new concrete. In lieu of this an epoxy adhesive may be provided. Finish placed concrete to match existing unless noted otherwise. Concrete shall have a minimum compressive strength of 3,000 psi where installed to repair and/or match existing improvements, unless noted otherwise, and approved by the Structural Engineer, in conjunction with review by the Inspector.

4. Metal Fabrications: Items to remain exposed shall have their edges cut and ground smooth and rounded.

5. Sheet Metal: Replace removed or damaged sheet metal items as required for new Work.

6. Glass: Install matching glass and re-seal exterior window assemblies.

7. Lath and Plaster: Install new lath materials to match existing and fasten to supports at 6” centers. Provide a 6” lap where new lath to adjoins existing lath. Fasten new lath as required for new Work. Restore paper backings as required. Apply a bonding agent on cut edges of existing plaster. Apply three coat plaster of the type, thickness, finish, texture, and color to match existing.

8. Gypsum Wallboard: Fasten cut edges of wallboard. Install patches with at least two opposite edges centered on supports and secure at 6” centers. Tape and finish joints and fastener heads. Patching shall be non-apparent when painted or finished.

9. Acoustical Ceilings: Comply with the requirements for new Work specified in related sections of the Contract Documents.

10. Painting: Prepare areas to be patched, patch and paint as specified under related sections of the Contract Documents.

3.06 CLEANING

A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged coverings to their original condition.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCE
Requirements in Addenda, Alternates, Conditions, and Division 01 collectively apply to this work.

1.2 DESCRIPTION
A. Principal Work Items Are:
1. Cleaning.

B. Related Work Specified Elsewhere:
1. Summary of the Project: Section 01 11 00.
2. Contract close-out: Section 01 77 00.
3. Cleaning for specific products of Work: Specifications Section for that Work.

PART 2 - PRODUCTS

2.01 MATERIALS
Use cleaning materials and methods recommended by manufacturer of surface to be cleaned.

PART 3 - EXECUTION

3.1 DURING CONSTRUCTION
A. Execute periodic cleaning to keep work, site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.

B. Provide on-site containers for waste material debris, and rubbish collection.

C. Remove waste materials, debris, and rubbish periodically and dispose of off- site. No on-site disposal or burial permitted.

3.2 DUST CONTROL
Clean interior space prior to start of finish painting; continue cleaning on an as- needed basis until painting is finished. Schedule operations so dust and other contaminants will not fall on wet or newly-coated surfaces.

3.3 FINAL CLEANING

A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 01 Section 01 50 00 "Construction Facilities and Temporary Controls."

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
a. Clean exposed exterior hard-surfaced finishes, where affected by Contract Work, to a dust-free condition, free of stains, films, and similar foreign substances.
b. Clean the site, including landscaped areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other

foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.

C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.
   1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION

PART1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Glendale Unified School District requires that this project generate the least amount of trash and waste possible.

1. Recycle Goal: Recycle 75% of construction and demolition debris (by weight).

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:

1. Aluminum and plastic beverage containers.
2. Corrugated cardboard.
3. Wood pallets.
4. Clean dimensional wood: May be used as blocking or furring.
5. Concrete.
6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
7. Glass.
8. Gypsum drywall and plaster.
9. Plastic buckets.
10. Paint.
11. Plastic sheeting.

E. Comply with California Green Building Standards Code for Construction Waste Management and Disposal.

F. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

G. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.

H. The following sources may be useful in developing the Waste Management Plan:

1. State Recycling Department, at www.calrecycle.ca.gov/conDemo/.

I. Methods of trash/waste disposal that are not acceptable are:

1. Burning on the project site.
2. Burying on the project site.
3. Dumping or burying on other property, public or private.
4. Other illegal dumping or burying.

5. Incineration, either on- or off-site.

J. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

A. See Section 01 33 13 - Submittal Procedures.

B. Submit Waste Management Plan within 10 calendar days after receipt of Notice of Award of Bid, or prior to any trash or waste removal, whichever occurs sooner; submit projection of all trash and waste that will require disposal and alternatives to landfilling.

C. Waste Management Plan: Include the following information:

1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.

2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).

3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.

a. List each material proposed to be salvaged, reused, or recycled.

4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.

5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging. Whether recyclable materials will be collected via site separated bins or in co-mingled bins.

6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

D. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.

1. Submit updated Report with each Application for Progress Payment; failure to subrnit Report will delay payment.

2. Submit Report on a form acceptable to Glendale Unified School District.

3. Landfill Disposal: Include the following information:

a. Identification of material.

b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.

c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.

d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and

cost.

4. Recycled and Salvaged Materials: Include the following information for each:

a. Identification of material, including those retrieved by installer for use on other projects.

b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.

c. Transportation cost, amount paid or received for the material, and the net

total cost or savings of salvage or recycling each material.

d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.

5. Material Reused on Project: Include the following information for each:

a. Identification of material and how it was used in the project.

b. Amount, in tons or cubic yards.

c. Include weight tickets as evidence of quantity.

6. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. See Section 01 60 00- Product Requirements for substitution submission procedures.

B. For each proposed product substitution, submit the following information in addition to requirements specified in Section 01 60 00:

1. Relative amount of waste produced, compared to specified product.

2. Cost savings on waste disposal, compared to specified product, to be deducted from the Contract Sum.

3. Proposed disposal method for waste product.

4. Markets for recycled waste

product. PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 73 29 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.01 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Glendale Unified School District, and Project Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.

1. Pre-bid meeting.
2. Pre-construction meeting.
3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers or contract with waste haulers who will sort waste off-site.

1. Provide containers as required.
2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Procedures for closing-out Project.

1.2 RELATED SECTIONS:

A. Closeout Submittals: See Respective Specification Sections.

1.3 GENERAL:

A. As a prerequisite for final payment release, Contractor shall complete the work of this Section.

B. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the Work.

1.4 PRE-FINAL INSPECTION; SUBSTANTIAL COMPLETION:

A. Pre-final Inspection:

1. Upon "substantial completion" of the Work AS AGREED TO BY Contractor, Architect/Engineer, Inspector of Record and District Project Manager, Contractor shall notify Architect/Engineer, and Inspector and request a "pre-final inspection" of the Work.
2. If Architect/Engineer, Inspector, and Project Manger concur that work of the contract project/phase is "substantially complete", he will review and list any items that need to be corrected on a punch list. List will be amended as required to include items on the correction or punch list subsequently observed.

B. Substantial Completion Defined: "Substantial Completion" of the Work is the status, as approved by the Architect/Engineer when construction is sufficiently complete, in accordance with the Contract Documents, so the District/Owner can occupy or utilize the Work for the use for which it is intended.

1.5 FINAL INSPECTION:

A. Reference: See Supplementary Conditions.

B. Final Inspection: When Contractor has complied with above Article at the end of the final phase, Architect/Engineer and Inspector and Project Manager will review the Work and list any items that are not completed or need to be corrected.

C. Contractor shall complete and/or correct the Work in a timely manner as outlined in the contract documents.

1.6 GUARANTEES:

A. General: Contractor shall guarantee in writing to District/Owner that:

"Contractor will repair or replace any or all of such work, together with any other adjacent work which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of one year from the date of acceptance of the above mentioned structure by the Glendale Unified

School District, ordinary wear and tear, and unusual abuse or neglect excepted."

B. Format: Contractor shall submit guarantees typed in the format indicated in "Guarantee Form".

C. Number of Copies: Submit in triplicate (3) to Architect/Engineer with one electronic pdf.

1.7 WARRANTIES:

A. General: Comply with Section 017800 and Specific Sections as are a part of the project. Submit all warranties required by various Specification Sections.

1.8 CERTIFICATES:

A. General: Submit in triplicate (3) all certificates required by various Specification Sections or listed herein, notarized as required.

B. Certificates:

1. Division 26: Fire Alarm System testing and approval.

1.9 OPERATION AND MAINTENANCE DATA:

A. General: Submit all manuals required by various Specification Sections or listed herein; three (3) copies each, and one electronic pdf. Provide durable binders, no less than 8-1/2" x 11" in size and provide the following information:

1. Identification on, or readable through, the front cover stating general nature of the manual.
2. Neatly typewritten index at the front of the Manual, furnishing immediate information as to location in the Manual of all data or equipment included.
3. Complete instructions regarding operation and maintenance of all equipment included.
4. Complete nomenclature of all replaceable parts, their part numbers, current cost, and name and address of nearest vendor of parts.
5. Copy of all Guarantees and Warranties issued.
6. Copy of the approved Shop Drawings with all data concerning changes made during construction.

B. Extraneous data: Where contents of Manuals include Manufacturers' catalog pages, clearly indicate the precise items included in this installation by clouding, or highlighting, and delete, all manufacturers' data with which this installation is not concerned.

1.10 RECORD DRAWINGS:

A. Procedures:

1. Promptly following contract award, General Contractor shall secure from the District one complete set of Drawings. Identify the set as "Record."
2. Timing of Entries: Make entries within 24 hours after receipt of information on any changes by Contractor or Sub Contractors.
3. Contractor shall be responsible for maintaining and recording the changes on

the set, and by affixing any related RFI, COR, and/or ASI applicable to the changes.

4. Do not use the "Record" set for any purpose except entry of new data and for review by the Architect. Maintain separate job sets for subcontractors and workers daily use.
5. Maintain the "Record" set at the job site where designated by the Architect/Engineer, in conjunction with the Inspector.
6. Use all means necessary to protect the "Record" set from deterioration, loss or damage until completion of the work.
7. Making entries on Drawings: Using an erasable colored pencil, other than blue or black, not ink or indelible pencil, and clearly describe the change by note and by graphic line as required. Date all entries. Call attention to the entry by a "cloud" around the area or areas affected. In the event of overlapping changes, different colors may be used for each of the changes.
   a. Changes due to approved change orders may be indicated by referencing the change order number and scope of change in lieu of revising the Drawings.

   b. The location and depth below finish grade or above ceilings and attic spaces of utilities shall be fully dimensioned and indicated on Drawings. Dimensions shall be taken to building lines or permanent landmarks.
8. The architect's approval of the current status of the "Record" drawings will be a prerequisite to the Architect/Engineer's and Inspector's approval of requests for progress payments and request for final payment release.
   a. Progress approvals: Prior to submitting each request for progress payments, secure the District Inspector's approval of the status of the "Record" Drawings.

   b. Prior to submitting request for final payment and final inspection, General Contractor shall submit the "Record Drawing" set to the District Inspector, with transmittal letter, in duplicate, for approval and further processing through the Architect/Engineers for their approval and acceptance, and delivery to the District.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES.

A. Assembly and submission of operating and maintenance data and manuals.

B. Submission of preliminary draft of final data and manuals.

C. Instruction of Owner’s personnel in operation, adjustment and maintenance of products, equipment and systems.

1.02 MANUALS:

A. General: Where manuals are required to be submitted covering items included in this Work prepare all such manuals in durable plastic 3-ring binders no less than 8-1/2 by 11 inches in size and with at least the following:

1. Identification on, or readable through, the front cover stating general nature of the manual;

2. Neatly typewritten index near the front of the manual, furnishing immediate information as to location in the manual of all data;

3. Copy of all guarantees and warrantees issued.

B. Maintenance and operation instructions:

1. Procure or prepare and include in manuals, operating and/or maintenance instruction for all equipment and/or materials that will require any adjustment, servicing, or attention for its proper operation or use.

2. These instructions shall set forth all of the information necessary for the District to operate and make full and efficient use and perform such maintenance and servicing, as would ordinarily be done by the District or maintenance personnel.

3. Write instructions in simple, non-technical language when possible, with sufficient diagrams and explanation where necessary to be readily understandable by average layman. Possible hazards shall be particularly pointed out with instruction cautioning against mistakes that might result in damage or danger to equipment, building, or personnel.

C. Extraneous data: Where contents of manuals include manufacturer’s catalog pages, clearly indicate the precise items included in this installation and delete or otherwise clearly indicate all manufacturer’s data with which this installation is not concerned.

1.03 MANUAL CONTENT:

A. Neatly typewritten table of contents for each volume, arrange in systematic order.

B. List:

1. Contractor, name of responsible principal, address, telephone number, and email address of the company contact.

2. Each product including name, telephone number, and email address of:

   a. Subcontractor or installer.

   b. Recommended maintenance contractor.

   c. Local source for replacement parts (within 50 mile radius of site).

3. Product name and other identifying symbols set forth in Contract Documents.

4. Product Data:

   a. Include only those sheets which are pertinent to specific product.

   b. Annotate each sheet to:

      1) Clearly identify specific product or part installed.

      2) Clearly identify data applicable to installation.

      3) Delete references to inapplicable data.

5. Drawings:

   a. Supplement product data with drawings where necessary to clearly illustrate:

      1) Relations of component parts.

      2) Control and flow diagrams.

   b. Do not use “Project Record Documents” as maintenance drawings.

6. Written Test:

   a. Provide where necessary to supplement Product Data and drawings.

   b. Organize in consistent format under separate headings for different procedures.

   c. Provide logical sequence of instruction for each procedure.

7. Warranties, Bonds, and Maintenance Contracts:

   a. Provide copies of each of the following:

      1) Proper procedures in event of failure.

      2) Instances which might affect validity of warranties, bonds, or contracts.

1.04 MANUAL FOR ARCHITECTURAL MATERIALS AND FINISHES:

A. Include the following manufacturer’s data:

1. Catalog number, size, composition.

2. Color and texture designations.

3. Required reordering information.

4. Recommend cleaning materials and methods.

5. Cautions against detrimental cleaning materials and methods.

6. Recommend cleaning and maintenance schedule.

B. Submit specified information for the following:

1. As specified in Divisions 06; 07, 08

1.05 ADDITIONAL DATA

A. Prepare and include the following:

1. Additional data when need becomes apparent during instruction of District’s personnel.

2. Additional data specified in other Sections of Specifications to be included.

1.06 SUBMITTAL SCHEDULE

A. Preliminary Draft:

1. Submit two copies of the proposed format, approximately fifteen (15) days before substantial completion to the Architect and Inspector and/or Project Manager for review and comments.

2. Architect and Inspector will review, and return one copy with any comments.

B. Final Submittal:

1. Submit, in final form, one copy of complete data seven (7) days prior to final inspection. Copy will be returned with comments.

2. Submit four (4) copies in approved final form prior to final inspection and acceptance, and occupancy.

1.10 INSTRUCTION OF OWNER’S PERSONNEL

A. Prior to Substantial Completion, instruct District’s personnel in necessary operation, adjustment, and maintenance of products, equipment and systems. District's personnel will consist of on-site School site personnel laypersons; Facility and Support Operations maintenance technicians; other District personnel. Instruction sessions as outlined in each Section will be at a time and date convenient and pre-approved by the District Project Manager. The District will be reasonable in the fact that instruction sessions will be during normal working hours, Monday through Friday, unless training would interrupt the instructional process.

B. Operating and Maintenance Manuals, as well as knowledgeable installer(s) shall conduct the instruction, which SHALL BE Electronically audio/visually recorded by the contractor, to constitute basis of instruction, and a DVD of the instruction transmitted to the District.

C. Review manual contents with District's personnel in detail to explain all aspects of operations and maintenance, and conduct hands-on demonstrations where appropriate, and conduct a question and answer session before the end of the training session. Training sessions will be as long as necessary to satisfy the personnel in attendance.

D. A listing of all personnel receiving instructions, complete with a sign-in sheet indicating the printed name, and the signature of those attending, dates and times of instruction, and pertinent data regarding the training specific equipment or system, shall be transmitted to the Architect or Project Manager upon completion of instruction session(s).

E. The District's designated Facility and Support Operations (FASO) Representative(s) will be instructed as to the proper operations of all environmental equipment and fire and life safety, and security systems prior to Substantial Completion and Occupancy of a project phase or building, or building area. This instruction will be provided to the District's FASO and School Site personnel with the basic working knowledge of all equipment, and systems. Specific programming instruction shall be provided the District's FASO technicians as deemed necessary by the District for use of the system or equipment.

F. Contractor shall perform all testing, adjusting, etc., as outlined in the specifications and/or as recommended by the manufacturer.

PART 2 - PRODUCTS - NOT APPLICABLE

PART 3 - EXECUTION - NOT APPLICABLE

END OF SECTION

PART1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 SUBMITTALS

A. Project Record Documents: Submit documents to Project Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:

1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Project Architect will review draft and return one copy with comments.

2. For equipment, or component parts of equipment put into service during construction and operated by Glendale Unified School District, submit completed documents within ten days after acceptance.

3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Project Architect comments. Revise content of all document sets as required prior to final submission.

4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:

1. For equipment or component parts of equipment put into service during construction with Glendale Unified School District's permission, submit documents within 10 days after acceptance.

2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.

3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS- NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Drawings.

2. Specifications.

3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.

B. Ensure entries are complete and accurate, enabling future reference by Glendale Unified School District.

C. Obtain Inspector of Record approval on documents.

D. Store record documents separate from documents used for construction.

E. Record information concurrent with construction progress.

F. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

G. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

1. Product data, with catalog number, size, composition, and color and texture designations.
2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:

1. Description of unit or system, and component parts.

2. Identify function, normal operating characteristics, and limiting conditions.

3. Include performance curves, with engineering data and tests.

4. Complete nomenclature and model number of replaceable parts.

B. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

C. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

D. Provide servicing and lubrication schedule, and list of lubricants required.

E. Include manufacturer's printed operation and maintenance instructions.

F. Include sequence of operation by controls manufacturer.

G. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

H. Provide control diagrams by controls manufacturer as installed.

I. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

J. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

K. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

L. Include test and balancing reports.

M. Additional Requirements: As specified in individual product specification sections.

3.05 OPERATION AND MAINTENANCE MANUALS

A. Comply with requirements contained in specific Sections for quantity of O&M manuals and operational data.

B. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

C. Prepare data in the form of an instructional manual.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Glendale Unified School District's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

Guarantee for_____
_____.
We hereby guarantee that the_____
_____
which we have installed at_____
_____
has been installed in accordance with the Drawings and Specifications and that the Work as installed will fulfill the requirements included in the Specifications. The undersigned agrees to repair or replace any or all of such Work, together with any other adjacent Work which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of_____( ) years(s) from the date of acceptance of the above-mentioned item by the School District, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the undersigned's failure to comply with the above mentioned conditions within a reasonable period of time, as determined by the District, but no later than_____( ) days after being notified in writing by the District, the undersigned authorizes the District to proceed to have said defects repaired or replaced and made good at the expense of undersigned, which will pay the costs and charges therefore upon demand.

Countersigned

_____ _____
(Proper Name) (Proper Name)

_____ _____

By_____ By_____

_____ _____
(Signature of Subcontractor or General Contractor) (Signature of General Contractor if for Subcontractor)

Representatives to be contacted for service: Name:

Address: _____

_____

Phone No.: _____

END OF SECTION

We hereby certify that no-asbestos materials have been used in the products and materials provided by_____for_____
(Name of Contractor/Subcontractor)

_____.
(Name of Project)

I certify that I have the power to sign this document as a Corporate Officer or authorized agent for _____.
(Name of Contractor/Subcontractor)

AFFIX
CORPORATE
SEAL

_____
Signature

_____
Print Name and Title, if applicable

_____
Print Company Name

THIS DOCUMENT MUST BE NOTARIZED.

STATE OF CALIFORNIA)
)
ss.: COUNTY OF_____)

On this_____day of_____, in the year of 20 , before me, the undersigned, a Notary Public in and for said State, personally appeared_____
_____
_____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name _____subscribed to the within instrument, and acknowledged to me that_____he executed it.

WITNESS my hand and official seal.

_____
Notary Public in and for said State

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Requirements and limitations for cutting and patching of Work.

B. Temporary partitions to allow for building occupancy.

C. Where new finishes are shown, noted on Drawings or described in the Specifications, remove existing Work interfering with proper installation of new Work or patch and repair existing surfaces as required for proper preparation and installation of subsurfaces and subsequent installation of new finishes.

D. Work of this Section shall be in accordance with Article 87, California Fire Code.

1.2 RELATED WORK

A. Documents affecting work of this Section include but are not limited to, General Conditions, Supplementary Conditions, and Division One of these Specifications.

B. Cutting and Patching: Section 01 73 29.

C. Selective Building Demolition: Section 02 41 19

D. Portland Cement Plaster: Section 09 24 00.

E. Painting: Section 09 90 00; surface preparation for repainting.

1.3 SUBMITTALS

A. Submit five (5) copies of reconstruction procedures and schedule for Architect's review.

B. Where Drawings call for new construction, every detail of removing, patching or repair of existing construction shall be submitted as required for execution of renovation and new construction Work. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard.

Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make Work complete and consistent with existing quality.

C. Upon completion of the work in this Section, submit Record Drawings recording the extent of all active and abandoned underground utilities.

1.4 EXISTING CONDITIONS

A. Maintain temporary barriers and security devices.

B. Make note of existing asbestos including asbestos-lined ductwork and equipment. Removal of asbestos shall be executed by others [and is not to be part of this Contract]. Coordinate Work and trades with firms contracted by Owner to execute the removal of asbestos.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Those required to match original installation.

B. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard. Presence of a product, finish, or type of Work, requires that patching, extending, or matching shall be performed as necessary to make Work complete and consistent with existing quality.

C. If identical materials are not available, or cannot be used, use materials that match existing adjacent materials to the fullest extent possible with regard to visual effect.

D. Use materials that will result in equal or better performance characteristics.

E. New Materials: As specified in individual Sections.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

B. After uncovering, inspect conditions affecting performance of Work.

C. Before proceeding, meet at Site with parties involved in cutting and patching including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

3.2 PREPARATION

A. Maintain weatherproof closures for exterior openings as specified in Section 01 50 00.

B. Maintain temporary partitions to prevent spread of dust, fumes, noise and smoke to provide for District occupancy as specified in Section 01 50 00.

C. Protect existing items and utilities which are not indicated to be altered.

D. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas occupied by Owner.

E. Use means necessary to prevent dust from becoming a nuisance to the public, to neighbors and to other work being performed on or near the Site.

3.3 EXECUTION

A. Backfill any trenches or holes due to demolition. Maintain grades to drain.

B. Restore Work with new products in accordance with requirements of Contract Documents.

C. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

D. At penetrations of fire-rated wall, ceiling, or floor construction, completely seal voids with fire-rated material, full thickness of the construction element.

E. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

3.4 RECONSTRUCTION

A. By careful study of the Contract Documents, determine the location and extent of reconstruction to be performed.

B. In company with the Architect, visit the Site and verify the extent and location of reconstruction required.

C. Inspect existing surfaces to determine required surface preparation procedures. Correct any moisture related problems resulting from faulty flashing and improper or inadequate caulking.

3.5 PATCHING AND REPAIRING GYPSUM WALLBOARD

A. Patching cracks and seams in gypsum wallboard:
1. For small cracks, clean surface and repair with ready-mixed vinyl or acrylic spackling compound, or regular joint cement.
2. To patch larger cracks, remove loose gypsum wallboard, tape, and cracked or flaking cement.
3. Clean surface and tape crack or seam using new tape and joint cement or acrylic spackling compound. Apply one coat to fill in and bring surface almost smooth and apply tape where required. Apply second coat for final smoothing, crisscrossing strokes to avoid score marks.
4. If sanding is required, use fine paper and a sanding block. Avoid sanding the paper facing around the patch.

B. Repairing holes in gypsum wallboard:
1. To repair holes two inches or less across, cut out damaged section of wallboard forming a neat square or rectangle. Trim a new piece of gypsum wallboard and backing paper to size, leaving 2” border of facing paper intact; then apply compound to paper border and hole edges and push in patch. Apply second coat of compound on top of and around the flaps feathering edges for a smooth finish.
2. To repair holes more than two inches across, cut out damaged section of wallboard forming a neat square or diamond shaped opening. Glue a backing strip of 1/4" overlapping the edge of the hole two or three inches. Apply a coat of joint cement or spackling compound over the face of the backing strip and over the edges of the opening, then press matching cut-out patch into place. Use joint cement and tape around the patch to fill in seams between patch and wallboard; feather edges so that patch blends smoothly.
3. For extra large holes and extensively damaged sections, cut out the section of damaged wallboard extending the cutout to expose half the thickness of the studs on each side to allow for wood against which the new patch can be nailed. Then follow procedure outlined in item No. 2 above for filling joints.

C. Clean surfaces and paint in accordance with Section 09 90 00, Painting, and herein. Color to match existing.

3.6 PATCHING AND REPAIRING PLASTER

A. Patching small holes and cracks in plaster:
   1. Widen and undercut the crack, using a chisel or a v-shaped tool to make the crack wider on the inside or bottom than along the surface in order to ensure a good bond with the old plaster.
   2. Brush out dust and loose particles, then wet the crack thoroughly with water before applying compound, press hard enough to force patching material down to the bottom of the crack or hole.
   3. Remove excess material and smooth off the surface by wiping with strokes almost parallel to the length of the crack.

B. Repairing holes or larger cracks in plaster:
   1. Remove loose crumbling and flaking material, either scraping or chipping it out.
   2. Wet the surface of the exposed lath and the edges of the old plaster with a sponge or brush and trowel patching plaster onto the area to be patched.
   3. Press firmly into crevices to make sure of solid contact with the exposed metal or wood lath, as well as with the edges of the surrounding plaster.
   4. The first coat of plaster should fill the depression about halfway to the surface and it should be left rough at the surface to help ensure a good mechanical bond when the second coat is applied.
   5. After the first coat has dried hard, wet the surface again and spread on a second coat of plaster. This time bringing it up flush with the surrounding surface. Apply enough pressure to eliminate air pockets.
   6. After the final coat has hardened, apply spackling compound where necessary to fill in visible defects or low spots and sand with a fine-grit paper, if required.

C. Clean surfaces and paint in accordance with Section 09 90 00, Painting, and herein.

3.7 CLEANING

A. Clean areas and spaces where demolition, cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items.

B. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

C. Upon completion of Work, leave areas of Work in clean condition.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Remove designated building equipment and fixtures.

B. Remove designated partitions and components.

C. Carefully demolish and remove from the Site those items scheduled to be so demolished and removed. Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to complete the Contract, including, but not limited to, the following items:
   1. Protection of existing items to remain.
   2. Barricades, lights, signs and safety precautions required by the governing code.

1.2 RELATED WORK

A. Documents affecting work of this Section include, but are not limited to, General Conditions, Supplementary Conditions, and Division 1 of these Specifications.

B. Relocation of utility lines and mechanical structures scheduled to remain active.

C. Facility Remediation: Section 02 01 80.

1.3 GENERAL REQUIREMENTS

A. Codes: Perform Work in accordance with appropriate Codes, and California Fire Code, "Chapter 14 – Fire Safety During Construction and Demolition."

B. Examine the Site and conditions, and limitations thereon and thereabouts. Bidding shall take into account such conditions and limitations, whether or not the same are specifically mentioned in the Contract Documents, and every bid shall be construed as including whatever sums are needed to complete the Work in every part as shown, described, or reasonably required or implied, and attain the completed conditions contemplated by the Contract. The demolition drawings, including demolition work shown on construction drawings, shall be considered as a guide only. The exact extent of the demolition and reconstruction work shall be determined by a site visit and investigation.

C. Make note of existing asbestos, including asbestos lined pipes, ductwork and equipment. Removal of asbestos shall be executed by Contractor. Coordinate Work with trades contracted by Owner to execute the asbestos removal.

D. The use of explosives will not be permitted.

E. Partial Removal: Items scheduled to be removed and of salvageable value to Contractor may

be removed from structure as work progresses. Salvaged items must be transported from site as they are removed. Partial removal is subject to the following conditions:

1. Storage or sale of removed items on site will not be permitted.
2. This excludes items and materials to be stored for Owner.

F. Unforeseen Conditions: Include in the base bid miscellaneous cutting and patching necessitated as a result of unforeseen conditions and the rework of abutting surfaces as required to make new work join and match existing to remain. No extra payments based on the pleas of unforeseen conditions will be allowed.

G. Noise control: Carry on work in a manner which will produce the least amount of noise. Instruct workmen in noise control procedures.

H. Conduct demolition to minimize interference with adjacent building areas. Maintain protected access at all times.

I. Provide and erect temporary barriers and security devices.

1.4 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.5 SUBMITTALS

A. Schedule: Submit proposed methods and operations of building demolition to Architect for review prior to start of Work. Include in schedule, coordination for shut-off, capping, and continuation of utility services, as required.

B. Submit digital file of demolition and removal procedures and schedule for Architect's review.

C. Upon completion of the work in this Section, submit Record Drawings recording the extent of active and abandoned underground utilities. The drawings shall be signed and dated by the Contractor and shall be drawn on reproducible sepia. Submit drawings to Inspector of Record and/or transmittal to Architect.

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Material: As specified in individual Sections.

B. Match existing product and Work for patching and extending Work.

C. Determine type and quality of existing products by inspection and necessary testing and workmanship by use of extending as a standard. Presence of a product, finish or type of work, required that patching, extending, or matching shall be performed as necessary to make Work complete and consistent with existing quality.

PART 3 - EXECUTION

3.1 PREPARATION

A. Site Security: Erect chain link fence barricades, warning lights, and signs as required by the governing building code, to protect persons from injury, to prevent trespassing, and to prevent theft or damage due to vandalism.

B. Erect weatherproof closures for exterior openings as specified in Section 01 50 00.

C. Erect temporary partition to prevent spread of dust, fumes, noise and smoke to provide for Owner occupancy as specified in Section 01 11 00.

D. Use stakes, barricades and such other means of protection as required to prevent damage to existing work indicated to remain.

E. Notify utility authorities to locate and flag underground lines. Disconnect, remove, and cap designated utility services within demolition areas.

F. Mark location of disconnect utilities. Identify and indicate capping locations on Project Record Documents.

G. Avoid cutting existing pipe, conduit, or ductwork serving the building but then scheduled to be removed or relocated until provisions have been made to bypass them.

H. Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.
   1. Erect temporary covered passageways as required by authorities having jurisdiction.
   2. Provide interior and exterior shoring, bracing, or support as required to prevent movement, settlement, or collapse of building structure to remain.

I. Protect existing surfaces, equipment, casework and permanently attach furnishings scheduled to remain during construction activities. Repair damaged areas to their original condition or compensate Owner for losses.

3.2 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.3 DEMOLITION

A. By careful study of the Contract Documents, determine the location and extent of selective demolition to be performed.

B. In company with the Architect, visit the Site and verify the extent and location of selective demolition to be performed.
   1. Carefully identify limits of selective demolition.
   2. Mark interface surfaces as required enabling workmen to identify items to be removed and items to be left in place intact.

C. Prepare and follow an organized plan for demolition and removal of items.
   1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction. Review plans, and confer with the Architect, to determine which lines are to be abandoned and which are to be kept active.
   2. Completely remove items scheduled to be demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
   3. Comply with pertinent regulations of governmental agencies having jurisdiction.
   4. Remove materials to be re-installed or retained in manner to prevent damage.

D. Remove, store and protect for re-installation of the following materials and equipment:
   1. Clocks, speakers and telephones, unless noted otherwise.
   2. Cabinets to be relocated.
   3. Cabinets noted to be re-installed.
   4. Projection Screens.
   5. Gymnasium wall-mounted equipment and pads.

E. Demolished material shall be considered to be property of the contractor and shall be completely removed from the job site. Burning of removed materials from demolished structures will not be permitted on Site.

F. Demolish in an orderly and careful manner. Protect existing supporting structural members and finishes which are not to be demolished. Unless shown on the Drawings, no structural elements such as rafters, joists, columns, or studs shall be cut without written permission from the Architect and the District.

G. Remove and promptly dispose of contaminated, vermin infested, or dangerous materials encountered.

H. Walls:

   1. Remove all existing wall covering including but not limited to vinyl wall covering, wallpaper, ceramic tile, wood paneling, and wall carpet where new finishes are scheduled unless noted otherwise.

2. Cut openings where shown, removing sufficient material for proper installation of repairs and new work. Remove any material chipped or otherwise damaged during demolition operations to neat straight line.
3. Remove all miscellaneous wood trim and molding where new Window Replacements are scheduled to facilitate a smooth and continuous surface for the new finish application.

I. Ceilings:

1. Remove all damaged ceiling tile and prepare substrate for new to match existing adjacent material.

3.4 POLLUTION CONTROLS

A. Use plastic traps, temporary enclosures and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
B. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, as directed by Architect or governing authorities. Return adjacent areas to condition existing prior to start of Work.

3.5 REPLACEMENTS

A. In the event of demolition of items not so scheduled to be removed and/or replaced, promptly replace such items to the acceptance of the Architect and at no additional cost to District.

B. Damages: Promptly repair damages caused to adjacent facilities by demolition operations at no additional cost to District.

END OF SECTION

BOARDPART 1 - GENERAL

1.01 SECTION INCLUDES

A. Gypsum sheathing board on exterior face of exterior walls.

1.02 Submittals

A. See Section 01 33 13- Submittal Procedures.

B. Product Data: Manufacturer product data for sheathing and fasteners. Include copies of approval for the assemblies by authorities having jurisdiction where used in fire-rated assemblies.

1.03 HANDLING

A. Storage:

1. Keep panels and other materials dry and under cover. Protect against contact with damp or wet surfaces. Provide air circulation under covering and around stacks of boards.

2. Do not overload floors and roofs with localized concentration of gypsum sheathing panels.

B. Handling: Handle. materials to prevent breakage and damage to edges of panels.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Gypsum sheathing: One of the following 5/8 inchthick, or equal complying with ASTM C 1177.

1. G-P Gypsum Products "Dens-Glass Gold" Type X sheathing board complying with ASTM C 1177 (basis of design).

2. National Gypsum "Goldbond E2 XP."

3. USG "Securock Glass-Mat Sheathing."

4. Temple Inland "GreenGiass."

5. CertainTeed "GiasRoc Sheathing."

6. Substitutions: See Section 01 60 00- Product Requirements.

B. Screws: Steel drill screws with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.

1. For steel framing less than 0.0329-inch thick; attach sheathing in compliance with ASTM C 1002.

2. For steel framing from 0.033 to 0.112-inch thick, attach sheathing in compliance with ASTM C 954.

3. Do not specify tape where air/water barrier or WP membrane is specified.

PART 3- EXECUTION

3.01 EXAMINATION

A. Examine framing to support sheathing board and verify that the surface of any framing or

furring member does not vary more than 1/4-inch from the plane of faces of adjacent members.

B. Verify that studs, blocking and supporting materials are in place and ready for sheathing attachment prior to starting work.

C. Coordinate the exterior placement of electrical, mechanical and plumbing wall devices, accessories and access panels, wall signage and other type wall construction with other trades before proceeding with work'and during installation.

D. Correct detrimental conditions before proceeding with installation.

3.02 APPLICATION

A. General:

1. Use appropriate length boards to minimize end joints.

2. Place edge joints parallel to, and over framing members. Stagger end joints, if required.

B. Install boards with long edge perpendicular to framing. Butt joints between panels loosely. Do not force panels into place.

C. Install wall sheathing with gold side out.

D. Attach wall sheathing to metal framing with screws spaced 8" o.c. at perimeter where there are framing supports; and 8" o.c. along intermediate framing in field. A greater number of fasteners may be specified to obtain specific values and is allowed up to 4" o.c. spacing.

E. Locate fasteners minimum 3/8" from edges and ends of sheathing panels, tight against and flush with surface of sheathing.

F. When fastening the board, proceed from the central portion of the board towards ends and edges, using power screwdriver recommended by the manufacturer to drive screws.

G. Drive fasteners to bear tight against and flush with the surface of the sheathing.

H. Locate fasteners not closer than 3/8-inch from the edge and the ends of the sheathing panels.

END OF SECTION

PART 1 – GENERAL

A. Shop fabricated ferrous metal items, galvanized and prime painted.

B. Schedule of metal fabrications.

1.2 REFERENCES

A. ASTM A36 - Structural Steel.

B. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

C. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel

Products.

D. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

E. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.

F. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

G. ASTM A780 - Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

H. AWS A2.4 - Standard Welding Symbols.

I. AWS D1.1 - Structural Welding Code - Steel.

J. SSPC - The Society for Protective Coatings.

1.3 QUALIFICATIONS

A. Welders' Certificates: Submit under provisions of Section 01 33 00, certifying welders employed on the work, verifying AWS qualification within the previous 12 months.

1.4 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Sections: ASTM A36.

B. Steel Tubing: ASTM A500, Grade B.

C. Plates: ASTM A36.

D. Pipe: ASTM A53, Grade B, Type E or S.

E. Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A153 for galvanized components.

F. High Strength Bolts: ASTM 325.

G. Threaded Rods: ASTM A36H. Light Gage Steel: ASTM A65355 Grade 33 for 18 gage and lighter, ASTM 65355 Grade 50 Class 1 or 3 for 16 gage and heavier.

I. Welding Materials: AWS D1.1; type required for materials being welded.

J. Shop and Touch Up Primer: SSPC 15, Type 1, red oxide.

K. Touch-Up Primer for Galvanized Surfaces: SSPC 20.

2.2 FABRICATION, GENERAL

A. Fit and shop assemble in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Continuously seal joined members by continuous welds unless indicated otherwise.

D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FINISHES

A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

B. Do not prime surfaces in direct contact with concrete or where field welding is required.

C. Prime paint items with one coat.

D. Galvanize assembled items to minimum 1.25 oz/sq ft zinc coating in accordance with ASTM A123.

E. Repair damaged galvanized surfaces in accordance with ASTM A780 Method A2.

F. Finish: Site paint exposed to view prime painted and galvanized items under provisions of Section 09 90 00.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Beginning of installation means erector accepts existing conditions.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

B. Supply items required to be cast into concrete or embedded in masonry with setting

C. Field weld components indicated on Drawings.

D. Perform field welding in accordance with AWS D1.1.

E. Obtain Architect approval prior to site cutting or making adjustments not scheduled.

F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.3 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments

3.4 SCHEDULE

A. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled.

B. Miscellaneous Framing and Supports: Steel not a part of structural steel framework as required to complete work; galvanized finish.

C. Bumper Post: As detailed; galvanized finish.

D. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; galvanized finish.

E. Joist Hangers: Joist strap anchors, galvanized finish.

F. Ledge and Shelf Angles, Channels and Plates Not Attached to Structural Framing: For support of metal decking galvanized finish.

G. Metal Gates and Fences: Welded tubular steel as detailed, complete with all necessary hardware; galvanized finish.

END OF SECTION

PART 1 - GENERAL

A. Structural floor, wall, and roof framing.
B. Floor, wall, and roof sheathing.
C. Plywood underlayment over all wood subfloors.
D. Combination subfloor - underlayment.
E. Wood furring, backing and grounds.
F. Preservative treatment of wood.

1.2 REFERENCES

A. CBC - California Building Code, (CCR) California Code of Regulations Title 24, Part 2.

B. ALSC - American Lumber Standards Committee: Softwood Lumber Standards.

C. ANSI/AF & PA NDS-05 - National Design Specifications for Wood Construction.

D. ANSI/SDPWS - Special Design Provisions for Wind and Seismic.

E. APA - The Engineered Wood Association.

F. ASTM D6109 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic lumber.

G. ASTM E84 - Standard Test Method for Surface burning Characteristics of Building Materials.

H. AWPA - American Wood Preservers' Association: Book of Standards.

I. FSC – Forest Stewardship Council.

J. MS MIL-L-19140 - Fire Retardant Wood Preservative Chemicals.

K. National Bureau of Standards - Product Standard PS-1-09 for Construction and Industrial Plywood.

L. WCLIB - West Coast Lumber Inspection Bureau: Standard Grading Rules for West Coast Lumber.

M. WWPA - Western Wood Products Association.

1.3 QUALITY ASSURANCE

A. Lumber Grading Agency: Certified by ALSC.

B. Plywood Grading Agency: Certified by APA.

C. Accredited certification bodies shall be one of the following:

D. Scientific Certification Systems, www.scscertified.com.

1.4 REGULATORY REQUIREMENTS

A. Conform to CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 23.

B. Allowable stress design values shall be in compliance with the CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Section 2306, ANSI/AF & PA NDS-05 – National Design Specifications for Wood Construction, and ANSI/SDPWS – Special Design Provisions for Wind and Seismic.

1.5 SUBMITTALS

A. Submit product data under provisions of Section 01 33 13.

B. Provide technical data on wood preservative materials and application instructions.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store and protect products under provisions of Section 01 60 00.

B. Deliver materials free from pest infestation. Protect materials on site to prevent termite, beetle or other wood boring insect attacks.

C. Stack lumber flat, off grade, with spacers between each bundle to promote air circulation. Provide for air circulation around and under coverings.

PART 2 – PRODUCTS

2.1 LUMBER MATERIALS

A. Lumber Grading Rules: WCLIB and WWPA. Lumber shall bear WCLIB grade stamp.

B. Beam Framing: Douglas Fir species, Dense No. 1 grade.

C. Joist Framing: Douglas Fir species, No. 1 grade.

D. Rafter Framing: Douglas Fir species, No. 1 grade.

E. Structural Framing, Studs, Plate and Blocking: Douglas Fir Species, No. 1 grade.

F. Non-structural Light Framing Studs, Plate and Blocking: Douglas Fir species, construction grade.

G. Plank and Decking: Douglas Fir species, Com Dex.

2.2 MOISTURE CONTENT

A. 2x and 3x material, 19 percent moisture content, S-Dry. Structural and non structural framing, beam, rafters, joists, studs, plates and blocking.

B. 4x and 6x material, 19 percent moisture content at time of application of Architectural finishes. 22 percent maximum moisture content at time of delivery to project site. Materials to be air dried as required to achieve
22 percent moisture content prior to delivery to site. Structural and non structural faming, beam, rafters, joists, studs, plates and blocking.

C. No lumber shall be covered with an Architectural finish until the moisture content of the lumber is 19 percent or below.

2.3 PLYWOOD MATERIALS

A. Roof Sheathing: APA Structural I, Grade C-D, Exposure 1 minimum 5-ply construction, meeting product
Standard PS-1-09.

B. Wall Sheathing: APA Structural I, Grade C-D, Exposure 1 minimum 5-ply construction, meeting product standard PS-1-09.

C. Underlayment: APA Underlayment, Exposure 1, 3/8 inch thick, sanded; minimum 3-ply construction.

D. Telephone and Electrical Panel Boards: APA Grade C-D with exterior glue, minimum 5 ply, ¾ inch thick, meeting PS-1-09.

2.4 ACCESSORIES

A. Fasteners: Hot-dipped galvanized steel for exterior, high humidity, and treated wood locations; plain finish elsewhere; size and type to suit condition.

B. Connectors: As indicated.

C. Joist Hangers: Galvanized steel, sized to suit joists and framing conditions; manufactured by Simpson, USP Connectors or KC Metals.

D. Anchors: Thru bolt or anchor bolt to concrete or masonry unless otherwise noted. Bolt for anchorage to steel unless otherwise noted.

E. Building Paper: No. 15 asphalt felt. Plain untreated cellulosic building paper.

2.5 WOOD TREATMENT

A. Preservative Treatment: Where lumber or plywood is indicated as treated or is specified herein to be treated, comply with applicable requirements of AWPA Standards for Lumber and Plywood.

B. Pressure treat all lumber in contact with ground. After treatment kiln-dry lumber to a maximum moisture content of 19 percent.

C. Pressure treat above ground items as indicated. After treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:

B. Wood cants, nailers, curbs, equipment support bases, blocking, stripping and similar members in connection with roofing, flashing, vapor barriers and waterproofing.

2. Horizontal wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.

3. Horizontal wood framing members less than 18 inches above grade.

4. Wood floor plates installed over concrete slabs directly in contact with earth.

5. Ends of wood girders entering masonry or concrete walls.

6. Framing members used in exterior door, window, or louver openings.

D. Complete fabrication of treated items prior to treatment, where possible. If cut or drilled after treatment, coat cut or drilled surfaces with heavy brush coat of same chemical used for treatment and to comply with AWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

PART 3 - EXECUTION

3.1 FRAMING

A. Erect wood framing members level and plumb.

B. Place horizontal members laid flat, crown side-up.

C. Construct framing members full length without splices.

D. Double members at openings over 1 sq ft. Space short studs over and under opening to stud spacing.

E. Construct double joist headers at floor and ceiling openings. Frame rigidly into joists.

F. Construct double joists under wall studding.

G. Bridge joists in excess of 8 feet span at mid-span members. Fit solid blocking at ends of members.

H. Coordinate installation of glue laminated structural units and plywood web joists.

3.2 FURRING, BLOCKING AND GROUNDS

A. Provide wherever shown and where required for attachment of other work. Coordinate with work of other sections.

B. Item locations include but are not limited to toilet accessories, toilet partitions, door frames, window frames, hardware, access doors and ladders, cabinetry, miscellaneous equipment locations and mechanical, plumbing and electrical item locations and all other locations of wall mounted items.

C. Install plywood backboards for telephone, data and other electrical equipment.

D. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

E. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated.

F. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

G. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

H. Firestop all concealed spaces of wood stud walls, ceilings and floor levels at 10 foot intervals both vertically and horizontally.

I. Firestop all concealed vertical and horizontal spaces as occur at soffits, vents, stair stringers, pipes and similar openings in compliance with CBC, (CCR) Title 24, Part 2, Section 717.

J. Firestopping shall consist of closely fitted wood blocks of 2 inch nominal thickness lumber of same width as framing members.

3.3 SHEATHING

A. Secure roof sheathing perpendicular to framing members with ends staggered. Secure sheet edges over firm bearing. Provide solid edge blocking between sheets. Space panels 1/8 inch apart at ends and edges.

B. Secure wall sheathing perpendicular to wall studs, with ends staggered, over firm bearing.

C. Place building paper between underlayment and subflooring.

D. Secure flooring underlayment with screws. Install after dust and dirt generating activities have ceased and prior to application of finished flooring. Apply perpendicular to subflooring. Stagger end joints of underlayment. Space panels 1/32 inch apart at ends and edges.

E. Install telephone and electrical panel back boards where required. Size of backboards to be 12 inches beyond size of electrical panel boards.

3.4 RECYCLING CONSTRUCTION WASTE

A. Recycle lumber waste under the provisions of Section 01 74 19.

3.5 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01 42 00.

B. Lumber materials will be inspected for compliance with material grading rules, limitations for moisture content and pest infestation prior to any materials being concealed from view or being covered with an architectural finish.

3.6 TOLERANCES

A. Framing Members: ¼ inch maximum from true position.

B. Surface Flatness of Floor: ¼ inch in 10 feet maximum.

END OF SECTION

PART 1 – GENERAL

A. Finish carpentry items, other than shop prefabricated casework.

B. Hardware and attachment accessories.

1.2 REFERENCES

A. ASTM E84 - Test Method for Surface Burning Characteristics of Building

Materials. B. ASTM E152 - Methods for Fire Tests of Door Assemblies.

C. AWPA - American Wood Preservers

Association. D. NFPA 80 - Fire Door and

Windows.

E. CBC - California Building Code, (CCR) California Code of Regulations, Title

24, Part 2. F. UL - Underwriters' Laboratories, Inc.

G. WI - Woodwork Institute: Architectural Woodwork Standards.

1.3 QUALITY ASSURANCE

A. Manufacture millwork and finish carpentry items in accordance with quality standards of the Architectural Woodwork Standards of the Woodwork Institute.

B. All millwork and the installation of millwork shall be monitored for compliance under the scope of the WI Monitored Compliance Program (MCP).

C. Fees charged by the Woodwork Institute for their monitored compliance service are the responsibility of the millwork manufacturer.

D. Provide WI Certified Compliance Labels on all items of millwork.

E. Provide WI Inspection Service at the job site prior to installation. Provide to Architect a written report showing results of the reinspection.

F. Upon completion of the installation, provide a WI Monitored Compliance Certificate.

G. Accredited certification bodies shall be one of the following:

1. Scientific Certification Systems, www.scscertified.com.

1.4 REGULATORY REQUIREMENTS

A. Conform to CBC and UL requirements for fire ratings.

B. Conform to Flame Spread Classifications of Interior Millwork for flame spread ratings as tested according to ASTM E84.

1.5 SUBMITTALS

A. Submit samples under provisions of Section 01 33 13.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and protect products under provisions of Section 01 60 00.

B. Conform to Section 2 of Architectural Woodwork Standards.

C. Store materials in ventilated, interior locations under constant minimum temperatures of 60 degrees F and maximum relative humidity of 45 to 65 percent.

PART 2 - PRODUCTS

2.1 FABRICATORS

A. Active member of the Woodwork Institute, licensed by WI to provide the WI certified Compliance Certificates and Labels for the products and materials specified in this section, www.woodworkinstitute.com.

2.2 MATERIALS

A. Materials specified under Millwork Manual Section Numbers refer to lumber grades in the Architectural Woodwork Standards as follows: Section 3, Lumber - Hardwood/Softwoods; Section 4, Plywood - Hardwood/Softwood; Section 6, Exterior Trim; and Interior Trim; Section 7, Stair Work and Rails.

2.3 EXTERIOR TRIM

A. Fabricate in accordance with Section 6 of the Architectural Woodwork Standards.

Item	Species	Grade	Intended Finish
Exterior Wood Trim	Cedar, Western Red	Custom	Opaque
Fascias & Rakes			

2.4 INTERIOR TRIM

A. Fabricate in accordance with Section 6 of the Architectural Woodwork Standards.

Item	Species	Grade	Intended Finish
Base, Casing & Trim	Red Oak	Custom	Transparent
Tackboard Frames, Chalk Rail & Frame	Red Oak	Custom	Transparent

2.5 ADHESIVE

A. Adhesives: Type 1 adhesive recommended by WI to accommodate application in accordance with the
Appendix A to the Architectural Woodwork Standards.

B. Formulation: Exterior type per AWPA C20, consisting of organic-resin solution, insoluble in water, thermally set in wood by kiln drying.

C. Wall Adhesive: Solvent release, cartridge type, compatible with wall substrate, capable of achieving durable bond.

2.6
ACCESSORIES

A. Nails: Size and type to suit application, galvanized finish for interior use, stainless steel for exterior use.

B. Bolts, Nuts, Washers, Blind Fasteners, Lags, and Screws: Size and type to suit application; galvanized finish for interior use, stainless steel for exterior use.

C. Lumber for Shimming and Blocking: Softwood lumber of Douglas

Fir species. D. Primer: Alkyd primer sealer.

E. Wood Filler: Solvent base, tinted to match surface finish color.

2.7
FABRICATION

A. Fabricate work in accordance with WI Custom grade standards.

B. Shop assemble work for delivery to site, permitting passage through building openings.

C. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces and openings are ready to receive work and field measurements are as instructed by the fabricator.

B. Verify mechanical, electrical, and building items affecting work of this Section are placed and ready to receive this work.

C. Verify adequacy of backing and support framing.

D. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

A. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials or that will be permanently concealed from view.

3.3 INSTALLATION

A. Install work in accordance with the WI Architectural Woodwork Standards Custom quality standard. B. Install fire rated door frames in accordance with NFPA 80.

3.4 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

3.5 PREPARATION FOR FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

3.6 PROTECTION

A. Protect finished installation under provisions of Section 01 53 50.

END OF SECTION

PART1 GENERAL

1.01 SECTION INCLUDES

A. Weather resistant membranes behind Portland Cement Plaster.

1.02 DEFINITIONS

A. Weather Barrier: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.

B. Water-Resistive Barrier: Water-shedding barrier made of material that is moisture-resistant, to the degree specified, intended to be installed to shed water without sealed seams.

1.03 SUBMITTALS

A. See Section 01 33 13 - Submittal Procedures.

B. Product Data: Provide data on material characteristics, performance criteria, and limitations.

C. Shop Drawings: Provide drawings of special joint conditions.

D. Test Results: Submit copies of test results showing performance characteristics equaling or exceeding those specified.

E. Manufacturer's Installation Instructions: Indicate preparation, installation methods, and storage and handling criteria.

F. Quality Assurance Submittals:

1. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with indicated requirements.
2. Manufacturer Instructions: Provide manufacturer's written installation instructions.
3. Manufacturer's Field Service Reports: Provide site reports from authorized field service representative, indicating observation of weather barrier assembly installation.

1.04 QUALITY ASSURANCE

A. Qualifications:

1. Installer shall have three years of experience with installation of weather barrier assemblies under similar conditions.
2. Installation shall be in accordance with weather barrier manufacturer's installation guidelines and recommendations.
3. Source Limitations: Provide weather barrier and accessory materials produced by single manufacturer.

1.05 MOCK-UP

A. Install mock-up using approved weather barrier assembly including fasteners, flashing, tape

and related accessories per manufacturer's current printed instructions and recommendations.

1. Mock-up size: One panel from reveal to reveal as directed by Project Architect, approximately 10 x 14 feet.
2. Mock-up Substrate: Match wall assembly construction, including window opening.
3. Mock-up may remain as part of the work.

B. Hold a pre-installation conference, two weeks prior to start of weather barrier installation. Attendees shall include Contractor, Architect, Installer, Owner's Representative, and Weather Barrier Manufacturer's Designated Representative.

C. Contact manufacturer's designated representative prior to weather barrier assembly installation, to perform required mock-up visual inspection and analysis as required for warranty.

1.06 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 01 60 00 Product Requirements.

B. Deliver weather barrier materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Store weather barrier materials as recommended by weather barrier manufacturer.

1.07 SCHEDULING

A. Review requirements for sequencing of installation of weather barrier assembly with installation of windows, doors, louvers and flashings to provide a weather-tight barrier assembly.

B. Minimize UV exposure of membrane to comply with manufacturer's requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: spunbonded polyolefin, non-woven, non-perforated, weather barrier is based upon DuPont™ Tyvek® CommerciaiWrap® and related assembly components.

B. Substitutions: Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

C. Provide all weather resistant membranes from a single manufacturer.

2.02 PERFORMANCE CHARACTERISTICS

A. Performance Characteristics:

1. Air Penetration: 0.001 cfm/ft2 at 75 Pa, when tested in accordance with ASTM E2178. Type I per ASTM E1677. ?0.04 cfm/ft2 at 75 Pa, when tested in accordance with ASTM E2357.
2. Water Vapor Transmission: 28 perms, when tested in accordance with ASTM E96, Method B.

3. Water Penetration Resistance: Minimum 280 em when tested in accordance with AATCC Test Method 127.
4. Basis Weight: Minimum 2.7 oz/yd2, when tested in accordance with TAPPI Test Method T-410.
5. Air Resistance: Air infiltration at >1500 seconds, when tested in accordance with TAPPI Test Method T-460.
6. Tensile Strength: Minimum 38/35 lbs/in., when tested in accordance with ASTM D882, Method A.
7. Tear Resistance: 12/10 lbs., when tested in accordance with ASTM D1117.
8. Surface Burning Characteristics: Class A, when tested in accordance with ASTM E84. Flame Spread: 10, Smoke Developed: 10.

2.03 ACCESSORIES

A. Seam Tape: As recommended by the weather barrier manufacturer.

B. Fasteners:

1. 1-5/8 inch rust resistant screw with 2-inch diameter plastic cap or manufacturer approved 1-1/4" or 2" metal gasketed washer

C. Sealants: Sealants recommended by the weather barrier manufacturer.

D. Adhesives: Provide adhesive recommended by weather barrier manufacturer.

E. Primers: Provide flashing manufacturer recommended primer to assist in adhesion between substrate and flashing.

F. Flashing: See Section 07 65 26- Self-Adhering Sheet Flashing. PART 3 EXECUTION

3.01 PREPARATION

A. Remover projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

B. Clean and prime substrate surfaces to receive adhesives in accordance with manufacturer's instructions.

3.02 INSTALLATION

A. Install weather resistant membranes in accordance with manufacturer's instructions over exterior sheathing.

B. Install weather barrier prior to installation of windows and doors.

c. Window and Door Openings: Extend weather barrier completely over openings.

D. Seal joints and penetrations through weather resistant membranes with tape and fasteners before installation of finish material.

E. Overlap weather barrier

1. Exterior corners: minimum 12 inches.
2. Seams: minimum 6 inches.

F. Membrane Attachment: Attach weather barrier to studs through exterior sheathing. Secure using weather barrier manufacturer recommend fasteners, space 12-18 inches vertically on center along stud line, and 24 inch on center, maximum horizontally.

G. Ensure that weather resistant membranes are air tight, free from holes, tears, and punctures.

3.03 SEAMING

A. Seal seams of weather barrier with seam tape at all vertical and horizontal overlapping seams.

B. Seal any tears or cuts as recommended by weather barrier manufacturer.

C. Tape all window and door penetrations in accordance with manufacturer's instructions.

3.04 FIELD QUALITY CONTROL

A. Notify manufacturer's designated representative to obtain [required] periodic observations of weather barrier assembly installation.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED
Insulated Composite Panels

1.2 RELATED WORK

A. Requirements in Addenda, Alternates, Conditions, and Division 1 collectively apply to this work.

B. Section 05500 - Metal Fabrications

C. Section 07900 - Joint Sealers

1.3 REFERENCES

A. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate, for storefront replacement parts.

B. ASTM E84 - Surface Burning Characteristics of Building Materials

1.4 PERFORMANCE

A. System to accommodate movement of components without buckling, failure of joint seals, undue stress on fasteners, or other detrimental effects, when subject to seasonal temperature ranges.

B. System to accommodate tolerances of structure.

C. Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.

1.5 SUBSTITUTIONS
Only written approval of the Architect, by Addenda or Change Order, will permit substitutions for products specified. Refer to Section 01600 for procedure.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Comply with the provisions of Section 01600, Material and Equipment.

B. Deliver products to site in manufacturer's original, unopened and undamaged containers.

C. Store products in dry area. Keep product containers intact until products are to be installed.

1.7 SUBMITTALS

A. Submit product Shop Drawings under provisions of Section 01300.

B. Indicate dimensions, panel layout, construction details, method of anchorage, and method of installation.

C. Submit manufacturer's standard color samples.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURER
Mapes Industries; Lincoln, NE; 402-466-1985.

2.2 INSULATED COMPOSITE PANEL

A. All panels shall be constructed to consist of laminated components of an exterior skin, substrate and/or core, and an interior skin. Each component shall be selected from the insulated, veneer panel. All panels shall be designed to provide balanced construction with metal skins on both exterior and interior faces. The components shall be laminated in a controlled factory environment with a top-quality permanently elastic adhesive. The shear strength of the adhesive shall exceed the shear strength of the individual components.

B. Panel Thickness: 2"

C. Core Material: Polyisocyanate

D. Facing Materials:
1. Exterior Facing: .063" thick pebble aluminum with Kynar paint finish.
2. Interior Facing: .025" thick smooth aluminum with Colorlume S polyester baked enamel finish.

E. Panel Tolerances: .8% of length and width and +/-1/16" thickness.

F. Comply with Class A ASTM E84 standard.
1. Flame Spread - 25 maximum
2. Smoke Density - 450 maximum

G. Colors: As selected by Architect from manufacturer's standard colors.

PART 3 - INSTALLATION

3.1 EXAMINATION

A. Verify that frames and substrate surfaces are smooth and sound and are ready to receive work.

B. Beginning of installation means acceptance of existing substrate and site conditions.

3.2 INSTALLATION

A. Install panels per panel manufacturer's printed instructions and per shop drawings.

B. Install panels level, plumb and true.

C. Finish installation to be air and water tight.

3.3 PROTECTION OF FINISHED WORK
Protect the installed panels from damage during construction.

3.4 FINAL CLEANING

A. Remove dispose of construction debris.

B. Clean, repair and/or replace all damaged surfaces.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

1.1 SUMMARY

1.1.1 Section Includes: Flashings, counterflashings, vents, and copings as indicated on the Drawings and specified herein.

1.1.2 Related Sections:

As indicated on architectural drawings.
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1.2 REFERENCE STANDARDS

1.2.1 Fabricate sheet metal items from sheet steel in accordance with ASTM A526, galvanized in accordance with ASTM A525, G60.

1.3 SUBMITTALS

1.3.1 Submit shop drawings for all flashing and sheet metal, attachment details in accordance with Division 1 and Section 013313.

PART 2 – PRODUCTS

2.1 MATERIALS

2.1.1 Unless shown otherwise on Drawings, provide steel sheet metal of at least 22 gauge steel.

2.1.2 Where sheet aluminum is shown on Drawings, provide 0.032-inch thickness (20 gauge) and in accordance with ASTM B209, 6063-T5 in color finish as selected by Architect.

2.1.3 Extruded Aluminum: Manufacturer's standard extrusions of sizes and profiles indicated, 60063-T52, AA-C22A41 clear anodized finish; 0.080-inch minimum thickness for primary legs of extrusions.

2.1.4 Stainless Steel: AISI Type 302/304, complying with ASTM A167, 2D annealed finish, soft, except where harder temper required for forming or performance; 0.0156-inch thick (28 gauge) except as otherwise indicated.

2.2 ACCESSORIES

2.2.1 Fasteners and Clips: Provide as required and appropriate for the materials being fastened. Where fasteners or clips may be exposed to outside weather conditions, provide galvanized or stainless steel type.

2.2.1.1 Provide fasteners such as bolts, screws, and nails hot-dip galvanized as specified in accordance with ASTM A153.

2.2.2 Where rivets will be used, provide malleable iron type with rust-inhibitive coating.

2.2.3 If drive pins are incorporated into work, provide Omark or other approved, cadmium plated with neoprene facing, at least 1-inch long, with neoprene washers.

2.2.4 Solder: For use steel or copper, provide 50 – 50 tin/lead solder (ASTM B-32) with rosin flux.

2.2.5 Solder: For use with stainless steel, provide 60 – 40 tin/lead solder (ASTM B32) with acid-chloride type flux, except use rosin flux over tinned surfaces.

2.2.6 Bituminous Coating: SSPC – Paint 12, solvent-type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.

2.2.7 Mastic Sealant: Polysobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.

2.2.8 Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed and complying with requirements for joint sealants as specified in Section 079000 Joint Sealers.

2.2.9 Epoxy Seam Sealer: Two part noncorrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints.

2.2.10 Adhesives: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet.

2.2.11 Paper Slip Sheet: 5 lbs. rosin-sized building paper.

2.2.12 Polyethylene Underlayment: Minimum 6-mil carbonated polyethylene film resistant to decay when tested in accordance with ASTM E154.

2.2.13 Reglets: Metal or plastic units of type and profile indicated, compatible with flashing indicated, noncorrosive.

2.2.14 Conductor-Head Guards: 20-gauge bronze or nonmagnetic stainless steel mesh or fabricated units, with salvaged edges and noncorrosive fasteners. Select materials for compatibility with gutters and downspouts.

2.2.15 Elastic Flashing Filler: Closed-cell polyethylene or other soft closed-cell material recommended by elastic flashing manufacturer as filler under flashing loops to ensure movement with minimum stress on flashing sheet.

2.3 FABRICATION

2.3.1 General Metal Fabrication: Shop fabricate work to greatest extent possible. Comply with details shown and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate waterproof and weather-resistant performance with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work.
Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with

exposed seams with epoxy seam sealer; rivet joints for additional strength where required.

2.3.2 Seams: Fabricate non-moving seams in sheet metal with flat-lock seams. For metal other than aluminum, in edges to be seamed, form seams and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.

2.3.3 Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used or would not be sufficiently weather/waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

2.3.4 Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

2.3.5 Separations: Provide for separation of metal from incompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

2.3.6 Aluminum Extrusion Units: Fabricate extruded aluminum running units with formed for extruded aluminum joint covers. Fabricate mitered and welded corner units.

2.4 PREFABRICATED SHEET METALS

2.4.1 Provide minimum 22 gauge galvanized flashing to the sizes and shapes as detailed on the drawings. All exposed flashing will be left unfinished or prefinished in Kynar 500 as detailed on the drawings. Do not paint flashings unless specifically directed to do so by the Architect.

2.4.2 Louvers and Screens shall be stationary formed louvers minimum size 14 inch wide by 16 inches high unless noted otherwise on the drawings. All louvers shall be galvanized metal 24 gauge with four (4) flanges minimum 3 inches with corners, butt ends, mitered corner fully welded. Must be a watertight design shall be per SMACNA Figure 7-2 and Figure 7-2 C-1 overlap shall be 1 inch. Pitch louver blades at a minimum 45 angle. All louvers shall be primed coated and a minimum two (2) coats of paint. Paint color to match adjacent surface color unless noted otherwise on the drawings.

2.4.2.1 Louver screens shall be placed on back of all louver. All louver screens shall be per SMACNA Figure 7-7B and the screen shall be integral part of the louver. Screen material and frame shall be the same material as the louver material, primed and a minimum two (2) coats of paint. Color of screen shall match the color of the louver. Mesh opening shall be maximum ¼ inch square.

PART 3 – EXECUTION

3.1 PREPARATION

3.1.1 Inspect substrate conditions prior to installation of sheet metal items. Conditions which could be detrimental to correct and proper installation of sheet metal assemblies are to be called to the attention of the Owner for their disposition prior to sheet metal work being installed.

3.1.2 Coordinate fabrication and installation of sheet metal items with work of others such as roofing, curtainwall and windows, sealants, mechanical and electrical.

3.2 INSTALLATION

3.2.1 General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations and with SMACNA "Architectural Sheet Metal Manual." Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weatherproof.

3.2.2 Underlayment: Where stainless steel or aluminum is to be installed directly on cementitous or wood substrates, install a slip sheet of red rosin paper and a course of polyethylene underlayment.

3.2.3 Bed flanges of work in a thick coat of bituminous roofing cement where required for waterproof performance.

3.2.4 Install reglets to receive counterflashing in manner and by methods indicated. Where shown in concrete, furnish reglets to trades of concrete work for installation as work of Division 3 sections. Where shown in masonry, finish reglets to trades of masonry work, for installation as work of Division 4 sections.

3.2.5 Install counterflashings in reglets, either by snap-in seal arrangement or by welding in-place for anchorage and filling reglet with mastic or elastomeric sealant, as indicated in depending on degree of sealant exposure.

3.2.6 Install elastic flashing in accordance with manufacturer's recommendations. Where required, provide for movement as joints by forming loops or bellows in width of flashing. Locate cover or filler strips at joints to facilitate complete drainage of water for flashing. Seam adjacent flashing sheets with adhesive, seal and anchor edges in accordance with manufacturer's recommendations.

3.2.7 Nail flanges of expansion joint units to curb nailers, at maximum spacing of 6 inches o.c. Fabricate seams at joints between units with minimum 3 inch overlap, to form a continuous, waterproof system.

3.2.8 Conductor Thread Guards: Install "bee-hive type" strainer-guard at conductor heads, removable for cleaning downspouts.

3.2.9 Flash around exterior openings in the building where other waterproofing methods are insufficient.

3.3 JOINTS

3.3.1 Typically, provide flat locked joints with sealant between metal surfaces, unless shown otherwise. Where standing seams are required, provide with folded corners.

3.3.2 Provide minimum of 3 inch laps.

3.3.3 Where concealed joints are possible, provide flat locked joints with 3 inch reinforcing behind, set in full bed of sealant.

3.3.4 Do not leave sheet metal joint unsealed. See sealant section of these specifications.

3.4 INSPECTION

3.4.1 Immediately following installation of sheet metal work, touch-up areas where primer has been removed during installation operations and where soldering has occurred.

3.4.2 Where architectural coatings are provided, touch-up marred or abraded finishes with compatible coating which can be expected to provide the same serviceability as factory applied coatings.

3.5 CLEANING

3.5.1 Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

3.6 PROTECTION

3.6.1 Advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of Substantial Completion.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general conditions and Division 1 specifications sections which apply to work of this section as if printed herein.

1.1 SECTION INCLUDES: Description of requirements for material, fabrications and installation of sealants, caulking and associated accessories, except for those specified in other Sections, where indicated on Drawings, and where required to provide for a weather and watertight condition shall be furnished and installed under this section of the specifications.

1.1.1 Examine all other section for work related to those section which are required to be included as work of this section.

1.1.2 Caulking and sealants for exterior glazing.

1.1.3 Joints between dissimilar materials.

1.1.4 Adhesive product behind wood panels, trims, marlite, FRP panels plywood backboards, Corian, plastic laminates, vinyl tack board, etc.

1.1.5 Sealants and caulkings around any wall penetrations in restrooms or the exterior walls or the structure.

1.1.6 Sealants and caulking around all drinking fountains and restroom fixtures, mirrors, partitions, etc.

1.1.7 Fire Caulkings at al fire-rated wall penetrations.

1.1.8 Sealants and caulks at flashings, joints and gaps, etc., as required for a completely watertight structure.

1.2 RELATED SECTIONS

1.2.1 Section 061000 – Rough Carpentry

1.2.2 Section 062000 – Finish Carpentry

1.2.3 Section 076000 - Flashing and Sheet Metal

1.2.4 Section 088000 - Glazing

1.3 REFERENCES AND STANDARDS

1.3.1 Federal Specifications: TT.S-00154A – Sealing Compound: Silicone Rubber Based

1.3.2 ASTM – Test Method C-793-80, Effects of Accelerated Weathering on Elastomeric Joint Sealants

1.3.3 ASTM C920 – Standards for Elastomeric Joint Sealants.

1.4 SUBMITTALS

1.4.1 Manufacturer's Data: Submit list of materials proposed for use including complete data including color charts and manufacturer's specifications and installation instructions for each type of sealant, caulking compound and associated miscellaneous material required. Include published data, letter of certification, or certified test laboratory report indicating that each material complies with the requirements and is intended generally for the application shown. Include location of each material.

1.4.2 Samples: Submit standard color ranges of exposed materials for Architect's selection. Colors shall match adjacent painted or pre-finished surfaces.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

1.5.1 Materials shall be delivered to job in sealed containers with manufacturer's name, labels, project identification, and lot numbers where appropriate.

1.5.2 Store material out of weather in original containers or unopened packages as recommended by manufacturer.

1.5.3 Store at 80 degrees F or less in a cool, dry area. Handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants or other causes.

1.6 JOB AND ENVIRONMENTAL CONDITIONS

1.6.1 Job Conditions: The Sealant and Caulking Contractor shall acquaint himself with all conditions relating to the work of this Section.

1.6.2 Environmental Conditions: Do not proceed with installation of sealants under adverse weather conditions or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of High Early Bond strength.

1.6.3 Scheduling, Sequencing: Schedule application only after concrete has cured and joints are most likely to be normal size.

1.6.4 Maintain temperature and humidity recommended by the sealant manufacturer during and after installation. Do not proceed with installation of sealants under adverse weather conditions, or when ambient and substrate temperatures are below or above manufacturer's recommended limitations for installation or below 40 degrees F. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength.

1.6.5 Do not install solvent curing sealants in enclosed building spaces.

1.6.6 Protection: Use all means necessary to protect caulking materials before, during and after installation to protect the installed work and material of all other trades.

1.6.7 Surface Conditions: Provide proper primers suited to conditions. Primers may be omitted upon certification by sealant manufacturer that they are not required. Where any doubt exists, prepare sample joints on actual materials as furnished for the job to determine the matter.

1.7 WARRANTY

1.7.1 Contractor shall submit two (2) copies of manufacturer's written 10-year warranty agreeing to replace joint sealers which fail to perform as airtight and watertight joints; or fail in joint adhesion/cohesion, abrasion resistance, weather resistance, thermal or moisture resistance, extrusion resistance, migration resistance, ultraviolet resistance, stain or color resistance, surface serviceability, general durability; or appear to deteriorate in any other manner comprising system life.

1.7.2 Coverage to include failure to adhere, seal, cohesion, and cure, leading to water leaks or air infiltration.

1.7.3 Guarantee: Contractor is to guarantee work against inherent or developed defects in material or installation, agreeing to repair or replace joint sealers, which fail, based on any of the detrimental effects specified above. Guarantee installed work to remain watertight for a period of two (2) years.

PART 2 – PRODUCTS

2.1 GENERAL: Where two (2) or more of the following products are required, provide products for each application of a single manufacturer. If specified products are discontinued, furnish updated materials at no additional cost.

2.2 MANUFACTURERS: Provide one of the following for each different product required:

2.2.1 Dow Corning Corporation

2.2.2 General Electric Company

2.2.3 Pecora Corporation

2.2.4 Rhodorsil

2.2.5 Schnee-Morehead Inc.

2.2.6 Sika

2.2.7 Sonneborn Building Products Division

2.2.8 Tremco, Inc.

2.3 MATERIALS:

2.3.1 General:

2.3.1.1 Colors: For exposed materials provide color as selected by Architect from manufacturer's standard colors. For concealed materials, provide the natural color which has the best overall performance characteristics.

2.3.1.2 Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience.

2.3.1.3 Size and Shape: As shown or, if not shown as recommended by the manufacturer for the type and condition of joints, and for the indicated joint performance or movement.

2.4 ELASTOMERIC SEALANTS: For elastomeric sealants, comply with ASTM C920 requirements, including those for Type, Grade, Class and Uses.

2.4.1 One-Part Non-Acid Curing Silicone: Type S; Grade NS; Class 25; Uses NT, M, G, A, and, as applicable to joint substrates indicated.

2.4.1.1 Location: Exterior and interior vertical joints in masonry, concrete.

2.4.1.2 Provide "Dow Corning 791 or 795" by Dow Corning Corporation, GE "Silpruf", Spectrum 2 or 3 by Tremco, Pecora 865 or 895, or equal by listed manufacturer.

2.4.2 One-Part Mildew Resistant Silicone: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated.

2.4.2.1 Location: Formulated with fungicide for sealing interior joints with nonporous substrates around sinks, plumbing fixtures and between equipment or counters and walls.

2.4.2.2 Provide "Dow Corning 786" by Dow Corning Corporation, G.E. Sanitary 1700, Pecora 898, Tremco "Tremsil 200" white or clear, or equal by listed manufacturers.

2.4.3 Multi-Part Non-sag Urethane: Type M; Grade NS; Class 25; Uses NT, M, A, and, as applicable to joint substrates indicated.

2.4.3.1 Location: Outside and inside faces of exterior wall, door and window frames between wall and frame.

2.4.3.2 Provide "Dymeric240 or 511" by Tremco, Inc., "Dynatrol II" by Pecora Corporation, "Vulkem 922" by Mameco, or equal by listed manufacturers.

2.4.4 One-Part Nonsag Urethane: Type S; Grade NS; Class 25; Uses NT, M, A, and, as applicable to joints substrates.

2.4.4.1 Location: Metal flashings and reglet joints.

2.4.4.2 Provide "Dymonic" by Tremco, Inc., "Vulkem 921 or 931" by Tremco, "Dynatrol I-XL" by Pecora, or equal by listed manufacturers.

2.4.5 Two-Part Pourable Urethane: Type P; Grade NS; Class 25; Uses T, M, A, and, as applicable to joint substrates.

2.4.5.1 Location: Exterior sidewalks and all interior floor joints.

2.4.5.2 Provide "Vulkem 245" by Tremco, THC 900/901 by Tremco, Pecora Urexpan NR-200 or Pecora Dynatrol II-SG (Grade P) or Pecora Dynatred (Shore A or +40 - Grade NS), or equal by listed manufacturers.

2.5 LATEX SEALANTS:

2.5.1 Acrylic Emulsion: One part, nonsag, mildew resistant, acrylic emulsion sealant complying with ASTM C834, paintable, recommended by manufacturer for exposed interior applications.

2.5.1.1 Location: Use for all interior joints in field painted vertical and overhead joints not indicated otherwise.

2.5.1.2 Provide "AC-20" by Pecora Corporation, No. 834 by Tremco or equal by listed manufacturers.

2.6 NOT USED

2.7 BOND BREAKER: Polyethylene tape or making tape as recommended by the sealant manufacturer.

2.8 SOLVENTS, CLEANING AGENTS: and other accessory materials shall be as recommended by the sealant manufacturer. They should not be used in enclosed non-ventilated spaces.

2.9 CAULKING: Where specifically called for on the Drawings, shall be “Plastoid” Type C, Pabco “White Hydroseal”, or approved equal conforming to Fed. Spec. TT-C-00598C.

2.10 JOINT CLEANER: Non-corrosive, non-staining type and compatible with joint forming materials.

2.11 CAULKING TAPE: Extruded Butyl Sealing Tape, Inco No. 7516 or pre-approved equal.

2.12 FIRE CAULKING: Fire Caulking shall be pre-approved sealant such as “3M Fire Caulking”, manufactured by 3M Products.

PART 3 – EXECUTION

3.1 SURFACE CONDITION: Verify that joint surfaces to receive caulking or sealant are sound, smooth, clean, dry and free of moisture, dirt, dust or other visible contaminants that could interfere with adhesion or bond of the sealant. Applications of non-visible coatings or contaminants to surfaces of rabbet area prior to application of sealant are subject to control by Architect in consultation with sealant manufacturer.

3.2 INSPECTION

3.2.1 Surface Acceptance: Examine all surfaces to be sealed or caulked for acceptance.

3.2.1.1 Joint dimensions shall be inspected and reviewed to verify that they are in conformance with specifications and manufacturer’s requirements and are acceptable to receive sealant and backup materials.

3.2.1.2 Joint shall be of sufficient width and depth to accommodate specified backup material or preformed joint filler and sealants, but in no case shall sealant application be less than ¼ inch wide and ¼ inch deep, except as recommended by the manufacturer or otherwise approved by the Architect.

3.2.2 Do not Seal or Caulk Joints until they are in compliance with requirements of the approved manufacturer or materials, the details as shown on the drawings and the specified requirements of other sections of the specifications.

3.2.3 Inspect all existing window and door frames to be reglazed and recaulked to determine any damage which prevents sealants effectiveness. Clean all existing frames as required prior to caulking installation. Commencement of work means acceptance of the existing conditions.

3.2.4 Use only that caulking material that is best suited to the installation and is so recommended by the caulking material manufacturer for that application.

3.3 APPLICATION

3.3.1 Back Up: Install backup material or joint filler of type and size specified at proper depth in joint to provide sealant dimensions as detailed or as recommended by the manufacturer. Backup material shall be of suitable size and shape so that when compressed (25 to 50 percent), it will fit in joints as required. Sealant shall not be applied without backup material and, if necessity, bond breaker strip. When using backup or hose or rid stock, roll the material into the joint to avoid lengthwise stretching. Hose or rod stock shall not be twisted or braided.

3.3.1.1 Perform work in accordance with ASTM 2962 for Elastomeric and C790 for latex based sealants.

3.3.2 Bond Breaker: Use specified bond breaker strip between sealant and supporting type backup material. Bond breaker strip shall be used in all joints where sufficient room for backup does not exist or where required to prevent sealant bonding to undesirable surfaces.

3.3.3 Apply Masking Tape: Where required, in continuous strips in alignment with joint edge. Remove tape immediately after joints have been sealed and tooled as directed.

3.3.4 Prime surfaces to receive joint sealant with primer as recommended by sealant manufacturer. Do not apply primer to exposed finish surfaces.

3.3.5 Sealant: Do not use a sealant compound that has exceeded its shelf life or has become too jellied to be discharged in a continuous flow from the gun.

3.3.5.1 Apply sealant with a caulking gun, using proper nozzles. Use sufficient pressure to properly fill the joints with sealant to the back-up material.

3.3.5.2 After joints have been completely filled, they shall be neatly tooled to eliminate air pockets or voids and to provide a smooth, neat appearing finish in intimate contact with interfaces. After tooling, surface at sealant shall be free of ridges, wrinkles, sags, air pockets, and embedded impurities. When tooling white or light color sealants, use clean water, wet or dry tool or tooling solution recommended by sealant manufacturer.

3.3.5.3 Apply at recommended application temperatures.

3.3.5.4 Install sealant free of air pockets, bubbles, foreign matter, ridges or sags.

3.3.5.5 Tool joints concave.

3.3.6 Caulk all exterior joints and openings in the building envelope that are obscurable sources of air infiltration.

3.3.7 Measurable joint dimensions and size materials to achieve required width/depth ratios.

3.3.8 Sealant Schedules

3.3.8.1 Exterior

3.3.8.1.1 PM frames, metal doors, steel and aluminum windows, dissimilar materials, sheet metal flashings and constructions, cap flashings, gutters, downspouts, vents, louvers, etc.

3.3.8.1.2 Thresholds

3.3.8.1.3 At all other conditions indicated on the drawings.

3.3.8.2 Interior

3.3.8.2.1 Glass Glazing, Steel and Aluminum Frames, PM Frames and Metal Doors.

3.3.8.2.2 Base of FRP and ceramic tile walls in kitchens and restrooms.

3.3.8.2.3 At concrete curbs at all cooler boxes and freezer boxes.

3.3.8.2.4 At all restroom wall penetrations such as grab bars, towel bars, soap dishes, for moisture protection of structural elements.

3.3.8.2.5 At all other conditions indicated on the drawings.

3.3.8.2.6 At all drinking fountains, stainless steel countertops, back-splashes, and work top against walls.

3.3.8.2.7 Thresholds and stainless steel flashings in all prep rooms and wets areas.

3.3.8.2.8 Dissimilar materials.

3.3.8.2.9 Thresholds and stainless steel flashings in all prep rooms and wet areas.

3.4 PREPARATION OF SURFACES

3.4.1 General: Thoroughly clean all joints, removing all foreign matter such as dust, oil, grease, water, old sealants, paint, surface dirt, etc. Sealant must be applied to the base surface.

3.4.2 Porous Material such as concrete or masonry shall be cleaned where necessary by grinding, sand or water blast cleaning, mechanical abrading, acid washing, or a combination of these methods as required to provide a clean, sound base surface for sealant adhesion.

3.4.2.1 Laitance shall be removed by acid washing, grinding or mechanical abrading.

3.4.2.2 Form oils, release agents or chemical retardants shall be removed by sand or water blast cleaning.

3.4.2.3 Loose particle present or resulting from grinding, abrading or blast cleaning shall be removed by blowing out joints with compressed air (oil-free) prior to application of primer or sealant.

3.4.2.4 Sealants shall not be applied to masonry joints where water repellent or masonry preservative has been applied. Waterproofing treatments shall be applied after sealants and caulking when called for.

3.4.3 Nonporous Surfaces such as metal and glass shall be cleaned either mechanically or chemically. Protective coatings on metallic surfaces shall be removed by a solvent that leaves no residue. Solvent shall be used with clean white cloths or lint free paper towels and wiped dry with clean, dry white cloths or lint free paper towels. Do not allow solvent to air dry without wiping. Joint areas protected with masking tape or strippable films shall be cleaned as above after removal of tape or film.

3.4.4 Sealant Preparation: Do not modify the sealant by addition of liquids, solvents or powders. Mix multi-component Elastomeric sealants in accordance with manufacturer's printed instructions.

3.4.5 Perform preparation in accordance with sealant manufacturer's recommendations.

3.4.6 Protect surrounding areas from damage or disfiguration.

3.4.7 Do not caulk under weather conditions or sun conditions potentially harmful to the set and curing of the caulking material.

3.4.8 Joint Backing: In joints where depth of joint exceeds required depth of sealant, install joint backing to provide backing and uniform depth of sealant.

3.5 CLEAN-UP

3.5.1 Immediately clean adjacent surfaces free of sealant or soiling resulting from this work as work progresses. Use a solvent or cleaning agent as recommended by the sealant manufacturer. All finished work shall be left in a neat clean condition.

3.5.2 Remove masking tape immediately after tooling joints, leaving finished work in a neat and clean condition.

3.5.3 Upon completion of the work of this section, remove all resulting surplus materials, rubbish and debris from the premises.

3.5.4 Repair or replace defaced or disfigured work caused by this section.

3.6 PROTECTION AND CURE

3.6.1 Protect all sealants until cured.

3.6.2 Do not paint until cured. Do not paint silicone sealants at any time.

3.6.3 Cure sealants in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.

3.6.4 Protect joint sealers during the construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at the time of Owner's acceptance.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. All exterior Architectural Performance Class (AW) windows furnished and installed as shown on drawings, specified in this section and designated in AAMA/WDMA/CSA 101/I.S.2/A440-2011 North American Fenestration Standard (NAFS-2011).

2. All labor, materials, tools, equipment and services needed to furnish and install AW Class windows.

3. Components furnished with installed windows.

4. Installation accessories furnished and installed.

1.02 REFERENCES

A. Refer to NAFS-2011 for a complete list of references and industry standards.

1.03 SYSTEM DESCRIPTION AND PERFORMANCE REQUIREMENTS

A. Design Wind Loads - Allowable Stress Design (ASD)

1. The design wind pressure for the project will be: 35 PSF (115 MPH Wind Speed)

2. All structural components, including meeting rails, mullions and anchors shall be designed accordingly, complying with deflection and stress requirements of Paragraph 1.03.B.

B. Air, Water and Structural Performance Requirements

1. When tested in accordance with cited test procedures, windows shall meet or exceed the following performance criteria, as well as those indicated in NAFS-2011 for Architectural AW Performance Class windows, Performance Grade 100 (AW100) unless otherwise noted herein.

a. Test units shall not be smaller in either width or height than the “Gateway Test Size” specified in NAFS-2011 for AW Performance Class.

b. “Downsize” testing to meet Optional Performance Class requirements specified herein shall not be permitted.

c. Testing to previous, less stringent versions of NAFS shall not be acceptable.

d. Test units shall employ manufacturer’s standard sealing, lock spacing and anchorage.

2. Air Test Performance Requirements

a. Air infiltration maximum 0.1 cfm per square foot at 6.24 psf pressure differential when tested in accord with ASTM E283.

3. Water Test Performance Requirements

a. No uncontrolled water leakage at 15.00 psf static pressure differential, with water application rate of 5 gallons/hr/sq ft when tested in accord with both ASTM E331 and ASTM E547. Static water test shall be repeated after application of design test pressures.

4. Structural Test Performance Requirements

a. Uniform Load Deflection Test

i. No deflection of any unsupported span L of test unit (framing rails, muntins, mullions, etc.) in excess of L/175 at both a positive and negative load of 100 psf (design test pressure) when tested in accord with ASTM E330

b. Uniform Load Structural Test

i. Unit to be tested at 1.5 x design test pressure, both positive and negative, acting normal to plane of wall in accord with ASTM E330.

ii. No glass breakage; permanent damage to fasteners, hardware parts, or anchors; damage to make windows inoperable; or permanent deformation of any main frame or ventilator member in excess of 0.2% of its clear span.

C. Life Cycle Testing

1. When tested in accordance with AAMA 910-10, there is to be no damage to fasteners, hardware parts, support arms, activating mechanisms or any other damage that would cause the window to be inoperable at the conclusion of testing.

a. Air infiltration and water resistance tests shall meet the primary performance requirements specified after completion of 4000 operational cycles plus thermal cycling.

b. Testing to previous, less stringent versions of AAMA 910 shall not be acceptable.

D. Condensation Resistance and Thermal Transmittance Performance Requirements

1. Perform thermal tests in accordance with NFRC 102 and/or AAMA 1503, or provide finite element computer thermal modeling and calculations per NFRC 100, NFRC 705 or AAMA 507, using DOE/LBL THERM, WINDOW, and/or CMAST software.

a. Thermal Transmittance (U-Factor) for the overall window area shall be less than or equal to .59 BTU/hr/sf/ºF.

b. Solar Heat Gain Coefficient (SHGC) for the overall window area shall not exceed ___0.33_.

c. Condensation Resistance Test: (CRF) when tested in accordance with AAMA 1503.1-88, the condensation resistance factor shall not be less than 51.

E. Acoustic Performance Requirements

1. Perform acoustical tests in accordance with ASTM E90 and ASTM E1425 on the glass type(s) specified in 08 80 00, rigidly supported in aluminum framing of the same product type.

2. “Glass-only” test results shall not be acceptable.

3. Sound Transmission Class (STC) shall be between 28-32.

1.04 SUBMITTALS

A. General Requirements

1. Provide all submittals in a timely manner to meet the required construction completion schedule.

B. Shop Drawings

1. Shop drawings must be prepared wholly by the window manufacturer, or a qualified engineering services firm under the guidance of the manufacturer. Shop drawings for pre-engineered configurations may be prepared by installers upon written manufacturer consent.

2. Provide design details along with bid proposals to define system aesthetic and functional characteristics.

3. Provide up to three photocopied sets of shop drawings, including half size details of all necessary conditions.

C. Samples

1. Components: Submit samples of anchors, fasteners, hardware, assembled corner sections and other materials and components as requested by Architect.

2. Finish: Submit color samples for Architect's approval as requested.

D. Test Reports and Calculations

1. Submit certified independent laboratory test reports verifying compliance with all test requirements of 1.03.

2. Submit structural calculations indicating adequacy of all materials furnished under this section, in meeting the uniform and structural load requirements as specified in 1.03A.

1.05 QUALITY ASSURANCE

A. Qualifications: Upon request, the window manufacturer shall provide written consent for the installation subcontractor to install window products to be used on this project.

B. In-Plant Testing: Conduct detailed quality audits and ASTM E331 static water infiltration testing on a minimum of 4% of factory-glazed windows prior to shipping, subject to reasonable unit size restrictions.

1. Each tested unit shall be identified with a removable sticker on the inside glass face.
2. Provide detailed documentation of in-plant testing upon request.

1.06 DELIVERY, STORAGE AND HANDLING

A. Packing, Shipping, Handling and Unloading

1. Materials will be packed, loaded, shipped, unloaded, stored and protected in accordance with AAMA CW-10.

1.07 WARRANTY

A. Aluminum Window Warranty

1. Products: Submit a written warranty, executed by the window manufacturer, for a period of 10 years from the date of manufacture, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which result in premature failure of the windows, finish, factory-glazed glass, or parts, outside of normal wear.

2. In the event that windows or components are found defective, manufacturer will repair or provide replacement material without charge at manufacturer's option.

3. Warranty for all components must be direct from the manufacturer (non pass-through) and non pro-rated for the entire term. Warranty must be assignable to the non-residential owner, and transferable to subsequent owners through its length.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer

1. Drawings and specification are based on:

a. Wausau Window and Wall Systems – 2250i-XLT and 4250i-XLT RETRO Series Fixed, Projected and/or Casement Windows with extended thermal separation.

b. Base bid will be Wausau Window and Wall Systems.

2. Substitutions

a. Other manufacturers' products that meet or exceed specified design requirements may be considered. Submit the following information with request for substitutions at least ten (10) working days prior to bid date.

i. Test reports specified in 1.03.

ii. Full proposal details and samples specified in 1.04.

iii. Copy of manufacturer's warranty specified in 1.07.

iv. Proof of at least 10 years experience in the design and fabrication of AW Performance Class windows.

v. Other information as requested for evaluation

3. Substitute products not pre-approved by the Architect via addenda will not be considered.

4. Clear preference will be given to products produced in LEED®-certified manufacturing facilities.

2.02 MATERIALS

A. Aluminum Framing Members

1. Extruded aluminum billet, 6063-T5 or T6 alloy for primary non-radius components; 6063-T5 or T6, 6005-T5, 6105-T5 or 6061-T6 for anchor components; all meeting the requirements of ASTM B221.
2. Aluminum sheet alloy 5005-H32 (for anodic finishing), or alloy 3003-H14 (for painted or unfinished sheet) meeting the requirements of ASTM B209.

3. Principal window frame and sash ventilator members will be a minimum 0.125" in thickness at hardware mounting locations.

4. Extruded or formed trim components will be a minimum 0.060" in thickness.

5. Frame depth 3 7/8" minimum.

6. Sash ventilator sections must be tubular, and close flush with adjoining frame surfaces at interior and exterior.

   a. Overlap sash ventilators will not be accepted.

7. Exterior sightlines at perimeter framing members shall not exceed 3".

9. Glass plane shall be recessed 1" from exterior plane of window members. Framing members shall have a sloped profile at glazing rebates as shown on architectural details.

2.03 COMPONENTS

A. Hardware

1. All steel components including attachment fasteners to be stainless steel except as noted.

2. Extruded aluminum components 6063-T5 or -T6.

3. Thermo-plastic or thermo-set plastic caps, housings and other components to be injection-molded nylon, extruded PVC, or other suitable compound.

B. Sealants

1. All sealants shall comply with applicable provisions of AAMA 800 and/or Federal Specifications FS-TT-001 and 002 Series.

2. Frame joinery sealants shall be suitable for application specified and as tested and approved by window manufacturer.

C. Glass

1. Provide in accordance with Section 08 80 00.

2. Sealed insulated glass shall be tested and certified in accord with ASTM E2190.

D. Glazing

1. Provide in general accordance with Section 08 80 00.

2. Glazing method shall be in general accordance with the GANA Glazing Manual for specified glass type, or as approved by the glass fabricator.

E. Glazing Materials

1. Setting Blocks/Edge Blocking: Provide in sizes and locations recommended by GANA Glazing Manual. Setting blocks used in conjunction with soft-coat low-e glass shall be silicone.
2. Back-bedding tapes, expanded cellular glazing tapes, toe beads, heel beads and cap beads shall meet the requirements of applicable specifications cited in AAMA 800.

3. Glazing gaskets shall be non-shrinking, weather-resistant, and compatible with all materials in contact.

4. Structural silicone sealant where used shall meet the requirements of ASTM C1184.

5. Spacer tape in continuous contact with structural silicone shall be tested for compatibility and approved by the sealant manufacturer for the intended application.

6. Gaskets in continuous contact with structural silicone shall be extruded silicone or compatible material.

F. Steel Components

1. Provide steel reinforcements as necessary to meet the performance requirements of 1.03.

2. Concealed steel anchors and reinforcing shall be factory painted after fabrication with TGIC powder coating, or rust-inhibitive primer complying with Federal Specification TT-P-645B.

G. Muntins:

1. Provide muntin grids as shown on architectural drawings.

2. Finish to match window frames.

H. Panning: *(Optional)*
1. Provide extruded aluminum panning to receive replacement windows as shown on architectural drawings.
2. Panning shall be pre-assembled and all joinery back sealed prior to installation.
3. Finish to match window frames.

I. Receptors: *(Optional)*
1. Provide extruded aluminum receptors to receive windows, as shown on architectural drawings.
2. Finish to match window frames.

2.04 FABRICATION

A. General:

1. Finish, fabricate and shop assemble frame and sash ventilator members into complete windows under the responsibility of one manufacturer.

2. No bolts, screws or fastenings shall impair independent frame movement, or bridge the thermal barrier, unless such bridging was also present in thermal test units and thermal models.

3. Fabricate to allow for thermal movement of materials when subjected to a temperature differential from -30 °F to +180 °F.

B. Frames:

1. Cope and mechanically fasten each corner, or miter and weld, or corner block each corner; then seal weather tight.

2. Make provisions for continuity of frame joinery seals at extrusion webs.

C. Main Sash Ventilator

1. Miter all corners and mechanically stake over a solid extruded aluminum corner block, set and sealed in epoxy, leaving hairline joinery, then sealed weather tight.

2. Make provisions for continuity of sash ventilator joinery seals at extrusion webs.

D. Thermal Break Construction:

1. Continuous extruded polyamide with 25% glass fiber reinforcing, mechanically crimped into cross-knurled cavities.

2. Minimum thermal barrier width 24 mm.

3. Quality assurance records must be maintained and available as requested.

E. Weather-stripping:

1. Bulb- or fin-type neoprene, EPDM, dual-durometer PVC, polypropylene, TPE, or other suitable material as tested and approved by the window manufacturer.

2. Miter, crowd, stake or join at corners. Provide drainage to exterior as necessary.

3. Weather-stripping shall provide an effective pressure-equalization seal at the interior face of the sash ventilator.

2.05 FINISHES

A. Finish of Aluminum Components

1. Finish of all exposed areas of aluminum windows and components shall be done in accord with the appropriate AAMA Voluntary Guide Specification shown.

Fluorocarbon Coating: AAMA 2605.2.

a. Resin: 70% PVDF Kynar 500/Hylar 5000.

b. Substrate: cleaned and pretreated with chromium phosphate

c. Primer: Manufacturer’s standard resin base compatible coating. Dry film thickness.

(a) Extrusion: Minimum 0.20 mil.

d. Color Coat: 70% PVDF, dry film thickness.

(a) Extrusion: 0.20 mil.

e. Color: As selected by Architect.

f. Acceptable Coatings Manufacturers

(a) PPG Industries, Inc.

(b) Valspar Corporation

(c) BASF

PART 3 EXECUTION

3.01 EXAMINATION

A. Site Verification of Conditions

1. Verify that building substrates permit installation of windows according to the manufacturer's instructions, approved shop drawings, calculations and contract documents.

2. Do not install windows until unsatisfactory conditions are corrected.

3.02 INSTALLATION

A. Erection of Aluminum Windows

1. Install all windows with skilled workers in accordance with approved shop drawings, installation instructions, specifications, and the AAMA Commercial Window and Door Installation Manual.

2. Vent windows must be installed, and remain, plumb, square and level, to one-half of the unit shimming tolerances cited in the AAMA Commercial Window and Door Installation Manual, for proper weathering and operation.

3. Aluminum that is not organically coated shall be insulated from direct contact with steel, masonry, concrete or other dissimilar metals by bituminous paint, rust-inhibiting primer, non-conductive shims or other suitable insulating material.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Including exterior transparent and translucent coated spandrel glass glazing

B. Accessories: glazing clips, channels, compound and glazing beads, unless furnished with frame to be glazed as indicated on the Drawings and specified herein.

C. Related Work:

1. Requirements in Addenda, Alternates, Conditions, and Division 1 collectively apply to this work.
2. Contract Close-out: Section 01 77 00.
3. Selective Demolition: Section 02 41 19.
4. Rough Carpentry: Section 06 10 00.
5. Sealants and Caulking: Section 07 90 00.
6. Aluminum Windows Section 08 51 13.

1.2 SUBSTITUTIONS

Only written approval of the Architect, by Addenda or Change Order, will permit substitutions for materials specified. Refer to Section 01 25 13 - Product Options and Substitutions for procedure.

1.3 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies:
1. Codes:
a. Title 24 of California Code of Regulations.
b. California Building Code, (CBC) 2010 Edition.
2. Federal Regulations: Consumer Product Safety Commission (CPSC), Safety Standard for Architectural Glazing Materials, 16CFR, Part 1201.

B. Reference Standards:
1. American National Standards Institute (ANSI): ANSI Z97.1, Performance Specifications and Methods of Test for Safety Glazing Material Used In Buildings.
2. Federal Specification (FS):
a. FS DD-G-451 - Glass, Plate, Sheet, Figured (Flat, For Glazing, Mirrors and Other Uses).
b. FS DD-G-1403 - Glass, Plate (Float), Sheet, Figured, and Spandrel (Heat Strengthened and Fully Tempered).
c. FS TT-G-410 (superseded by ASTM C669-00) - Glazing Compound, Sash (Metal) for Back Bedding and Face Glazing (Not for Channel or Stop Glazing).
3. Other:
a. Flat Glass Marketing Association (FGMA).
b. National Association of Architectural Metal Manufacturers (NAAMM).
c. Underwriters Laboratories, Inc. (UL): Classified Products Directory.

d. SIGMA No. 64-7-2 - Specification for Sealed Insulating Glass Units.

1.4 SUBMITTALS

A. Submit in accordance with provisions of Section 01 33 13.

B. Samples: Submit in duplicate.
1. View glass, mirrors and spandrel glass.
2. Metal finishes; when requested by the Architect.
3. Each marked for specified glazing type.

C. Product Data: Manufacturer's descriptive data for glass and glazing materials.

D. Submit full range of manufacturer's pattern glass samples.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver glass with manufacturer's labels intact.

B. Deliver glazing compounds and sealants in manufacturer's unopened, labeled containers.

C. Do not remove paper labels until glass has been installed and checked by District's Inspector. Do not remove fire-rated labels under any circumstances.

D. Deliver plastic glazing with protective paper on both sides.

1.6 PROJECT CONDITIONS

A. Environmental Requirements:
1. Perform glazing when ambient temperature is above 40oF.
2. Perform glazing on dry surfaces only.

B. Sequencing, Scheduling:
1. Coordinate with Sections providing frames, openings or items to be glazed. Verify field dimensions prior to fabrication.

PART 2 - PRODUCTS

2.1 ACCEPTABLE GLAZING MANUFACTURERS

A. Glass and Glass Units:
1. Guardian Industries Corporation; Carleton, MI; 800-521-9040.
2. Libbey-Owens-Ford Co.; Los Angeles, CA; 800-522-9430.
3. PPG Industries; Pittsburgh, PA; 800-377-5267.
4. Viracon; Newport Beach, CA; 714-631-8361.
5. Oldcastle Glass, Santa Monica, CA; 866-653-2278.

B. Fire-rated Glass:
1. Technical Glass Products, Seattle, WA, Firelite Plus; 800-426-0279.

2. O'Keefe's/Saftifirst, SuperLite I (20 minutes), SuperLite I-XL (45 and 60) and SuperLite 2XL (45 to 180 minutes), San Francisco, CA; 888- 653-3333
3. Fire-rated glass to be UL or Intertek/Warnock Hersey, Inc. tested.

2.2 MATERIALS

A. General: All replacement glazing to match existing adjacent glazing as close as possible, unless noted otherwise.

B. Glazing Types:
1. Type 8 (Laminated Glazing): Two layers of 1/8" thick, temp, (1/4" inch low E, with grey light 20% tint and to notch existing.) laminated glazing with 0.03" thickness interlayer film meeting UL972 requirements.
a. Acceptable manufacturers and products:
1) Insulgard Coastguard by Insulgard No. CG416
2) Saflex Interlayer by Solutia, Inc.

C. Glazing Accessories: Conform to FGMA Glazing Sealing Systems Manual and/or printed recommendations by glazing manufacturers, whichever is most stringent, for the following:

1. Setting blocks: Neoprene; 70-90 Shore A durometer hardness.
2. Spacers: Neoprene; 50 Shore A durometer hardness.
3. Glazing points: Resilient polyvinyl chloride extruded shape to suit glazing channel retaining slot.
4. Glazing compound: FS TT-G-410 (supersede by ASTM C669-00); non-hardening; knife grade consistency DAP 1012 Glazing Compound or approved equivalent; factory color to match adjacent framing.
5. Silicone Sealant's TT-S-1543; single component; cured Shore A hardness of 15-25.
a. Tremco, General Electric, and Dow Corning sealant products are approved where use is documented and in accordance with the use and conditions of this project
6. Glazing tape: Preformed butyl compound; 10-15 Shore A hardness; coiled on release paper; black color.

2.3 FABRICATION

A. Fabricate to exact sizes required for each opening for tempered glass.

B. Fabricate per Code, FGMA, SIGMA and manufacturer's printed instructions.
1. Provide Code required edge clearances.
2. Tinted glass to have clean-cut edges.

C. Label glazing per Title 24, Section 2403.1 and 2406.2. Tempered glass to have permanently etched label.
D. Fire-rated glazing shall bear UL label.

E. Flat Glass:

1. Shall comply with ASTM C1036 Standard Specification for Flat Glass, Type 1, Class 1 (clear) or Class 2 (tinted, heat-absorbing and light reducing) and Quality q3

2. ASTM C 1048 Heat Treated Flat Glass, Kind HS or FT (remove ASTM Standard C 1048 if annealed glass), Condition A (uncoated), B (spandrel glass, one surface coated), or C (other coated glass

a. Heat Treated Flat Glass to be by horizontal (roller hearth) process with inherent roller wave distortion parallel to the bottom edge of the glass as installed exceptin the following applications; glass units with ceramic frit and base dimensions greater than 84", 1/2" thick glass and base dimensions greater than 84" and all other configurations with base dimensions >96".
b. Maximum peak to valley roller wave 0.003" (0.08mm) in the central area and 0.008" (0.20mm) within 11.3" (287mm) of the leading and trailing edge
c. For clear or low-iron glass 1/4" to 3/8" thick without ceramic frit or ink, maximum + or – 100 mD (millidiopter) over 95% of the glass surface.
d. Maximum bow and warp 1/32" per lineal foot (0.79mm).
e. All tempered architectural safety glass shall conform with ANSI Z97.1 andCPSC 16 CFR 1201.
f. For all fully tempered glass, provide heat soak testing conforming to EN14179 which includes a 2 hour dwell at 290°C±10°C.

F. Laminated Glass:

1. Shall comply with ASTM 1172 Standard Specification for Laminated ArchitecturalFlat Glass.
2. All laminated architectural safety glass shall conform with ANSI Z97.1 and CPSC 16 CFR 1201.
3. Laminated Glass products to be fabricated free of foreign substances and air or glass pockets in autoclave with heat plus pressure

3 - EXECUTION

3.1 EXAMINATION

A. Verify surfaces of glazing channels or recesses are clean, free of obstructions, and ready for work of this Section.

B. Glazing: Check for edge damage, face imperfections, proper size of factory fabricated items.

C. Beginning of installation means acceptance of substrate.

3.2 PREPARATION

A. Measurements for Field Fabrication:
   1. Measure size of frame to receive glazing.
   2. Compute actual glazing size, allowing for edge clearance.

B. Preparation of Surfaces:
   1. Remove protective coatings from surfaces, frames, and items to be glazed.
   2. Clean glazing and surfaces to be glazed, to remove dust, oil and contaminants, and wipe dry.

3.3 INSTALLATION

A. Conform to Code, FGMA, SIGMA, and manufacturer's printed recommendations.

B. Install safety glazing in locations shown, and where required by Title 24, Section 2406.1.

C.

D. Stops:
   1. Typically, locate the removable stop on the inside face.
   2. At building exteriors, set stop in a sealant bead to provide a weathertight seal.

E. Securely anchor stops and clips.

F. Entire installation to be watertight.

G. Promptly remove compound and sealant smears, and excess from joints.

3.4 ADJUSTING AND CLEANING

A. Adjustment: Replace defective or damaged work. Seal leaks.

B. Remove labels. Remove masking paper from plastic glazing just prior to final cleaning.

C. Do not use metal instrument or abrasive cleanser when cleaning plastic glazing or transparent mirror.

D. Clean paint and glazing compound from glass using same side of blade until replaced; do not turn blade over, which causes scratches.

E. Clean glazing to a bright finish.

END OF SECTION

PART 1 – GENERAL

1.01 REFERENCE

Requirements in Addenda, Alternates, Conditions, and Division 1 collectively apply to this work.

1.02 DESCRIPTION

A. Principal Work Items Are:

1. Expanded metal lathing for:
   a. Exterior cement plaster.
   b. Interior cement plaster backing for ceramic wall tile.
2. Metal trim for plaster.
3. Fasteners.
4. Accessories.
5. Sheathing paper.

B. Related Work Specified Elsewhere:

1. Rough Carpentry: Section 06 10 00.

1.03 SUBSTITUTIONS

Only written approval of the Architect will permit substitutions for materials specified. Refer to General Conditions and Section 01 25 13 - Product Options and Substitutions for procedure.

1.04 QUALITY ASSURANCE

A. Code References:

1. Requirements of Regulatory Agencies: Conform to CCR Titles 19, 24, CBC, 2016 Edition.
2. California Building Code (CBC) Chapters 7, 8 and Section 02507, 2016 Edition.
3.

B. Industry Standards:

1. Western Lathing and Plastering Drywall Industries Association, Inc. (WLPA) "Lathing and Plastering Specifications" (latest edition).
2. Federal Specification QQ-L-101 for metal lath.
3. Federal Specifications UU-B-790A for saturated kraft-sheathing paper.
4. Federal Specification QQ-W-461 for wire.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

Protect materials from dampness or wetting; store off floor.

1.06 JOB CONDITIONS

A. Sequencing, Scheduling:

1. Before concealing work of other Sections, ascertain that required inspections of such work have been made.

2. Coordinate this work with framing, plastering and related work of other Sections.

PART 2 - PRODUCTS

2.01 MATERIALS

A Standards: Conform to CBC, 2016 Edition Standard 47-4, Metal Lath, Wire Lath, Wire Fabric Lath and Metal Accessories.

B. Metal Lath:

1. General: Per Federal Specifications QQ-L-101, expanded copper bearing steel sheets. Coat lath with rust-inhibitive paint after fabrication typical; except where galvanized lath is specified.

2. Standard Expanded Metal Lath: Flat, diamond mesh, 3.4 lbs. per square yard.

3. 3/8" Rib Lath (at soffits): Similar to "Standard Expanded Metal Lath," but having a herringbone pattern with longitudinal ribs, 3.4 lbs. per square yard.

4. Self-Furring (Hump) Lath: similar to "Standard Expanded Metal Lath: but having staggered 1/4" indentations 3-1/2" apart horizontally and 2" apart vertically to hold the body of the lath away from backing material.

5. Rust inhibitive paint for all interior lath locations except at tile backing scratch coat walls.

6. Galvanized lath for all exterior walls, ceilings, soffits and tile backing scratch coats.

C. Sheathing Paper:

1. Saturated kraft paper per Federal Specification UU-B-790A, Type 1, Grade D, 60 minute.

2. Sheathing paper/waterproof backing: Composite polyethylene film and rubberized

asphalt, 40 mils thick. VYCOR Ice and Water Shield Membrane strips. W.R. Grade Co., or Mirafi WIP 300 HT. Use to flash all openings (windows, doors, etc.) in exterior plaster walls and below parapet caps.

3. Membrane shall meet or exceed ASTM D-1970-09.

4.

D. Wire:

1. General: Galvanized, soft annealed steel wire, Federal Specifications QQ-W-461, Class 1; W & M wire gauges.

2. Tie Wire: 16 gauge minimum.

3. Membrane shall meet or exceed ASTM D-1970.09.

E. Fasteners:

1. Screws:

a. Standards: per ASTM C1002-07.

b. Sizes: Self-drilling, self-tapping bulge head, No. 6, 1/2" minimum screw head or washer.

F. Metal Trim Accessories:

1. General: Western Metal as a standard, tight-coat galvanized, shapes as indicated, fitted with corner pieces and terminations as required. Shapes listed herein to be typical, except where indicated otherwise.

2. Control Joints: XJ15-3 by Keene Corporation or #100 by USG.

3. Outside Corner Reinforcement: Stucco-Lok.

4. Inside Corner Reinforcement: Cornerite, 3" leg.

5. Casing Beads: No. 66 typical, expanded flange, full depth of plaster indicated; others as shown.

6. Foundations Sill Screed: No. 7.

5. Special Aluminum Shapes: As manufactured by Fry Reglet, Alhambra, California or approved equal with factory applied Kynar Premium Finish in custom color selected by the Architect. Shown on Drawings as "Reveal", "Reveal Molding", "Drip Screed", "Vent Screed" and "F Molding". Provide custom fabricated inside/outside corner pieces and end closures. Provide with connector clip at butt joints. Factory fabricated intersections shall have 6" minimum legs.

G. Accessories; Access Doors:

1. Milcor as a standard quality; formed steel construction, continuous hinge, Phillips screwdriver operated cam lock, stainless steel.
2. Types:
    a. Typical: Style MS.
    b. Fire-Rated Construction: Where required.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine framing and other work which supports or abuts plaster.

B. Do not start work until unsatisfactory conditions are corrected.

3.02 APPLICATION; GENERAL:

Codes and Standards: Conform to CCR Titles 19, 24, and CBC, 2016 Edition and Chapters 7 and 8 and WLPA Standards.

3.03 APPLICATION; EXPANDED METAL LATH:

A. Required Locations: Apply at following areas.
    1. Cement plaster.
    2. Specifically indicated areas.
    3. Scratch coat for tile backing.

B. Lath Types:
    1. Lath with Rust-Inhibitive Paint:
        a. Required Locations: Typical for all interior locations.
        b. Types:
            1) Standard Expanded Metal lath: Typical locations.
            2) Self-Furring Lath: Over sheathing, steel tubes, and other solid backing materials.
            3) 3/8" Rib Lath: For spans from 17" to 24" maximum.
    2. Galvanized Lath:
        a. Required Locations:

1) Exterior cement plaster walls, ceilings and soffits.

2) Interior plaster scratch coat for tile backing.

b. Types:

Standard Expanded Metal Lath: Typical locations.

Self-Furring Lath: Over sheathing, steel tubes, concrete and other solid backing materials.

1) 3/8" Rib Lath: For spans from 17" to 24" maximum.

C. Lathing:

1. General: Apply lath with long dimensions at right angles to supports, stagger ends of sheets, lap at supports. Lap sides 1/2" minimum, ends 1" minimum; nest outside ribs at rib-lath. Tie side laps between supports, 18 gauge wire. On vertical surfaces, start at bottom and lath upward. Do not carry lath through intersections of horizontal and vertical surfaces.

2. Corners:

a. At inside corners, butt lath and reinforce with corner reinforcement tied to lath at 12" maximum on centers.

b. At outside corners, use corner reinforcement tied to lath at 12" maximum on centers.

3. Control Joints and other Accessories: Screw flanges to framing at 12" o. c. Lath shall break and lap over each flange of joint trim; tie lath to flange at 12" maximum centers.

4. Attachment to Steel tubes: Tack weld lath to tubes.

5. Typical Attachment: Screw to each support, at 6" maximum spacing.

6. Wire Attachment: 16 gauge "Butterfly Tie" to each support at 6" maximum centers.

7. Seismic Attachment to Horizontal Framing: In addition to typical attachment, provide additional attachment by the following method:

a. Typing Method, to Alternate Supports: Secure lath to alternate supports by a double-strand of tie wire, located 3" maximum from sheet edge, looped over one of the following:

1) Furring.

2) 8d common nails driven into each side joist, 2" above bottom.

3) 16d common nail driven horizontally through joist, 2" above bottom. Pull lath up tight; tie-twist wire ends together with 3 twists minimum.

8. Where plaster or tile finish continues onto abutting concrete surfaces, lap lath 6"

onto such surfaces and fasten securely using powder actuated fasteners at 6" maximum centers.

D. Sheathing Paper:

1. Required Locations: All areas on exterior vertical and sloping surfaces and at scratch-coat plaster tile backing.

2. Prior to lathing, install weatherboard fashion, starting from bottom. Lap sides 2" minimum, lap ends and corners 6" minimum, secure to supports.

3. Install continuous under lath and accessories.

3.04 METAL ACCESSORIES:

A. Required Locations, Typical:

1. Edge Trim: Install casing bead at all exposed plaster edges, or wherever plaster abuts other materials.

2. Corner Reinforcement: Install at all internal and external vertical and horizontal corners.

3. Control Joints:

a. Install joints where indicated on Drawings.

b. In addition to locations indicated, install control joints as required to divide plaster areas into panels of 100 SF maximum area, and 10'-0" maximum dimension and with a width to length ratio no greater than 1:2.

c. Install control joints with attachment only to edges of abutting sheets of lath, so that lath is not continuous or tied across the joint.

d. Where control joints are positioned parallel to framing members, install joints and/or provide additional framing members so that there is a supporting framing member on each side of joint, not more than 4" maximum away from joint center.

4. Other Trim: As indicated.

5. Provide sealant at all connector clips and butt joints.

B. Fastening: Fasten securely with wire or screws, 12" on center typical, to support, wire flange to lath. Set plumb, level and aligned.

3.05 ADJUSTMENT AND CLEANING:

A. Adjustment:

1. Check and make complete all attachments.
2. Sheathing Paper: Repair punctures.
3. Trim: Check and realign where displaced.

B. Clean-Up: Remove debris, excess material and equipment.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Portland cement plaster for installation over metal lath, concrete, and solid surfaces.

B. Pre-coated Form shapes.

C. Underlayment.

D. Accessories related to the installation.

1.02 RELATED REQUIREMENTS

A. Section 05 16 43 - Gypsum Sheathing Board

B. Section 07 25 01 - Weather-Resistive Membrane - First underlayment.

C. Section 09 22 36 - Metal Lath: Metal furring and lathing for plaster.

1.03 PERFORMANCE REQUIREMENTS

A. Design and install lath to limit deflection to the following:

1. Maximum Deflection of Vertical Assemblies: 1:360 under lateral point load of 100 lbs.

2. Maximum Deflection of Horizontal Assemblies: 1:240 deflection under dead loads and wind uplift.

1.04 SUBMITTALS

A. See Section 01 33 13 - Submittals Procedures.

B. Product Data: Provide data on plaster materials, characteristics and limitations of products specified.

C. Product Data: Provide data on furring and lathing components, structural characteristics, material limitations, and finish.

D. Samples: Submit two samples, 16 x 16 inch in size illustrating finish color and texture.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C 926.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

1.06 MOCK-UP

A. Construct mock-up of exterior wall, 10 feet long by 15 high, illustrating surface finish.

B. Locate where directed.

C. Mock-up may remain as part of the Work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Pre-coated Form shapes shall be delivered and stored in original packaging.

B. Store in a cool dry location and protect from direct sunlight, weather and damaging elements.

C. Temperature shall not be less than 40 F.

1.08 FIELD CONDITIONS

A. Do not apply plaster when substrate or ambient air temperature is under 50 degrees F or over 80 degrees F.

B. Maintain minimum ambient temperature of 50 degrees F during installation of plaster and until cured.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: OmegaFlex System by Omega Products.

B. Acceptable manufactuers:

1. La Habra.

2. Parex.

3. Substitutions: See Section 01 60 00 Product Requirements.

2.02 PLASTER MATERIALS

A. Portland Cement, Aggregates, and Other Materials: In accordance with ASTM C926.

B. Premixed Scratch Coat: Omega Fiberd Super Cement, 2-1/2 to 4 parts sand.

C. Premixed Brown Coat: Omega Fiberd Super Cement, 3 to 5 parts sand.

D. Premixed Finish Coat: OmegaFlex Fine 100% acrylic finish.

1. Base Primer & Level Coat: Polymer-modified cementitious adhesive and base coat.

a. FoamTek 30

E. Water: Clean, fresh, potable and free of mineral or organic matter that could adversely affect plaster.

2.03 PRE-COATED FOAM ARCHITECTURAL SHAPES

A. Equal to Pre-coated Foam Architectural Details as manufactured by Prime Stucco and Moldings, www.primestucco.com.

1. Trim: SB122.

2. Cornice: CR 124.

B. Description: EPS foam core precisely cut and preformed, then coated with a lightweight polymer modified acrylic-based flexible cementitious coating, having a fiberglass mesh embedded within. The final product has a smooth finish and is ready for installation and paint.

C. Materials:

1. Fiberglass Mesh: Self Adhesive Reinforcing Mesh weighing a minimum of 95 g/m2.

2. Styrofoam Core: A fire-rated, rigid expanded polystyrene (EPS) foam, conforming to physical properties of ASTM-C578. Type I.

D. Accessories:

1. Adhesive: High performance acrylic modified cementitious material available in pails and field mixed with type10 or 20 Portland cement at a 1 to 1 ratio or available in bags to be

field mixed with water using a ratio specified by shape manufacturer.

2. Primers shall be an acrylic based and color pigmented to compliment the color of the finish coat.

2.04 UNDERLAYMENT

A. First layer: See Section 07 25 01.

B. General: FS UU-B-790, Type I Grade D, Style 2 vapor-permeable paper; Manufacturer: Fortifiber Corp Super Jumbo Tex, 60 minute or equal.

C. Strip Flashing: For back-up at windows, doors, reveals, other openings and shown in drawings; See Section 07 60 00 Self-Adhering Flexible Flashing.

2.05 PLASTER MIXES

A. Over Solid Bases: Two-coat application, mixed and proportioned in accordance with ASTM C926.

B. Over Metal Lath: Three-coat application, mixed and proportioned in accordance with manufacturer's instructions.

C. Premixed Plaster Materials: Mix in accordance with manufacturer's instructions.

D. Mix only as much plaster as can be used prior to initial set.

E. Add color pigments to finish coat in accordance with manufacturer's instructions.

F. Mix materials dry, to uniform color and consistency, before adding water.

G. Protect mixtures from freezing, frost, contamination, and excessive evaporation.

H. Do not retemper mixes after initial set has occurred.

2.06 BONDING AGENT

A. As recommended by cement plaster manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify the suitability of existing conditions before starting work.

B. Concrete: Verify surfaces are flat, honeycomb are filled flush, and surfaces are ready to receive work of this section. Verify no bituminous, water repellent, or form release agents exist on concrete surface that are detrimental to plaster bond.

C. Metal Lath and Accessories: Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are in place.

D. Mechanical and Electrical: Verify services within walls have been tested and approved.

3.02 PREPARATION

A. Clean concrete surfaces of foreign matter. Clean surfaces using acid solutions, solvents, or detergents. Wash surfaces with clean water.

B. Roughen smooth concrete surfaces and apply bonding agent in accordance with manufacturer's instructions.

3.03 INSTALLING BUILDING PAPER

A. Apply building paper horizontally, in accordance with manufacturer's written instructions, with 2-inch overlap and 6-inch end laps.

B. Install strip flashings at openings, behind expansion joints, at corners and in accordance with manufacturer's written instructions.

3.04 PLASTERING

A. Apply premixed plaster in accordance with manufacturer's instructions.

B. Apply plaster in accordance with ASTM C926.

C. Apply liquid bonding agent directly over concrete surface in accordance with manufacturer's recommendation.

D. Two-Coat Application:

1. Apply first coat to nominal thickness of 3/8 inch.
2. Apply finish coat to nominal thickness of 1/8 inch.

E. Three-Coat Application Over Metal Lath:

1. Apply first coat to a nominal thickness of 3/8 inch.
2. Apply second coat to a nominal thickness of 3/8 inch.
3. Apply finish coat to a nominal thickness of 1/8 inch.

F. In exterior work, scribe contraction joints through entire plaster application at 10 feet on center each way or as indicated in drawings.

G. Moist cure base coats.

H. Apply second coat immediately following initial set of first coat.

I. After curing, dampen previous coat prior to applying finish coat.

J. Finish Texture: Provide a consistent appearance; use the following finishes in the locations indicated: Light Dash as defined by the PCA.

K. Avoid excessive working of surface. Delay troweling as long as possible to avoid drawing excess fines to surface.

L. Moist cure finish coat for minimum period of 48 hours.

3.05 INSTALLATION ARCHITECTURAL SHAPES

A. Install in accordance with manufacturer's written instructions, approved shop drawings and as detailed on drawings.

3.06 TOLERANCES

A. Maximum Variation from True Flatness: 1/8 inch in 10 feet.

END OF SECTION

NO SUBSTITUTION

PART 1 – GENERAL:

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general conditions and Division 1 specifications sections which apply to work of this section as if printed herein.

1.1 SUMMARY

1.1.1 Work includes complete preparation and finishing of all surfaces as indicated in the plans and specifications except surfaces specifically excluded.

1.1.2 Surfaces not to be painted unless otherwise specified:

1.1.2.1 Aluminum, Copper, Brass, Stainless Steel, Nickel or Chrome.

1.1.2.2 Finish hardware.

1.1.2.3 Acoustical ceilings.

1.1.2.4 Flooring.

1.1.2.5 Electrical fixtures and receptacles.

1.1.2.6 Exterior concrete pavements.

1.1.2.7 Toilet compartments and accessories.

1.1.2.8 All items with complete factory finish, except mechanical and electrical items as specified herein.

1.1.2.9 Code required labels, equipment identification and performance rating plates.

1.1.2.10 Items in mechanical rooms.

1.1.2.11 Other surfaces as indicated on the drawings.

1.1.3 Related Work:

1.1.3.1 Section 085113 – Aluminum Windows

1.2 SUBMITTALS

1.2.1 Submit digital submittal of a complete list of all materials proposed for use in the work, including manufacturer's technical data, identified by manufacturer's name and product number.

1.2.2 Submit for approval three (3) 8-½ inch by 11 inch samples of each color and finish. For natural and stained finishes, provide samples on type and quality of wood used on the product. Identify each sample as to color, finish type, and texture. Color shall be as selected by the Architect.

1.3 QUALITY ASSURANCE

1.3.1 Work, equipment and materials must conform to applicable Federal, State, and Local laws and regulations, including compliance with all air quality regulations applicable to the project location. Current manufacturer's material safety data sheets for all materials in use and/or stored at the project site must be on the site at all times.

1.3.2 Prepare sample wall areas as directed by the Architect. These areas will represent the standard of work for the project when approved.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 All materials shall be of the brand and quality specified and shall be delivered at the project site in clean, original, unopened, labeled containers bearing the manufacturer's name, type of paint and instructions for mixing and/or reducing.

1.4.2 Store materials as designated. Storage area shall be kept clean and neat at all times. All damage to storage area and surrounding areas shall be cleaned and repaired to new condition.

1.4.3 Rags, waste and combustible rubbish shall be stored in approved metal containers and removed daily from site. Take all necessary precautions to prevent fire.

1.4.4 Provide 1 gallon of paint for each type/color of paint used for extra stock.

1.5 PROJECT SITE CONDITIONS

1.5.1 Measure moisture content of surfaces using an electronic moisture meter. Do not apply materials unless moisture contents are below the following maximums:

1.5.1.1 Plaster – 8 percent

1.5.1.2 Gypsum Board – 12 percent

1.5.1.3 Masonry, Concrete and Concrete Block – 12 percent

1.5.1.4 Wood – 15 percent

1.5.2 Ensure surface temperature fall within recommendations of the material manufacturer.

1.5.3 Do not apply materials during fog, rain or mist, or when inclement weather is expected within the dry time specified by the manufacturer.

1.6 SEQUENCING AND SCHEDULING

1.6.1 Backpriming of all wood items to be set against concrete, masonry or plaster shall be performed, scheduled and coordinated to avoid delays in installation.

1.6.2 Priming of walls scheduled to receive wall covering shall be performed and scheduled to facilitate dry time prior to wall covering installation.

1.7 MAINTENANCE

1.7.1 Provide Owner with unopened, clearly labeled containers of each type and color of finish material installed for maintenance use. Quantities provided shall be a minimum of 2 percent of quantities actually applied, but not less than 1 gallon each.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.1.1 Materials necessary to complete the painting and finishing schedule as specified herein are taken from the stock list of the Architectural finishes of Vista Paint Corporation (no substitution), and are standards for kind, quality and function.

2.2 MATERIALS

2.2.1 All materials shall conform to specified standards of quality and shall be of fresh stock, unused, free of defects and imperfections. Where two (2) or more identical or compatible materials are required, they shall be of the same manufacture.

2.2.2 Materials shall be ready-mixed except field catalyzed coatings. Field tinting of materials will not be permitted.

2.2.3 Materials shall have good flowing and brushing characteristics and dry or cure free from streaks or sags.

2.2.4 Paint accessory materials such as putty, spackle, thinners, reducers and shellacs shall be of the highest quality and fully compatible with the specified materials.

PART 3 – EXECUTION

3.1 EXAMINATION

3.1.1 Thoroughly examine surfaces scheduled to be painted prior to commencement of work. Report in writing to the Architect any condition that may potentially affect proper application and appearance. Do not commence until such defects in have been corrected.

3.1.2 Where directed by the Architect, correct defects in surfaces which may adversely affect work of this section.

3.2 PROTECTION

3.2.1 Protect unpainted surfaces, lawns, shrubbery and adjacent surfaces against paint and damage. Repair damage resulting from inadequate protection.

3.2.2 Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or splatter from foul surfaces not being painted.

3.2.3 Remove electrical plates, surfaces hardware and related fittings prior to commencement of work. Carefully store, clean and replace these items on completion of work in each area.

3.2.4 Protect all surfaces, equipment and fixtures from damage resulting from use of fixed, movable and hanging scaffolding, planking, and staging. Repair damage resulting from inadequate protection.

3.3 PREPARATION

3.3.1 Concrete surfaces shall be dry, clean and free from efflorescence, encrustations and other foreign matter. Any glazed surface shall be slightly roughened or etched. Curing compounds, bond breakers, release agents and other coatings shall be removed with a light sandblast or high pressure power wash.

3.3.2 Remove dirt, loose mortar, scale, powder and other foreign matter from concrete block surfaces which are to be painted or treated with a clear sealer.

3.3.3 Remove mildew from affected surfaces with a solution of Tri-Sodium Phosphate and bleach.

3.3.4 Rinse with clean water and allow to dry completely.

3.3.5 Remove all oils and contamination from galvanized and aluminum surfaces scheduled to be painted by washing with mineral spirits.

3.3.6 Remove grease, rust, scale, dirt, and dust from ferrous metal surfaces. Prime coating shall be performed not less than 30 minutes, not more than 3 hours after preparation.

3.3.7 Sand and scrape shop primed metal to remove loose primer and rust. Touch up bare, abraded and damaged areas with 910 Red Oxide Primer. Feather edges to make touch up patches inconspicuous.

3.3.8 Remove dust, grit and foreign matter from wood surfaces. Sand surfaces and dust clean. Spot coat knots, pitch streaks and sappy section with 4200 Terminator II when surfaces are to be painted. Fill nail holes, cracks and other defects after priming and spot prime repairs when fully cured.

3.3.9 Plaster surfaces shall be dry and free from efflorescence, encrustations and foreign matter. Fill cracks, holes and imperfections, smoothing repairs to match adjacent texture. Allow repairs to fully cure before priming.

Gypsum drywall shall be dusted clean and free from encrustations and other foreign matter.

3.3.10 Existing surfaces to be recoated shall be thoroughly cleaned and deglossed by sanding or other means prior to priming and painting. Patched and bare areas shall be spot primed with the same paint as specified for new work.

3.3.11 Preparation of other surfaces shall be performed following specific recommendations of the coating manufacturer.

3.4 APPLICATION

3.4.1 All work shall be executed in strict accordance with manufacturer's printed directions for materials used. Use application equipment and techniques best suited for substrate and type of material being applied.

3.4.2 All materials shall be applied smoothly without runs, sags, skips, holidays or other defects.

3.4.3 Enamels and varnishes shall be lightly sanded between coats, dusted and wiped clean before recoating.

3.4.4 Back prime all wood to be set against concrete, masonry or plaster.

3.4.5 Allow each coat to dry completely before applying succeeding coat.

3.4.6 Each coat of paint is to be slightly darker than preceding coat unless otherwise approved by the Architect.

3.4.7 Number of coats specified are minimum that shall be applied. Additional coats shall be applied when undercoats, strains, cloudy or mottled conditions or other defects appear in the finish, until the paint film is of a uniform finish, color and appearance.

3.5 INSPECTION

3.5.1 All work shall be subject to approval by the Architect. Work not in compliance with specifications shall be properly and promptly corrected.

3.6 PROTECTION

3.6.1 Provide "Wet Paint" signs, barricades and other items required to protect newly finished surfaces. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

3.6.2 At the completion of work of other trades, touch-up and repair all damaged and defaced surfaces.

3.7 FINISHING SCHEDULE – EXTERIOR

CONCRETE – EXTERIOR PLASTER

FLAT:		
First Coat	4600	Uniprime II (100% Acrylic)
Second Coat	2000	Duratone (100% Acrylic)
Third Coat	2000	Duratone (100% Acrylic)
First Coat	4600	Uniprime II (100% Acrylic)
Second Coat	1000	Duraglide (Vinyl Acrylic)
Third Coat	1000	Duraglide (Vinyl Acrylic)
First Coat	4600	Uniprime II
Second Coat	500	Solotex Multi-Mil Acrylic Elastomeric
Third Coat	500	Solotex Multi-Mil Acrylic Elastomeric
	OR	
Second Coat	1900	Weather Master Acrylic Elastomeric
Third Coat	1900	Weather Master Acrylic Elastomeric
EGGSHELL:		
First Coat	4600	Uniprime II (100% Acrylic)
Second Coat	8000	Carefree Eggshell (100% Acrylic)
Third Coat	8000	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	4600	Uniprime II (100% Acrylic)

Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	4600	Uniprime II (100% Acrylic)
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
First Coat	4600	Uniprime II
Second Coat	9000	Proformer (Alkyd)
Third Coat	9000	Proformer (Alkyd)
(Industrial Use Only)		
First Coat	4600	Uniprime II (100% Acrylic)
Second Coat	5900	Protec (Alkyd)
Third Coat	5900	Protec (Alkyd)

MASONRY – BLOCK – BRICK

FLAT:		
First Coat	040	Block Kote (100% Acrylic)
Second Coat	2000	Duratone (100% Acrylic)
Third Coat	2000	Duratone (100% Acrylic)
First Coat	040	Block Kote (100% Acrylic)
Second Coat	1000	Duraglide (Vinyl Acrylic)
Third Coat	1000	Duraglide (Vinyl Acrylic)
First Coat	4600	Uniprime II
Second Coat	500	Solotex Multi-Mil Acrylic Elastomeric
Third Coat	500	Solotex Multi-Mil Acrylic Elastomeric
	OR	
Second Coat	1900	Weather Master Acrylic Elastomeric
Third Coat	1900	Weather Master Acrylic Elastomeric
EGGSHELL:		
First Coat	040	Block Kote
Second Coat	8000	Carefree Eggshell (100% Acrylic)
Third Coat	8000	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	040	Block Kote
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	040	Block Kote
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
First Coat	040	Block Kote
Second Coat	9000	Proformer (100% Acrylic)
Third Coat	9000	Proformer (100% Acrylic)
(Industrial Use Only)		

First Coat	040	Block Kote
Second Coat	5900	Protec (100% Acrylic)
Third Coat	5900	Protec (100% Acrylic)

WOOD: SMOOTH – ROUGH SAWN – HARDBOARD - SIDING

FLAT:

First Coat	4200	Terminator II
Second Coat	2000	Duratone (100% Acrylic)
Third Coat	2000	Duratone (100% Acrylic)

First Coat	4200	Terminator II
Second Coat	3000	Acribond (Acrylic Stain)
Third Coat	3000	Acribond (Acrylic Stain)

EGGSHELL:

First Coat	4200	Terminator II
Second Coat	8000	Eggshell (100% Acrylic)
Third Coat	8000	Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4200	Terminator II
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100%) Acrylic)

GLOSS:

First Coat	4200	Terminator II
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)

First Coat	4200	Terminator II
Second Coat	9000	Proformer (Alkyd)
Third Coat	9000	Proformer (Alkyd)

(Industrial Use Only)

First Coat	4200	Terminator II
Second Coat	5900	Protec (Alkyd)
Third Coat	5900	Protec (Alkyd)

WOOD: STAINED

Acrylic (Solid Bodied):

One Coat	3000	Acribond (100% Acrylic)

Alkyd (Solid Bodied):

One Coat		Olympic Solid Bodied Stain Distributed by Vista Paint Corporation

Alkyd (Semi-Transparent):

One Coat		Olympic Solid Bodied Stain Distributed by Vista Paint Corporation

METAL: FERROUS – IRON – STEEL

FLAT:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	2000	Duratone (100% Acrylic)
EGGSHELL:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8000	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	7900	Premogloss (100% Acrylic)

METAL: NON-FERROUS – GALVANIZED – ALUMINUM

First Coat	999	Metal Prime White
Second Coat	8500	Carefree Gloss
Third Coat	8500	Carefree Gloss
(Industrial Use Only)		
First Coat	999	Metal Prime White
Second Coat	5900	Protec (Alkyd)
Third Coat	5900	Protec (Alkyd)
FLAT:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	2000	Duratone (100% Acrylic)
EGGSHELL:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8000	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White (Alkyd)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	7900	Premogloss (100% Acrylic)

First Coat	999	Metal Prime White
Second Coat	8500	Carefree Gloss
Third Coat	8500	Carefree Gloss
(Industrial Use Only)		
First Coat	999	Metal Prime White
Second Coat	5900	Protec
Third Coat	5900	Protec

3.8 FINISHING SCHEDULE – INTERIOR

DRYWALL – GYPSUM – WALLBOARD

SEMI-GLOSS:		
First Coat	1100	Hi-Build PVA Sealer (100% Acrylic)
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
First Coat	6000	Earth Coat Primer (100% Acrylic)
Second Coat	6400	Earth Coat Semi-Gloss (100% Acrylic)
Third Coat	6400	Earth Coat Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	1100	Hi-Build PVA Sealer (100% Acrylic)
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
First Coat	1100	Hi-Build PVA Sealer
Second Coat	8500	Carefree Gloss
Third Coat	8500	Carefree Gloss
(Industrial Use Only)		
First Coat	1100	Hi-Build PVA Sealer
Second Coat	5900	Protec (Alkyd)
Third Coat	8500	Protec (Alkyd)

WOOD

FLAT:		
First Coat	088	Enamel Undercoater
	OR	
	188	Acrylic Primer
Second Coat	8100	Carefree Flat (100% Acrylic)
Third Coat	8100	Carefree Flat (100% Acrylic)
	OR	
	188	Acrylic Primer
Second Coat	8200	Carefree Velva Sheen (100% Acrylic)
Third Coat	8200	Carefree Velva Sheen (100% Acrylic)
EGGSHELL:		
First Coat	088	Enamel Undercoater
	OR	
	188	Acrylic Primer
Second Coat	8000	Carefree Eggshell (100% Acrylic)

Third Coat	8000	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	088	Enamel Undercoater
	OR	
	188	Acrylic Primer
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	088	Enamel Undercoater
	OR	
	188	Acrylic Primer
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
First Coat	088	Enamel Undercoater
Second Coat	8500	Carefree Gloss
Third Coat	8500	Carefree Gloss
(Industrial Use Only)		
First Coat	088	Enamel Undercoater
Second Coat	5900	Protec (Alkyd)
Third Coat	5900	Protec (Alkyd)

METAL: FERROUS – IRON – STEEL

FLAT:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8100	Carefree Flat (100% Acrylic)
LOW SHEEN:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8200	Carefree Velva Sheen (100% Acrylic)
EGGSHELL:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8000	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	999	Metal Prime White
Second Coat	4500	Galva-Poxy White
Third Coat	7900	Premogloss (100% Acrylic)
First Coat	999	Metal Prime White
Second Coat	9000	Proformer

Third Coat	9000	Proformer
First Coat	999	Metal Prime White
Second Coat	5900	Protec
Third Coat	5900	Protec

END OF SECTION

PART 1 - GENERAL

Related Sections: 01 33 13 Submittals PART

2 - PRODUCTS

2.1 MANUFACTURERS

Basis of Design: Mariak Series 3000-3200 Heavy Duty Headrail System, www.mariak.com, Rancho Dominguez, CA, or equal.

2.2 BLINDS AND BLIND COMPONENTS

A. Vertical Louver Blinds: Horizontal travel, vertical louver units complete with tracks, pivot and traversing mechanisms, and accessories, as follows:
   1. Louvers: PVC louver blades of the size indicated.
   2. Operation: Manual.
   3. Direction of Travel: As indicated on the drawings.
   4. Mounting: Outside (face of jambs).
   5. Cord and Chain Operation: Comply with WCMA A100.1.

B. Tracks: Channel tracks as required for type of operation, extruded aluminum with clear anodized finish, with end caps.
   1. Louver Rotation: Chain driven direct rotation by activating tilt gear within end cap assembly in turn actuating tilt rod and worm-and-spur gears in carrier trucks.
   2. Operating Components: Internally mounted heavy-duty extruded aluminum tilt rod, louver carriers, and other components required for proper performance and designed for smooth, quiet, trouble free operation.
   3. Pivot Mechanism: Geared for synchronous 180 degrees rotation of louver blades and type of operation indicated.
   4. Louver Carriers: Metal carriers with ball-bearing wheels or thermoplastic trucks, equipped with linkages or other devices to ensure positive spacing of louver blades.
   5. Tilt Chain: Nickel plated brass beaded ball chain, minimum 1/8 inch diameter; locate at drawback side of units as indicated.

C. PVC Vanes: Integrally colored, extruded PVC; flat, 3-1/2 inches (80mm) wide.
   1. Thickness: 0.030 inch, minimum.
   2. Flammability: Comply with NFPA 701.
   3. Color: As selected by tBP/Architecture from manufacturer's full range of colors.
   4. Texture: Smooth.

D. Brackets and Mounting Hardware: As recommended by manufacturer for the mounting configuration and span indicated; provide manufacturer's standard L- bracket with clip for outside mounting and clip only for inside mounting.

E. Valances: To match louver design and color.

2.3 FABRICATION

A. Field measure finished openings prior to ordering or fabrication.

B. Fabricate blinds to fit openings within specified tolerances.

1. Vertical Dimensions: Fill openings from head to sill with 1/2 inch space between bottom of vanes and finish floor.
2. Horizontal Dimensions - Outside Mounting: Extend blinds on the collection side to allow full visual access to the window jamb and 6 inches beyond jamb on the other side.

C. Dimensional Tolerances: Fabricate blinds to within plus/minus 1/8 inch of intended dimensions.

D. Dimensional Tolerances: As recommended in writing by manufacturer. PART 3 -

EXECUTION

3.1 EXAMINATION

A. Do not start installation before openings are finished and all finishes have been completed; do not install until painting is completed.

B. Field measure finished openings prior to ordering or fabrication.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions using mounting style as indicated.

B. Installation Tolerances:
1. Maximum Offset From Level: 1/16 inch.

C. Adjust blinds for smooth operation.

D. Replace blinds that exceed specified dimensional tolerances at no extra cost to Glendale Unified School District.

END OF SECTION