Project Manual for

Dalton-Whitfield County Public Library

READING PAVILION

Dalton, Georgia

KCP Project # 2320

20 October 2025

kcp architects

Northwest Georgia
Regional Library System

Calhoun-Gordon
Chatsworth-Murray
Dalton-Whitfield

Northwest Georgia Regional Library System
Calhoun-Gordon
Chatsworth-Murray
Dalton-Whitfield

Dalton – Whitfield County Public Library

Reading Pavilion

Dalton , GA

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00010

SUMMARY OF THE WORK

PART 1 GENERAL

1.01 PROJECT OVERVIEW

A. Project consists of Addition to the Existing Library of Enclosed Pavilion and & Open Patio performed under direction of Construction Manager, Felker Construction (CM). Project includes 2,300 SF Steel Frame Enclosure and 5,700 SF of Patio, Retaining Walls, Glass Storefront, Metal Roof to match existing, Brick Veneer Walls & Site Grading.

B. Related Documents. List of Drawings on sheet A0.1, the Project Manual inclusive of Table of Contents, and general provisions of the Contract.

1.02 EXECUTION, CORRELATION AND INTENT

A. SCOPE OF WORK
   1. Construction Manager will assign personnel as required to provide appropriate management and control of the Project.
   2. Construction Manager is responsible for scheduling and coordinating activities as specifically indicated in Separate Contractors section below.

B. SEPARATE CONTRACTORS
   1. The Owner's Separate Contractors on this project will include equipment selection, procurement, installation of the following, except as noted:

      a. Kitchen Equipment , Furniture
      b. Data & Communications Equipment & Cabling
      c. Audio / Visual System
      d. Security - Access Control, Security Cameras, Intrusion Monitoring
      e. Interior Graphics for Room identification and wayfinding
      f. Exterior Graphics, ground mounted or building mounted,

   2. Construction Manager is responsible for Conduit and Boxes for the electrical systems above as indicated on the drawings.
   3. Construction Manager is responsible for including all Separate Contractor Activities on the Project Schedule.

C. COORDINATION BY CONTRACTOR
   1. Coordination of Work. This Construction Manager shall assume full responsibility for complete coordination of the various other Contractors, in order that all Work of the respective trades, including his own, shall be done in proper sequence and at the proper time so as not to cause any delay in the progress of any trade or of the entire Project.

D. BIDDER EVALUATION CRITERIA
   1. Ref Section 00011Bidder Evaluation Criteria for use by Construction Manager in Bidding and Selecting Sub-Contractors and Suppliers under the CM Contract

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Northwest GA Regional Library System
Reading Pavilion Construction Proposal Evaluation SECTION 00011
Dalton-Whitfield County Public Library, 310 Cappes Street, Dalton, Georgia Bidder Evaluation Criteria
2024 - 2025 Funding Year

	40%	20%	20%	10%	5%	5%	
Vendor	**Projected costs identified**	**Schedule meets owner needs**	**Demonstrates successful completion of similar public use building/library/ government use**	**Demonstration of Project Understanding**	**Prior experience with the library system and/or Whitfield County**	**Quality of Vendor References**	**TOTAL**
Construction Vendor A							
Construction Vendor B							
Construction Vendor C							
Construction Vendor D							

Notes: (Evaluation members and board members may place notes in this space).

Rating Scale (5 points maximum)

Explanation	Value
Not addressed or respor	**0**
Limited applicability	**1**
Some applicability	**3**
Substantial or total appli	**5**

The scale may be modified to represent stronger or weaker agreement by using variations such as 1.5, 2.5, 3.3.
5.0 is the highest possible agreement score.

List of Disqualified Bidders:
Vendor Name:
Reason for disqualification:
Bidder did not attend pre-bid conference
Bidder did not supply requested information
Bidder did not meet deadline
Bidder did not provide items on checklist

Important notes: The price of the eligible service must be the most heavily weighted factor.
Vendors are rated on how well they meet each factor.
Point values for each factor are totaled for each vendor.
If a bidder is disqualified, the reason for disqualification should be noted for that vendor.
DW Library Board of Trustees &/or Staff will complete bid matrix.

Checklist:
1. Price Quote Form
2. General information on the General Contractor, its history, number of employees, and services offered
3. Relevant experience with similar projects
4. Project Schedule
5. References
6. Bid Bond, Cashier's Check, Certified Check, or Cash Deposit in the amount equal to five percent (%5) of the total contract amount
7. Surety Bond Approval NGRL + Whitfield County
8. NGRL Vendor Packet
9. All items requiring notarizarion are the responsibility of the bidder.

00800

FORM OF AGREEEMENT GENERAL
& SUPPLEMENTARY CONDITIONS

PART 1 GENERAL

1.01 FORM OF AGREEMENT

A. AIA Document A133 – 2019 Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price.

B. Para 2.3 General Conditions incorporates AIA Document A201-2017, General Conditions for the Contract.

1.02 SUPPLEMENTARY CONDITIONS

A.. The following supplements modify, change, delete from or add to the General Conditions of the Contract for Construction. Where any article, paragraph, subparagraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

1.03 CORRELATION AND INTENTOF THE CONTRACT DOCUEMNTS

A. Add the following to paragraphs

1. The Contract Documents are diagrammatic in nature, showing the design intent but not showing every detail required for the completed construction. By execution of the Contract by the Construction Manager, he represents that the Contract Documents, in addition to the subsequent submittals provided by the Contractor and approved by the Architect, are adequate to complete the construction of the several kinds called for.
2. In addition to the Contract documents, other drawings may be necessary for the Construction Manager to carry the Work to a successful conclusion. Such things as additional details and shop drawings may be necessary and the Construction Manager shall be responsible for preparing all such drawings and submitting them for the Architect's review as required to confirm the intent of the design. The Construction Manager's schedule shall allow time for submittals of interpretation/clarifications and Drawings so as to cause no delay in the Work.

1.04 COPIES OF CONTRACT DOCUMENTS

A. The Construction Manager will be provided with .pdf files of the Contract Documents. t

1.05 SUPERVISION AND CONSTRUCTION PROCEDURES

A. It is the Construction Manager's responsibility to complete the Work using the information given in the Contract Documents. The Construction Manager shall have sufficient engineering and technical resources available to prepare any necessary additional drawings based on the design and specifications contained in the Contract Documents.

B. The Construction Manager's responsibilities for coordination of the Work extends to coordination of the shop drawings and other drawings necessary, whether prepared by the Architect or the Construction Manager, to insure the proper execution and completion of the Work."

1.06 CONSTRUCTION SCHEDULE

A. Within two weeks after award of the Contract, the Construction Manager shall submit to the Architect, a chart showing the estimated progress for the component divisions of the Work, together with a composite curve showing the estimated progress for the entire Work under this Contract. The Construction Manager will submit updated Construction & Submittal Schedule with each Payment Application, but not less than monthly. Ref. SECTION 01310 Progress Schedules.

1.07 CHANGES IN THE WORK

A. Upon final determination of the cost or credit to the Owner and inclusion of a change in the Work and amount due in a Change Order, the cost or credit may be included in Applications

for Payment. The amount of credit to be allowed by the Construction Manager to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect.

When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change

.

B. Proposals shall include not more than a 10% mark-up for combined overhead and profit for the Construction Manager in accordance with Cost of the Work provisions of the Contract. , plus a 10% mark-up for combined overhead and profit for the Sub-contractor.
   1. Overhead shall include: Bond Premiums, Supervision, Superintendent, Wages of Time Keepers, and Clerks, Small Tools, Incidentals, General Office expense, and all other expense not included in Cost.
   2. Cost shall include all items of Labor, Materials and Equipment.

1.08 CONTRACTOR'S LIABILITY INSURANCE

A. The Construction Manager shall purchase and maintain insurance in accordance with the requirements of the Project Manual and Specifications therein as outlined below:
   1. Worker' Compensation
      a. State: Statutory
      b. Applicable Federal: Statutory
      c. Employer's Liability: $1,000,000

   2. Comprehensive Commercial General Liability
      a. Bodily Injury and Property Damage: $2,000,000 per occurrence $3,000,000 aggregate.
      b. The Construction Manager's Commercial General Liability insurance shall provide coverage for the following: (1) Premises – Operations, (2) Independent Contractors, (3) Products/Completed Operations Hazard, (4) Underground Hazard, (5) Broad Form Property Damage, (6) Explosion and Collapse Hazard, (7) Personal Injury, and (8) Contractual Liability.
   3. Comprehensive Automobile Liability
      a. Bodily Injury and Property Damage: $2,000,000 Combined Single Limit (Per Occurrence)
      b. The Construction Manager's Comprehensive Automobile Liability Insurance shall provide coverage for Bodily Injury and Property Damage Per Occurrence for owned, hired, and non-owned vehicles.

B. Northwest Georgia Regional Library System and KCP Architects shall be named as additional insured with respect of notice in the policy. A Certificate of Insurance naming the Owner as a certificate holder shall be issued by the Construction Manager's insurance provider to Owner and a copy to KCP Architects.
   1. Furnish one form of certificate required herein for each copy of the agreements, which specifically establishes evidence of coverage required.

1.09 SEPARATE CONTRACTORS

A. The Owner's Separate Contractors on this project are referenced in Section 00020 SUMMARY OF THE WORK.

1.10 ARBITRATION

A. If Mediation does not resolve the claim, the Mediator shall certify the matter as having been mediated and no resolution reached. The Owner and/or Construction Manager may then proceed to take the Claim to any court having jurisdiction in the Project location for resolution of the claim. In such instance, the prevailing party in the court action shall be entitled to its cost, disbursements and attorney fees in pursuing the action."

1.11 PROJECT SIGN

A. The Construction Manager is to construct a project sign (see attached sample) for public display. Verify location with Architect.

1.12 PERFORMANCE BOND AND PAYMENT BOND

The Construction Manager, before commencing Work, shall furnish Performance Bond and labor and Material Payment Bond with a surety licensed to conduct business in the state where the project is located and whose limits of insurability measured by the current United States Treasury Department listing of treasury limits are at least equal to the amount of the Contract, guaranteeing the completion of the Work and performance of the Contract and the payment for all labor and materials incorporated in the Work. Said bond shall be written on the standard AIA Document A312, 2010 edition. The amount of coverage for said bonds shall be 100 percent of the Contract price.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Shop Drawing, Product Data or Sample Transmission NO._____

Date _____

Project **Dalton-Whitfield County Public Library Reading Pavilion**

KCP Architects
P.O. Box 400 Ringgold, Georgia 30736
(706) 937-2900

Construction Manager Felker Construction Co

CM Job No_____

1st SUBMITTAL _____ (Indicate By X)

RESUBMITTAL _____ (Indicate By X)

IF RESUBMITTAL, GIVE PREVIOUS TRANSMITTAL NO. OF ITEM BEING SUBMITTED_____

Specification Section and Paragraph No.	Description of Equipment	Manufacturer	Drawing or Data No.	Sample (Mark X)	Action Taken

The above submittal has been reviewed and approved in accordance with the provisions of the General Conditions for this project and are no deviations from the requirements of Contract Documents. _____ (Indicate By X).

The above submittal has been reviewed and approved in accordance with the provisions of the General Conditions for this project with the specific deviations from the requirements of the Contract Documents identified. _____ (Indicate By X).

_____
(Construction Manager's Signature)

_____
(Construction Manager) (Street Address or P.O. Box No.) (City and State)

SPACE BELOW FOR ARCHITECT / ENGINEER ONLY.

The above submittal has been reviewed in accordance with the provisions of the General Conditions for this project and is returned with action as designated above in accordance with the legend below.

A. - Approved
B. - Approved As Noted
C. - Amend and Resubmit
D. - Rejected - Resubmit See Remarks
E. - Not Required - Returned without Action

KCP Architects

By: _____

Date: _____

Request for Interpretation

NO._____

KCP Architects
P.O. Box 400 Ringgold, Georgia 30736
(706) 937-2900

Project **Dalton-Whitfield County Public Library Reading Pavilion**

Construction Manager Felker Construction Co

CM Job No _____

Project:
References: Specifications Drawings

Request: The above subject as more specifically addressed below appears in the referenced documents as part of the work and requires a clarified interpretation for our complete understanding of the intent of the Documents.

_____
(Construction Manager's Signature)

_____
(Construction Manager) (Street Address or P.O. Box No.) (City and State)

Response:

KCP Architects

By: _____

Date: _____

Substitution Application

NO._____

Date _____

Project **Dalton-Whitfield County Public Library Reading Pavilion**

Construction Manager Felker Construction Co

CM Job No_____

KCP Architects
P.O. Box 400 Ringgold, Georgia 30736
(706) 937-2900

This application proposes the following substitution:

_____

_____

_____

We certify that this substitution will perform adequately the functions called for by the general design, will be equal to, or superior to, that specified and will be suited to the same use and capable of performing the same function as that specified.

If this substitution is accepted, we will coordinate the installation into the work and make such other changes as may be required to make the Work complete in all respects.

Warranties and / or bonds for the proposed substitution is _____attached herewith _____ not applicable.

Acceptance of this substitution _____will _____will not require change in the Drawings or Specifications to adapt the design to the substitution.

Acceptance of this substitution _____will _____will not require payment of any license fee or royalty.

Variations of this substitution from that specified and maintenance, repair and replacement services are attached herewith.

Acceptance of this substitution, including costs of redesign and claims from other contractors affected by the resulting change, will realize a savings to the Owner of _____.

Waive all claims for additional costs which may subsequently become apparent.

_____
(Construction Manager's Signature)

_____
(Construction Manager) (Street Address or P.O. Box No.) (City and State)

Attachments: 1) Full descriptive and technical data, 2) Itemized cost breakdown.

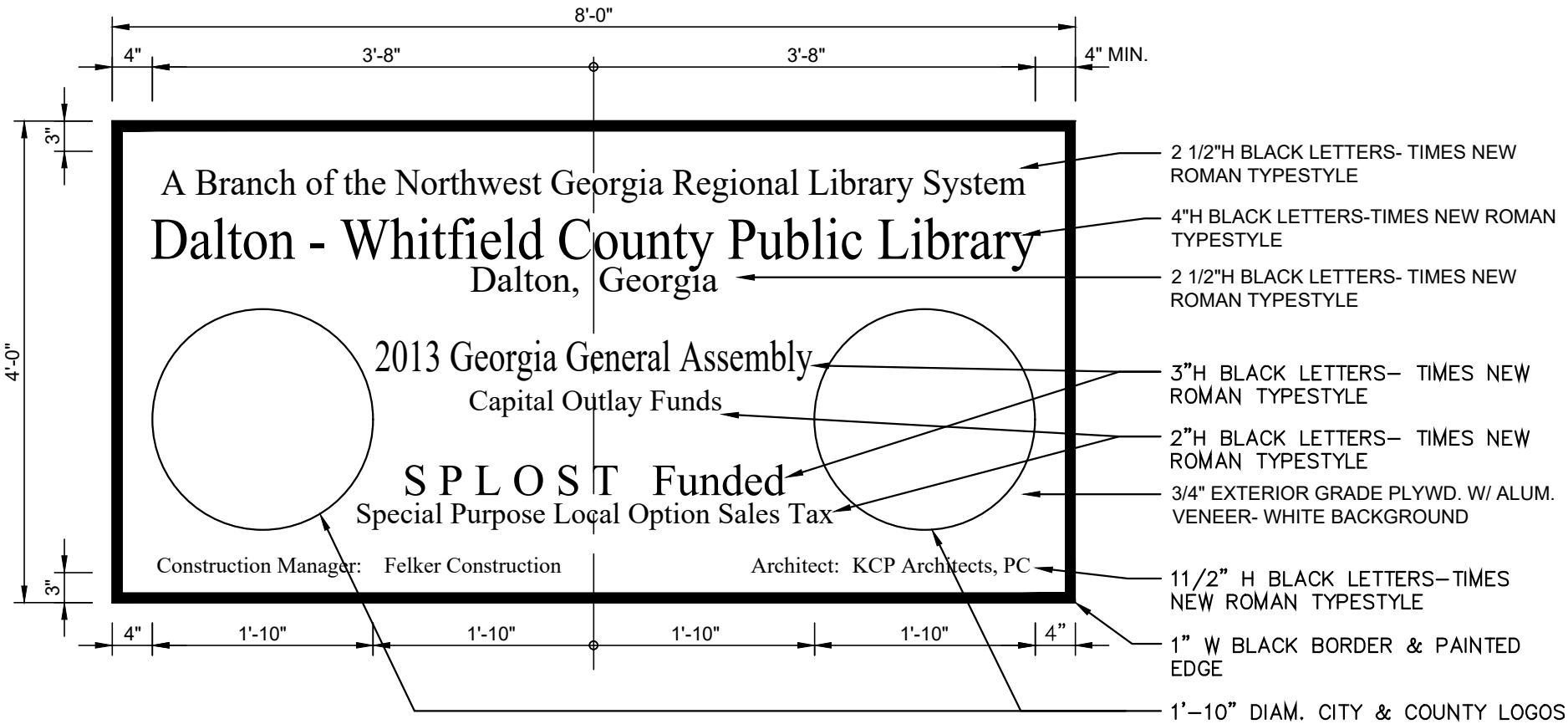
The above submittal has been reviewed in accordance with the provisions of the General Conditions for this project and is returned with action as designated above in accordance with the legend below.

A. - Approved	B. - Approved As Noted	C. - Amend and Resubmit	D. - Rejected - Resubmit See Remarks	E. - Not Required - Returned without Action

KCP Architects

By: _____

Date: _____



CONSTRUCTION SIGN ELEVATION

3/4" = 1'-0"

29 July 2025

kcp architects

Northwest Georgia Regional Library System

00840-4

00840

SAMPLE FORMS

PART 1 GENERAL

1.01 SAMPLE FORMS

A. Sample forms are referenced from Section 00800 SUPPLEMENTARY CONDITIONS, Section 01340, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, and Section 01600, MATERIALS AND EQUIPMENT. The forms, or a reasonable facsimile thereof, shall be used for this project and are as follows:

00840-1. Shop Drawing Transmittal form
00840-2. Request for Interpretation
00840-3. Substituion Request
00840-4. Construction Sign

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

01020

ALLOWANCES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Include in the Contract sum all allowances stated in the Contract documents.
B. Designate in the Progress Schedule the time required to execute the Work required by the allowances.
C. Designate in the Schedule of Values the value of allowances.

1.02 RELATED REQUIREMENTS

A. GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION - paragraph 3.8.

1.03 CONTRACT SUM

A. The amount of each allowance includes
    1. The Complete cost of the item to the Contactor or subcontractor

1.04 ALLOWANCES

A. Tests and Inspections
    1. Construction Testing includes Concrete & Reinforcing ; Structural Steel and Metal Deck, Welded connections at Exterior Stud Walls. Reference Drawing S0.2 Special Inspections for scope of work. If tests indicate materials and work do not meet requirements as specified, the expense of all retesting shall be born by the Contractor.

    2. Geotechnical Testing includes Fill Materials ; Documenting Quantities of unsuitable material and rock to be Removed of at the direction and under the observation of the Geotechnical Engineer.

B. The Contractor shall include in the Contract sum an allowance of a minimum of $25,000 for the purpose of Construction & Geotechnical Testing.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

01200

PROJECT MEETINGS

PART 1 GENERAL

1.01 PROGRESS MEETINGS

A. Construction Manager's Duties:
   1. Scheduling and notification:
      a. Notify invited parties of meeting time and place at least 36 hours prior to meeting.
      b. Coordinate timing of progress meetings with Architect and Owner to coincide with the progress of major divisions of work.
      c. Make physical arrangements for and preside over meetings.

   2. Administration:
      a. Prepare meeting agenda and distribute to invited parties at least 36 hours prior to meetings.
      b. Record and within 48 hours distribute copies of minutes of meetings.
      c. Prepare and distribute copies of current Construction Progress Schedules.

B. Scheduling:
   1. Unless otherwise requested by the Owner or Architect, routine progress and coordination meetings shall be held bi-weekly at the jobsite, with virtual attendance by some.
   2. Unless otherwise requested by the Owner or Architect, a Monthly progress and coordination meeting shall be held at the jobsite in concert with Architect's review of Payment Applications.

C. Attendance:
   1. CM represented by Project Manager or Principal, and Project Superintendent.
   2. Sub-contractors and material suppliers specifically invited, as applicable to the progress of the work.
   3. Architect and invited consultants.
   4. Owner.

A. Minimum agenda:
   1. Review minutes of previous meeting with review of follow-up and work progress
   2. Review field observations, problems and decisions.
   3. Review problems of materials delivery, off-site fabrication and sub-contractor scheduling.
   4. Revise construction progress and submittals schedule to reflect actual progress.
   5. Review details of anticipated construction progress prior to next meeting.
   6. Review workmanship and maintenance of quality standards.
   7. Review proposed changes, including effect on construction progress schedule and completion date.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PROGRESS SCHEDULES

PART GENERAL

1.01 REQUIREMENTS INCLUDED

A. Submit Schedule Update with each Payment Application
B. Include letters of Concurrence of Application from Major Subs & Suppliers

1.02 RELATED REQUIREMENTS

A. Section 00800 Form of Agreement, General Conditions of The Contract for Construction, Supplementary Conditions
B. Section 00840 - SAMPLE FORMS
C. Section 01340 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

1.03 FORMAT

A. Prepare network analysis system using the critical path method,
B. Sequence of Listings: The chronological order of the start of each item of Work.
C. Scale and Spacing: To provide space for notations and revisions.
D. Sheet Size: Multiple of 8-1/2 by 11 inches.

1.04 CONTENT

A. Show complete sequence of construction by Activity, with dates for beginning and completion of each Activity to date of Substantial Completion
B. Identify each item by major Specification section number, include activities for Separate Contractors and Owner-provided equipment and services.
C. Identify Work of separate stages, Precedent Activities, and other logically grouped activities.
D. Provide separate schedule of submittal dates for shop drawings, product data, and samples. Show decision dates for selection of finishes.

1.05 SUBMITTALS

A. Submit preliminary outline Schedule within 15 days after date of Owner-Contractor Agreement for coordination with Owner's requirements. After review, submit detailed Schedules within 15 days, modified to accommodate revisions recommended by the Owner or the Architect.
B. Submit revised Progress Schedules with each Application for Payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Submit Shop Drawings, product data, and samples required by Contract Documents.

B. All Drawings, product data, and samples submitted shall be accompanied by the Shop Drawing transmittal shown in Section 00840, SAMPLE FORMS. Form shall be used for material, apparatus, mock-ups or equipment submitted under separate Sections of the Specifications.

C. Where deviations from Architect's Drawings or Specifications exist on material submitted for review, these **deviations shall be clearly marked or listed** in transmittal letter.

D. Submittals will be returned either Approved, Approved as Noted, or Resubmit. Revise and resubmit “Approved as Noted” and “Resubmit.”

E. On resubmittals, the Contractor shall circle the changed items to call attention to changes from the previous submittal. .

F. Contractor will maintain a Submittal Log :Submittal Number, Date of Submittal, Spec Section, Title , Sub-Contractor or Supplier, Date Returned , and Status.

1.02 SHOP DRAWINGS

A. Drawings shall be presented in a clear and thorough manner.
1. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.

1.03 PRODUCT DATA

A. Preparation:
1.Clearly mark each copy to identify pertinent products or models.
2.Show performance characteristics and capacities.
3.Show dimensions and clearances required.
4.Show wiring or piping diagrams and controls.

B. Manufacturer's Standard Schematic Drawings and Diagrams:
1.Modify drawings and diagrams to delete information which is not applicable to the Work.
2.Supplement standard information with information specifically applicable to the Work.

1.04 SAMPLES

A. Samples shall be of sufficient size and quantity to clearly illustrate:
1. Functional characteristics of the product, with integrally related parts and attachments.
2. Full range of color, texture, and pattern.

B. Field Samples and Mock-Ups: (If required by the technical Specifications)
1. Contractor shall erect complete and finished Samples and/or Mock-ups, at the Project site, at a location acceptable to the Architect.
2. Remove mock-ups at conclusion of Work, when acceptable to the Architect.

1.05 CONTRACTOR RESPONSIBILITIES

A. Review and approve Shop Drawings, product data, and samples prior to submission.
B. Determine and Verify:
1. Field measurements.
2. Field construction criteria.
3. Catalog numbers and similar data.
4. Conformance with Specifications.

01510

TEMPORARY UTILITIES, FACILITIES & CONTROLS

PART I GENERAL

I.01 REQUIREMENTS INCLUDED

A. Furnish, install and maintain Temporary Facilities and Utilities required for construction until Final Acceptance of the Work, unless otherwise accepted by the Owner.
B. Coordinate all Temporary Facilities with the Owner..

1.02 JOB CONDITIONS

A. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the Work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.

B. Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.

PART 2 PRODUCTS

2.01 TEMPORARY OFFICE

A. Temporary Field Office as required to carry on the Work. Adequate space for convenient use and storage of Contract Drawings, Specifications, Approved Shop Drawings and Field Records.

2.02 TEMPORARY ELECTRICITY AND LIGHTING

A. Arrange with utility company or Owner , provide service required for power and lighting, and pay all costs for service and power used.

B. Install circuit and branch wiring. with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords.

C. Provide adequate artificial lighting for all areas of Work when natural light is not adequate for Work. and for areas accessible to the public.

2.03 TEMPORARY HEAT AND VENTILATION

A. Contractor shall provide temporary heat and ventilation for all construction as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation of materials, and to protect materials and finishes from damage due to temperature or humidity.

B. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.

C. The Contractor shall provide all necessary temporary enclosures
1, Required temperatures within the enclosures shall be as specified in the various technical Sections of the Specifications
2. When the building is roofed in, and the window and door openings temporarily closed, the Contractor shall keep heat in the building, maintaining throughout day and night a temperature of not less than sixty (60) degrees F. and until the building heat system is in operation. No salamanders or open fires shall be used.

3. After the building or portions of the building are temporarily enclosed, and the installation of the heating system is sufficiently advance that it's use is approved by the Architect, the Contractor may use the system to provide the temporary heat. It shall be the responsibility of the Contractor to furnish and maintain all heating equipment until acceptance of the building by the Owner.

D. Operation of Permanent Equipment
1. Prior to operation, verify that inspection has been made by proper authorities and installation has been approved for operation.
2. Install temporary filters for air handling units and for permanent ducts.
3. At Substantial Completion replace all disposable Filters, clean all Permanent Filters, and clean al duct.

2.04 TEMPORARY TELEPHONE/ DATA SERVICE

A. Arrange for telephone & internet service at the construction site for the use of personnel and employees.

2.05 TEMPORARY WATER

A. Arrange with utility service company or Owner, to provide water for construction purposes; pay all costs for installation, maintenance, and removal, and service charges for water used.

B. Install branch piping with taps located so water is available throughout the construction site by the use of hoses. Protect piping and fittings against freezing.

2.06 TEMPORARY SANITARY FACILITIES

A. Provide and maintain adequate temporary toilet and hand washing facilities for use of all workers in sufficient number and in compliance with laws and regulations. Remove upon completion of the work.

2.07 PROTECTION AND USE OF THE SITE

A. Determine methods and procedures to be used and assume responsibility for proper protection and safety of personnel, Project Site, adjoining areas and structures, and public during all phases of Work.

B. Temporary Barriers and Enclosures: Provide and maintain suitable temporary barriers, partitions and signs necessary to protect general public and workmen.

C. The Contractor shall confine operations at the Site to the areas designated for its use on the drawings.

2.08 TEMPORARY CONSTRUCTION FACILITIES

A. Provide temporary enclosure where reasonably required to ensure adequate workmanship and protection from weather and unsatisfactory ambient conditions for the Work, including enclosure where temporary heat is used.

2.09 TEMPORARY FIRE PROTECTION

A. Provide and maintain fire-fighting equipment for the duration of this Work in accordance with the applicable federal and state laws, statutes, codes, rules, regulations, and field requirements, maintain fire extinguishers with each work crew.

B. Prohibit all lighting of fires on the Project Site and all smoking in restricted areas where posted with "NO SMOKING" signs and use due diligence to see that such prohibition is enforced.

C. When burning, melting, welding, or using any other flammable device a properly maintained A, B, or C type fire extinguisher shall be located at the location of such activity.

2.10 TEMPORARY ROADS AND PARKING

A. Temporary Access for Construction Activities and Staging Areas will be provided in accordance with Drawing(s) prepared by the Site Civil Engineer in coordination with the Construction Manager.
B. Ingress and Egress to site for deliveries will be determined by Construction Manager in order to limit and control traffic.
B. Prevent access of unauthorized persons to Project.
C. Contractor parking on Owner's property will be allowed only in areas agreed upon by Owner.

PART 3 EXECUTION

3.01 GENERAL

A. Completely remove temporary materials and equipment when their use is no longer required.
B. Clean and repair damage caused by temporary installations or use of temporary facilities.
C. Restore permanent facilities used for temporary services to specified condition.

END OF SECTION

01561

CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Execute cleaning, during progress of the Work, and at completion of the Work.

B. If the CM fails to clean up during construction or at the completion of the Work, the Owner may do so and the cost thereof shall be charged to the CM.

1.02 DISPOSAL REQUIREMENTS

A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

B. Hazards Control:
1. Store volatile wastes in covered metal containers, and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
1. Do not burn or bury rubbish and waste materials on project site.
2. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.

1.043 CLEANING

A. The CM shall enter into a subcontract with a professional building cleaning company which will provide the final cleaning operation at the Project.

PART 2 PRODUCTS

2.01 MATERIALS

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces and as recommended by manufacturer of the surface material to be cleaned.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

A. Execute periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.

B. Provide on-site containers for the collection of waste materials, debris, and rubbish.

C. Remove waste materials, debris, and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

D. Close rooms and areas finished by painter and decorators to all but authorized persons.

3.02 DUST CONTROL

A. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.

B. Schedule operations so dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

3.03 FINAL CLEANING

A. As near as possible to the Owner's occupancy of the building, cleaning shall be completed by a professional cleaning company. Work shall include the following:
1. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
2. Wash and shine glazing and mirrors.
3. Polish glossy surfaces to a clear shine.
4. Vacuum clean interior of buildings, including HVAC ducts.
5. Hand dust, clean and polish shelving and cabinets.
6. Wax and polish finish floors.
7. Clean all hardware.
8. Clean all fixtures.
9. Comply with all special cleaning instructions contained in the Specifications.
10. Clean permanent filters and replace disposable filters if units were operated during construction.
11. Clean ducts, blowers and coils if units were operated without filters during construction.
12. Broom clean exterior paved surfaces: rake clean other surfaces on the grounds.
13. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all Work areas, to verify that the entire Work is clean.

END OF SECTION

01700

CONTRACT CLOSE-OUT

PART 1 GENERAL

1.01 CLOSE-OUT TIMING:

A. Upon receiving the Certificate of Substantial Completion, CM shall prepare, assemble and transmit the items listed herein to Owner, c/o Architect.

B. Unless additional quantities are specified elsewhere, submit items in duplicate.

C. Documents, tools, equipment, demonstrations and other closing requirements shall be submitted or performed and accepted prior to Date of Final Acceptance.

1.02 DETAIL REQUIREMENTS:

A. Maintenance manuals: Submit bound loose leaf maintenance manuals for mechanical and electrical equipment; for fixtures, finish hardware, equipment, finishes requiring special treatment and as otherwise required in the Specifications. Label manuals with embossed plastic tape. Include name of project, nature of information, Contractor/Subcontractor and name and address of local parts supplier and service organization.

B. Operation manuals: Submit bound loose-leaf operations manuals for mechanical, electrical and elevator equipment. Assemble and submit manuals as indicated for maintenance manuals or include therewith. Include manufacturer's wiring diagrams for elevators.

C. Record drawings: Submit for mechanical and electrical work covered by subsequent construction or requiring the removal of finish material should maintenance be necessary. Drawings shall be numbered consecutively and shall be laid out to show locations of subject elements, with base lines or dimensions enabling exposure to elements with least disturbance to finish surfaces.

D. Inspection reports: Submit certificates from applicable local governmental agencies that the construction has been inspected as required by laws or ordinances and that the building is approved for occupancy.

E. Warranties: In accord with Contract Conditions, CM shall furnish his warranty and shall require each subcontractor to furnish his warranty, in writing on the form bound hereinafter. Assemble, bind, label and transmit warranties as required for other manuals above. Unless specifically indicated otherwise in individual sections, the period for warranties shall begin on the Date of Substantial Completion and shall continue for one year. Warranties shall state the Date of Substantial Completion and the date on which the warranty expires.

F. Fire extinguishers: Leave extinguishers charged and ready for use. Extinguishers shall bear a tag showing the date tested and by whom. All costs incurred shall be borne by the CM.

G. Valve tag schedules: Furnish two copies of schedules with close-out documents and mount one copy, framed under glass, in mechanical room.

H. Coordinate demonstrations and trial runs of equipment for Owner's designated personnel and complete such demonstration prior to Date of Final Acceptance.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

01720

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Maintain at the site for the Owner one record copy of
   1. Drawings
   2. Specifications
   3. Addenda
   4. Change orders and other modifications to the Contract
   5. Field orders or written instructions
   6. Approved shop drawings, product data and samples
   7. Field Test Records
   8. Inspection Reports
   9. Construction Photographs.

1.02 RELATED REQUIREMENTS

A. Section 01340, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in CM field office apart from documents used for construction.
   1. Provide files and racks for storage of documents.
   2. Provide locked cabinet or secure storage space for storage of samples.

B. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

C. Make documents and samples available at all times for inspection by the Architect or Owner.

1.04 RECORDING

A. Label each document PROJECT RECORD in neat large printed letters.

B. Record information concurrently with construction progress
   1. Do not conceal any Work until required information is recorded.

C. Drawings; legibly mark to record actual construction
   1. Depths of various elements of foundation in relation to finish first floor datum
   2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements
   3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure
   4. Field changes of dimension and detail
   5. Changes made in the field or by Change Order.
   6. Details not on original Contract Drawing

D. Specifications and Addenda; legibly mark each Section to record
   1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed
   2. Changes made in the field or by Change Order.

1.05 SUBMITTAL

A. At Contract close-out, deliver record documents to the Architect for the Owner.

B. Accompany submittal with transmittal letter in duplicate, containing:
1. Date.
2. Project title and number.
3. CM name and address.
4. Title and number of each record document.
5. Signature of Contractor or his authorized representative.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

02282

TERMITE CONTROL

PART 1 GENERAL

A. Summary: This Section specifies soil treatment for termite control.

B. Product Data: Submit manufacturer's technical data and application instructions.

C. Quality Assurance: In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for Work, including preparing substrate and application rates.

D. Engage a licensed professional pest control operator to apply soil treatment solution.

E. Use only termiticides that bear a federal registration number of the U.S. Environmental Protection Agency (EPA).

F. Restrictions: Do not apply soil treatment solution until excavating, filling, and grading operations are completed, except as otherwise required in construction operations.

G. To ensure penetration, do not apply soil treatment to frozen or excessively wet soils or during inclement weather. Comply with handling and application instructions of soil toxicant manufacturer.

H. Guarantee. Upon completion of the Work, and as a condition of final acceptance, the Owner shall be furnished with a written guarantee which shall provide that the soil poisoning treatment shall prevent subterranean termites from attacking the building or its contents for a period of not less than one year from date of substantial completion of the Project.

1. If subterranean termite activity exists in or under the building during the guarantee period, the Contractor promptly, and without expense to the Owner shall:
    a. Re-treat the soil to prevent subterranean termites from attacking the building or its contents, using means acceptable to the Architect.
    b. Make good all damage caused by subterranean termite activity.
3. The guarantee shall be drawn in favor of the Owner. A specimen of the form of guarantee shall be submitted to the Architect for review before the Work begins.

PART 2 PRODUCTS

A. Soil Treatment Solution: Use an emulsible, concentrated termiticide that dilutes with water, specially formulated to prevent termite infestation. Provide a working solution of chemical elements in concentrations recommended by termiticide manufacturer.

B. Solutions may be used as recommended by Applicator if approved for intended application by local governing authorities. Use only soil treatment solutions that are not harmful to plants.

PART 3 EXECUTION

A. Surface Preparation: Remove foreign matter that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and foundations. Termiticide may be applied before placing compacted fill under slabs, if recommended by manufacturer.

B. Field Quality Control. The Contractor shall apply the soil poisoning with caution and shall have the experience, facilities, and personnel of sufficient quantity and quality to assure performance of the Work in a timely fashion and in a manner that will produce the specified results.

C. Application Rates: Apply soil treatment solution at rates and concentrations recommended by soil termiticide manufacturer.

D. Post signs in areas of application warning workers that soil termiticide treatment has been applied. Remove signs when areas are covered by other construction.

E. Reapply soil termiticide treatment solution to areas disturbed by subsequent excavation or other construction activities following application.

END OF SECTION

03420

ARCHITECTURAL PRECAST CONCRETE

PART 1 GENERAL

1.01 SCOPE: These specifications cover the design, materials, fabrication, erection, and related operations involved in providing all Precast Concrete Masonry Wall and Pier caps as shown on the plans and referred to herein.

1.02 SUBMITTALS:

A. Furnish shop drawings complete with reinforcing schedule and erection drawings show details of work and such detail as necessary to demonstrate that the work complies with the specifications and drawings. Show complete manufacturing and installation data details of joint and fastening devices. Approval by the Architect shall not be held to relieve this Contractor of responsibility for compliance with the specifications unless so stated at time of approval.

B. Provide mock-up panel not less than 2' long showing a typical profile and the specified finish.

1.03 STANDARDS: Precast shall conform to requirements of PCI manual for Quality Control, MNL-116.

PART 2 PRODUCTS

2.01 CRITERIA: All architectural precast concrete shown or specified shall be a product of a manufacturer engaged in precast work for not less than three years. Manufacturer must have a qualified, registered structural engineer on his staff. All material shall be in strict accordance with these specifications regarding physical requirements, workmanship, texture and color.

2.02 MATERIALS:

A. Strength: All material shall have a minimum compressive strength of 5000 p.s.i. at 28 days of age when tested by standard 6 x 12 cylinder cast from these same materials. Absorption shall not exceed 5 percent when tested according to ASTM C-97, latest revision.

B. Reinforcement: Not less than 4" x 4" 6/6 galvanized welded wire fabric. All reinforcing shall be galvanized. Special shapes shall be reinforced according to design criteria. All anchors shall be securely imbedded and, where possible, directly fastened to the reinforcing cage. All reinforcing not shown on contract drawings shall be designed by Precast Contractor.

2.03 TOLERANCES:

A. Casting shall be done in accurately dimensioned forms designed to withstand high frequency vibrations without distortion or leaking concrete fins. Reinforcing, bolts, inserts, anchorages, etc. shall be accurately placed. Vibration shall be continuous during the entire process of casting.

B. Bowing, warping and dimensional tolerances shall not exceed the following limits: Overall dimensions + or - 1/8" up to 8' with an additional 1/32” for each additional 8' or portion thereof; profile dimensions 1/16", bowing or warpage 1/360 of the length.

2.04 FINISHES:

A. Match color of Architect's Sample with a light sand-blasted finish.

2.05 CURING: Material shall be carefully handled, cured, stored and properly supported at all times. Concrete shall be maintained above 50' F and in a moist condition for the first seven days or until specified strengths are obtained. Accelerated curing methods may be pursued to reduce curing time, subject to approval by the Architect.

PART 3 EXECUTION

3.01 DELIVERY & STORAGE: Pieces shall be delivered, stacked and handled at all times so as to protect them from damage. Patching or refinishing will not be permitted without the consent of the Architect, and shall be stored in a vertical plane with proper supports. Use pads under and between panels during storage.

3.02 ERECTION:

A. Erection shall be done with equipment, methods, and personnel acceptable to the manufacturer.

B. Each piece shall be set plumb, level and true to line with all joints of size detailed on the drawings. Bolts and nuts shall be tack welded after final alignment and anchoring. Welding shall be done in accordance with the standard code of welding in the building construction of the American Welding Society.

3.03 JOINT SEALING: All joints shall be sealed as specified in Section 07900.

3.04 CLEANING: After the completion of setting, all pieces shall then be rinsed with clear water. Cleaning shall commence at the top and continue progressively downward.

END OF SECTION

04200

UNIT MASONRY

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers all labor, materials, accessories, scaffolding and appliances necessary for the completion of all unit masonry Work.
   1. All masonry units shall be modular in size.
   2. Masonry Materials include Face Brick, Ariscia (+ Cast Stone, CMU, & Custom CMU)

B. Related Work Specified Elsewhere
   1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS
   2. Structural steel, reinforcing, anchors and bolts are covered in Section 05990. Installation of these items shall be included herein
   3. Mortar is covered in Section 04100, MORTAR. The laying thereof is included herein.

1.02 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements.

B. Provide mock-up panel not less than 2’ x 2' x 4’, showing types and colors of masonry and masonry coursing and mortar colors and finishes, for Architect’s approval prior to beginning masonry work.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Storage of Materials
   1. Protect all masonry units with tarpaulins or other suitable material at all times on the job site to keep materials dry. Any wet masonry units are to be removed from the job site immediately.
   2. Cover structural facing tile, both glazed and unglazed at all times.

1.04 JOB CONDITIONS

A. Environmental Requirements
   1. Freezing Weather. Do not lay masonry when the temperature of the outside air is below 40 degrees F. (5 degrees C.), unless means to heat and maintain the temperature of the masonry materials are reviewed by the Architect. Protect the completed Work from freezing.
   2. Wetting of Concrete Masonry Units. Do not wet concrete masonry units.

B. Protection
   1. Keep all walls dry during erection by covering at the end of each day or shutdown period with a strong, waterproof membrane. Similarly protect at all times partially completed walls not being worked on.

PART 2 PRODUCTS

2.01 MATERIALS

A. Concrete Masonry Units (CMU)
   1. Load-bearing units shall conform to ASTM C 90.

2. Nonload-bearing units shall conform to ASTM C 129.
3. Grade N-1 for use in exterior walls below grade, exposed to weather or exposed to frost action.
4. Grade S-1 for use above grade not subject to frost action.
5. Concrete masonry units shall be modular in size and of thickness called for on the Drawings.
6. Special shapes, including end and jamb blocks and U-blocks for beams and lintels, shall be furnished as shown or as required.

B. Masonry Wall Reinforcing. Galvanized, standard grade, truss design specifically for cavity wall application, unless otherwise noted. Width of wall reinforcing shall be as required for the wall thickness in which it is used. Except as otherwise shown on the Drawings, minimum wire gage shall be No. 9. Use products of one of the following:
1. The Dur-o-wal Company
2. AA Wire Products Company
3. Wall reinforcing in cavity walls shall be ladder type and crimped to provide drip in air space.

C. Anchors and Ties. Copper coated, ASTM B 227, Grade 30 HS, or zinc-coated steel, ASTM A 153 or A 116 of the types noted below
1. Wire Ties. Adjustable, not less than 3/16" diameter, hot dip galvanized. Place at not more than 16" o.c. each way at all masonry veneer. Secure with screws to studs.
2. Flat-bar with Dovetails. Use with embedded slots or inserts or 0.130 inch (3.55 mm) steel wire ties looped and closed.
3. Rigid Steel Anchors. 1 inch x 1/4 inch (25 mm x 6.3 mm) with ends turned up not less than 2 inches (50 mm), not less than 16 inches (100 mm) long for 8 inch (215 mm) walls nor less than 24 inches (600 mm) long for 12 inch (327.5 mm) walls.

D. Expansion Joint Filler. 'Rodofoam Grade No. 423', manufactured by W. R. Grace Company, "Neo-Seal IV Expansion Joint," manufactured by Williams Products, Inc., or 'Rescor', manufactured by W. R. Meadows, Inc.

E. Sealant as specified in Section 07900, CALKING AND SEALANTS.

F. Masonry Wall Flashing.
1. 32 mils self-adhesive rubberized asphalt integrally bonded to 8 mils of cross laminated high density polyethylene film to a minimum of 40 mils thick membrane. Quality standard: Perm-A-Barrier as manufactured by Grace Construction Products. Install wall flashing end dams by cutting, folding and sealing with bituthene mastic.

G. Face Brick. ASTM C 21
1. Grade SW for exterior uses
2. Type FBS
3. Size to be modular, solid core where required at corbeling.
4. Match Existing

PART 3 EXECUTION

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. General Masonry Installation
1. Horizontal joints shall be level, vertical joints plumb, and faces of masonry flush.
2. Mortar Bedding. Place mortar bedding under the face shells of units, but not extended across the webs, except that full mortar bedding is required under the starting course laid on footings or solid foundation walls and in all load-bearing piers, columns and pilasters, and for securing hollow metal door frames to CMU walls and partitions.

B. Neatly strike and clean off with clean stiff brushes as the work progresses, all joints in the face of all walls and partitions, including pipe and vent shafts, which are not to be plastered.

1. Cutting of Masonry Units. Use a carborundum wheel for cutting so all junction joints are carefully and accurately fitted, where it is necessary to cut masonry units to fit against other special construction, as indicated.
2. Metal Frames. Anchor metal Frames to the partitions as specified under Section 08110, HOLLOW METAL DOORS AND FRAMES. Completely slush full with mortar, the space between the masonry and the metal frames.

C. Do all cutting and patching necessary, build in all bucks and framing work, all anchors, sleeves, metal nailing plugs, anchor bolts, etc., and do all other miscellaneous work occurring in connection with the masonry work, whether mentioned in detail or not.

1. Exposed mortar head and bed joints in modular masonry walls shall have a thickness equal to the difference between the actual dimension and the nominal dimension of the unit in either height or length, but in no case less than 1/8 inch (3 mm) nor more than 3/4 inch (20 mm).
2. Joining of Work. Remove all loose masonry and mortar. Rack back one-half masonry unit length in each course and, if grout is used, stop grout 4 inches (100 mm) back of rack if it becomes necessary to 'stop off' a horizontal run of masonry. Toothing will not be permitted except when specifically indicated.
3. Flashing. Surfaces of masonry shall be smooth and free from projections which might puncture the flashing material when flashing is to be laid on or against masonry.
4. Tooling and Pointing. Tool with a round or other jointer, masonry unit mortar joints which are exposed and have become 'thumbprint' hard. Jointer to be slightly larger than the width of the mortar joint, so that a complete contact is made along the edges of the units, compressing and sealing the surface of the joint. Trowel-point exterior joints below grade and flush cut all other joints not tooled.
5. Bonding. Lay exposed masonry walls in standard running bond, except as otherwise indicated on the Drawings. Lap by at least 3 inches (75 mm) all vertical joints in unexposed masonry.

D. Miscellaneous Steel Items

1. Wall and Beam Plates. Set and grout to correct grade, and line all loose bearing plates for beams, girders, lintels or other structural steel which will bear on masonry.
2. Loose Lintels. Solidly build in place, loose Lintels bearing on or supporting masonry.
3. Anchor Bolts. Set and build in all anchor bolts for column base plates and other base plates anchored to masonry.

E. Wall Reinforcing. Use wall reinforcing every 16 inches (400 mm) in height .

F. Anchoring of Masonry

1. Where nonbearing masonry walls or partitions abut other masonry walls or partitions, bond together as they are built up, or tie together with strips of metal lath or 14 inch (6 mm) mesh hardware cloth placed across the joint between the two walls. Strips to be at 16 inch (400 mm) vertical centers maximum.
2. Tie masonry which abuts steel with adjustable 1/8” x 2” metal straps or 3/16” diameter adjustable wire ties.
3. Tie masonry at stud walls with Heckman Wire Veneer Anchor #213. Minimum two screws per anchor.

G. Control Joints (CJ). Provide control joints (CJ) on all masonry walls at No Greater Than 25 foot intervals. Continue control joints vertically through bond beams and masonry wall reinforcing unless otherwise shown on the Drawings. Provide control joints at all breaks in bond beams. Rake control joint 3/4 inch (19 mm) deep. See detail as indicated on Structural Documents.

H. Nonbearing Partitions

1. Where suspended ceilings do not occur and elsewhere as indicated, extend nonbearing partitions from the top of the structural floor to the bottom surface of the construction above. Topmost joint shall be 1 inch (25 mm) thick compressible filler. Unless shown otherwise, anchor top of partition with an 8 inch (200 mm) long x 0.1046 inch (3 mm) x width of the wall channel with 3 inch (75 mm) outstanding legs anchored to the structure in two places and at 4-foot (1.2 m) centers.
2. Where suspended ceilings are used, nonbearing partitions shall extend 6 inches (150 mm) above ceiling, unless otherwise indicated.

3.02 FIELD QUALITY CONTROL

A. The Architect may direct the Contractor to remove masonry already laid to assure himself that all joints are full. If he finds joints that are not completely filled, he can order masonry removed until he is assured the joints of all remaining masonry are completely filled.

B. Defective Unit Masonry

1. Cracked, chipped, warped or otherwise defective masonry units shall not be used in finished work exposed to view.

3.03 ADJUSTMENT AND CLEANING

A. Upon completion of the masonry work or when danger from defacement from further building operations exists, inspect all pointing and repoint imperfections. Carefully clean dirt, mortar, stains, and defacements from masonry exposed to view. Disintegration or discoloration of mortar or adjacent materials shall not be permitted by the use of wire brushes, strong acids, or other solutions. Begin at top continuing down until cleaning operation is finished.

END OF SECTION

06200

FINISH CARPENTRY

PART I GENERAL

1.01 DESCRIPTION OF WORK

A. This Section includes the manufacture and fabrication of finish carpentry items – Wood Trim.
   1. T & G Wood Deck
   2. Wood Trim
   3. Cabinets and Hardware for cabinetwork and casework is selected & provided by the Owner
   4. Installation of Finish Hardware for building doors (Section 08710) and Installation of Wood Doors (Section 08200)

B. Related Work Specified Elsewhere:
   1. Refer to all sections in Division 0, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS.
   2. Back-prime Running & Standing Trim, and all millwork with hidden surfaces prior to installation as specified in Section 09900, PAINTING.

1.02 QUALITY ASSURANCE

A. Moisture Content:
   1. Moisture content for exterior millwork shall be between 7 and 14 percent.
   2. Moisture content for interior millwork shall be between 5 and 10 percent.

B. Reference Standards:
   1. Finish carpentry shall conform to the applicable portions of "Quality Standards of the Architectural Woodwork Industry" published by the Architectural Woodwork Institute (AWI), unless specified or detailed otherwise.

C. Allowable Tolerances:
   1. Finish Work: Maintain surface and plane of finished work not exceeding a tolerance of 1/8" in 10' - 0" when tested with a 10' straight edge.
   2. Abutting millwork pieces to be perfectly aligned free of voids.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery of Materials:
   1. Do not deliver millwork until drywall has been done and excessive moisture has been out of the building for at least ten days.

B. Storage of Materials, Equipment, and Fixtures:
   1. Protect all millwork and finish against dampness, store in dry and well-ventilated areas, and do not subject to extreme changes of temperature or humidity.

1.04 SUBMITTALS

A. Refer to Division 1 - Submittals Section for Submittal requirements.

B. Shop Drawings:
   1. General: Submit Shop drawings for fabrication and erection not fully described by manufacturer's data.
      a. Include plans and elevations at not less than 1/2" to I' - 0" scale, and details at not less than 3" to I' - 0" scale.
      b. Indicate anchorage, interface with adjacent surface and accessory items, field dimensions, and finishes.
      c. Shop drawings shall indicate by detail specification all materials to be used in the construction and show all joiner, thickness, glues, and data pertinent to AWI Standards, Premium Grade.

C. Samples.
   1. General: Review will be for color, texture, grain and finish only. Compliance with other requirements is responsibility of Contractor.
      a. Submit the samples for each species and cut or pattern of finish carpentry.
      b. Match Existing T & G Roof Deck

PART 2 PRODUCTS

2.01 MATERIALS

A. Hardwood Lumber.

1. Hardwood for painted finish shall be Birch or Yellow Poplar.
2. Hardwood for transparent finish shall be clear, Quarter Sawn White Maple.

B. Softwood lumber. At the Contractor's option, use Ponderosa Pine, Idaho White Pine, Sugar Pine, or Northern White Pine.

C. Grading

1 "Quality Standards of the AWI - Premium Grade."

PART 3 EXECUTION

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Installation:

1. Standing and running trim.
   a. Standing and running trim includes cut-to-length and lineal type wood trim.
   b. Interior trim. Cleanly machine and then mill-sand interior trim to remove all imperfections and tool marks. Back-rout all trim.
2. T & G Wood Deck
   a. Order Materials and Install to minimize butt joints.
   b. Install with Concealed Fasteners 9over supports)
3. Cabinetwork
   a. Cabinetwork includes cabinets, cases, counters, and enclosures of all kinds, including all Doors, Plastic Laminates, Solid Surfaces, Quartz and plywood for use therewith.
   b. Workmanship and assembly. Use workmanship and assembly conforming to the requirements for work as shown in Section 400 of "Quality Standards of the A.W.I." unless specified or detailed to the contrary. All Work shall be Premium Grade.
   c. Shop assemble all casework with the exception of cases too large for entrance into the use area. Make the latter in sections with provisions made for job connection in the using space. Scribe contacts with adjoining work as required.
   d. Hardware. Furnish and install all hardware shown for the particular units as a part of this work.
4. Installation of finish carpentry.
   a. The field assembly and installation of finish carpentry, including wood doors, is covered in this paragraph.
      1) Interior trim and paneling. Set interior trim and paneling straight, plumb and level joints in a tight manner to conceal shrinkage. Secure trim with fine finishing nails, and with screws and glue where required. Set nails for putty filling.
      2) Cabinetwork. Install cabinetwork after all finish flooring is complete to adjacent walls, and in accordance with the Drawings and well fit into the spaces provided, with all trimming and scribing neatly and accurately done.
      3) Wood doors and frames. Install wood doors and frames as shown on the drawings and required hereinafter. Do not cut doors down to fit a small opening. Fit doors to provide 1/8 inch to 3/16 inch (2 to 4 mm) clearance at all four edges. Prepare for and install locksets, hinges, closers and all other hardware items to produce the best possible operation and durability.
      4) Install all millwork after Finish Flooring has been layed.

END OF SECTION

COLD FLUID-APPLIED WATERPROOFING

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers all labor, materials, accessories, scaffolding and appliances necessary for the completion of all COLD FLUID-APPLIED WATERPROOFING

1.02 SUBMITTALS

A. Comply with Section 01340 - Submittal Procedures.
B. Submit manufacturer's product data and application instructions.

1.03 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Use an experienced installer an adequate number of skilled personnel who are thoroughly trained and experienced in the application of the fluid applied waterproofing membranes.
B. Obtain waterproofing materials from a single manufacturer regularly engaged in manufacturing the product.
C. Provide products which comply with all state and local regulations controlling use of volatile organic compounds (VOCs).

1.04 PRECONSTRUCTION MEETING

A. Preconstruction Meeting: After all required Submittals have been approved, Convene minimum one week prior to commencing work of this section, in accordance with Section 01200- Project Meetings.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
C. Store at temperatures between 40 degrees to 70 degrees F (4 degrees to 21 degrees C).
D. Protect materials during handling and application to prevent damage or contamination.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Product not intended for uses subject to abuse or permanent exposure to the elements.
B. Do not apply membrane when air, material, or surface temperatures are expected to fall below 30 degrees F (-1 degrees C) within four hours of completed application.
C. Do not apply membrane if rainfall is forecast or imminent within 12 hours.
D. Do not apply waterproofing membrane to any surfaces containing frost.
E. Consult manufacturer for applications to green concrete.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. W. R. MEADOWS®, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Website: www.wrmeadows.com.

2.02 MATERIALS

A. Waterproofing Membrane: single-component, cold fluid-applied, solvent-free, non-shrink, waterproofing membrane.
B. Quality Standard - VERTIBARRIER NS W. R. MEADOWS.

2.03 ACCESSORIES

A. All Accessories provided by Waterproofing Mfr.
B. Reinforcement Fabric: 6” (15.25 cm) wide reinforcing fabric for corners, crack, and joint treatment. HCR
C. Termination sealant: BEM.
D. Concrete repair materials: Meadow-Patch® 5 and 20 concrete repair mortars.

E. Protection course: Perminator 15-mil, polyolefin sheet
F. Rolled matrix drainage panel: Mel-Drain™.
G. Termination Bar

PART 3 EXECUTION

3.01 EXAMINATION
A. Examine surfaces to receive membrane. Notify architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION
A. Protect adjacent surfaces not designated to receive waterproofing.
B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions.
C. Do not apply waterproofing to surfaces unacceptable to the manufacturer.
D. Concrete surfaces shall be clean, dry, free from dirt, oil, coatings and any other contaminants including but not limited to form release agents.
E. Patch all holes and voids and smooth out any surface misalignments including fins and ridges created by the forming process.

3.03 TRANSITIONS AND PENETRATION
A. Static Cracks and Joints
1. Seal cracks and joints 1/16 inch to 1/8 inch (1.59 mm to 3.175 mm)with termination sealant or fluid-applied waterproofing and tool smooth.
2. Rout and fill cracks and joints greater than 1/8 inch (3.175 mm) with manufacturer-approved restoration mortar.
a. Once cured, apply 60 mils (1.5 mm) of membrane waterproofing extending 5 inches beyond each side of the repair and immediately embed a 6-inch (152.4 mm)-wide strip of reinforcement fabric. Lap reinforcement fabric 2 inches (50.8 mm) and ends and edges.
b. Brush fabric into the membrane while still wet and eliminate all wrinkles.
B. Inside and Outside Corners
1. Apply a minimum ¾ inch (19 mm) fillet of termination sealant to all monolithic inside corners.
2. Apply a 60 mils (1.5 mm) of membrane waterproofing extending 5 inches (127 mm) out from the center of inside and outside corners.
3. Immediately embed a 6-inch (152.4 mm)-wide strip of reinforcement fabric, centered over the corner. Ensure reinforcement fabric is lapped 2 inches (50.8 mm).
C. Pipe Penetrations
1. Apply 60-mils (1.5 mm) of membrane waterproofing 5 inches (127 mm) onto the substrate and penetration.
2. Immediately embed a 6-inch-(152.4 mm)-wide section of reinforcement fabric, centered over the pipe-to-substrate interface. Wrap reinforcement fabric 3 inches (7.6 cm) onto the pipe and 3 inches (76.2 mm) onto the substrate in a “finger fashion”.
3. Brush reinforcement fabric into the membrane to ensure full engagement of membrane and eliminate all wrinkles.
4. Apply a 60-mil (1.5 mm) coating of fluid-applied waterproofing over and fully covering the reinforcement fabric fingers.
5. Immediately 5-inch-(127 mm) wide “target apron” onto fingers and brush to ensure full engagement of the membrane.

3.04 PRIMARY MEMBRANE APPLICATION
A. Mix waterproofing membrane with a paddle mixer in accordance with manufacturer’s requirements prior to application.
B. Apply waterproofing membrane system in accordance with manufacturer's instructions.
C. Apply base layer of membrane by roller or trowel at a minimum, uniform thickness of 60 mils (1.5 mm).

3.05 PROTECTION COURSE

A. Upon firm cure, spot-adhere 10 or 15-mil (0.25 mm or 0.38 mm) polyolefin protection course to membrane surface.
   1. Alternatively, using primary membrane or termination sealant, spot-adhere polymeric-backed drainage mat to firm-cured membrane surface.
   2. Alternatively, spot-adhered rigid extruded polystyrene insulation may be used as a qualified protection course.

3.06 MEMBRANE PROTECTION

A. Do not allow installed waterproofing and drainage mats to be exposed to UV conditions beyond 14 days.
B. Backfill immediately using care to avoid damaging waterproofing membrane system.

END OF SECTION

SECTION 07200

BUILDING INSULATION

PART I - GENERAL

1.01 SUBMITTALS: Submit catalog cuts of proposed insulating materials for Architect's approval.

PART II - PRODUCTS

2.01 BATT INSULATION:

A. Batts directly covered with wallboard: Foil faced fiberglass insulation Federal Spec. HH-I-521F Type III shall have a maximum flame spread rating of "B (26-75)" as classified by National Fire Code No. 255 Building Materials, Tests of Surface Burning Characteristics. Thickness as specified on the Drawings. Quality standard: Manville Thermal-Shield, Foil-Faced.

B. Batts exposed above a suspended ceiling: Foil faced fiberglass insulation Federal Spec. ASTM E 84 Type III shall have a maximum flame spread rating of "A (0-25)" as classified by National Fire Code No. 255 Building Materials, Tests of Surface Burning Characteristics. Thickness as indicated on drawings. Quality standard: Manville FSK-25.

2.02 ROOF INSULATION

A. Polyisocyanurate of thickness to comply with International Energy Code.

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PART III - EXECUTION

3.01 BATT INSULATION:

A. Install batt insulation where indicated. Cut to fit snugly without gaps. Lap tabs over face of studs and truss chords to provide a continuous vapor barrier around the entire building envelope. Tape all torn facing and tape facing to unexposed face of window and door frames.

B. Install Roof Insulation as detailed and in accordance with manufacturer's recommendations , friction fit between blocking, butt ends closely together, and fill all voids.

END OF SECTION

07240

EXTERIOR INSULATION AND FINISH SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. Extent of exterior insulation and finish systems (EIFS) is indicated on drawings.

B. Contractor is to provide EIFS installation consistent with Warranties & Details included herein, including components necessary to meet those requirements whether indicated or not.

C. Definitions: The following definitions apply to this section:
   1. Exterior insulation and finish system refers to an exterior assembly composed of an inner layer of thermal insulation board and an outer layer forming the protective finish coating. The assembly is applied to a supporting substrate of construction indicated. Class and type of exterior insulation and finish system indicated below is based on designations developed by the Exterior Insulation Manufacturers Association (EIMA).
      a. Polymer-based protective coating (Class PB). externally reinforced (Type A).
   2. System manufacturer refers to the manufacturer of the wall insulation and finish system.

D. Applications of wall insulation and finish system in this section include the following:
   1. Applications over gypsum, cementitious and plywood, sheathing and substrates.

E. Gypsum sheathing and Cementitious board behind exterior insulation and finish system for field application to steel studs is specified in Section 09250 - GYPSUM DRYWALL AND METAL STUD CONSTRUCTION.
   1. All EIFS sheathing and substrates to be approved by EIFS manufacturer to maintain all warranties required by contract.

F. Metal stud system for exterior walls supporting gypsum sheathing under exterior insulation and finish system is not covered in this Specification but shall be engineered by system manufacturer.

G. Related Work Specified Elsewhere.
   1. Refer to all sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS.
   2. Sealant as specified in Section 07900, CALKING AND SEALANTS.
   3. Refer to Section 09250 GYPSUM WALLBOARD for metal stud back-up system.

1.02 SYSTEM PERFORMANCES

A. Provide exterior insulation and finish system assemblies complying with the following requirements for system performances:
   1. Bond Integrity: Free from bond failure within or between any component, including substrate and supporting wall construction resulting from exposure to fire, wind loads, weather or other in-service conditions.
   2. Weathertightness: Resistant to water penetration from exterior into assembly or through it into interior of building which results in deterioration of thermal insulating effectiveness or degradation of assembly components including substrate, joint sealers and supporting wall construction.

B. Fire Performance Characteristics: Provide materials and construction which are identical to those whose fire performance characteristics as listed below have been determined by testing, per methods indicated, by UL or other testing and inspecting agency, acceptable to authorities having jurisdiction:
   1. Surface Burning Characteristics: Flame spread rating of 25 or less per ASTM E 84 for each component of exterior insulation and finish system when tested individually, including insulation board and base and finish coats combined of protective coating.
   2. Full Scale Fire Test: Wall assembly in its final form shall show no tendency to propagate flame over the surface or through the core or to delaminate when exterior

face, in vertical position, is exposed to a fire source, and tested per ASTM E 108, modified for vertical applications.

1.03 QUALITY ASSURANCE

A. Field-Construction Mock-Up: Prior to installation of exterior insulation and finish systems, erect mock-ups for typical form of wall construction and finish required selections made under sample submittals. Build mock-up to comply with the following requirements, using materials indicated for final work:
   1. Provide 4' x 6' mock-up on site in location as directed by Architect.
   2. Demonstrate the proposed range of color, texture and workmanship to be expected in completed Work. Include aesthetic joint and expansion joint construction.
   3. Obtain Architect's acceptance of mock-up's visual qualities before start of final Work.
   4. Retain and maintain mock-ups during construction for judging completed Work. When directed, demolish mock-ups and remove from site.

B. Single Source Responsibility: To ensure consistent quality of appearance and performance, obtain materials for exterior insulation and finish system from either a single manufacturer or from manufacturers approved by the system manufacturer as compatible with other system components.

C. Installer Qualifications: Engage an Installer/Applicator that is certified in writing by system manufacturer as qualified for installation of system indicated.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each component for exterior insulation and finish system.

B. Submit letter from manufacturer confirming that installation procedures and materials are compatible with the building substrate.

C. Shop Drawings: Complete drawings prepared by the Installer/Applicator and showing wall layout, all details, and finish system, and installation sequence shall be submitted to the Architect.

D. Samples for Initial Selection Purposes: Submit system manufacturer's standard color charts and small scale samples indicating textural choices available.

E. Samples for Verification Purposes: Submit three (3) 2' x 2' samples for each finish, color and texture indicated; prepare samples using same tools and techniques intended for actual work.

F. Test Reports: Submit test reports evidencing compliance with requirements for fire performance characteristics, bond integrity, and material performances indicated.
   1. Research Reports: Submit research or evaluation reports evidencing compliance of exterior insulation and finish systems with 87 FINISH Code in effect for project.

G. Installer Qualifications: Submit a current dated copy of the certification from the system manufacturer that the installer is qualified and trained for installation of system indicated.

H. Maintenance Kit: Furnish two maintenance kits to the Owner. Containers of liquids shall be unopened. Maintenance kit shall include enough material to repair 40 square feet of surface.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver products in original, unopened packages with manufacturer's labels identifying products legible and intact.

B. Store materials inside, under cover and in a manner to keep them dry, protected form the weather, direct sunlight, surface contamination, aging, corrosion, damaging temperature,

damage from construction traffic and other causes.

C. Stack insulation board flat, off the ground, and protected from the sun.

1.06 JOB CONDITIONS

A. Protect contiguous work from moisture deterioration and soiling which might result from application of exterior insulation and finish systems. Provide temporary covering and whatever other provision may be necessary to prevent harmful spattering of exterior finish coating on other work.

B. Protect wall insulation and finish system from effects of inclement weather during and until installation is completed, including flashing, joint sealers and other related work required to prevent infiltration of moisture behind system or deterioration of substrates over which system is applied.

C. Do not install wall insulation and finish system when ambient outdoor temperatures are less than 40 degrees F (4 deg. C) and above, during and for 24 hours after, installation of wet materials.

1.07 SEQUENCING

A. Sequence installation of wall insulation and finish system with related work specified in other sections to ensure that wall assemblies, including flashing, trim, and joint sealers, are protected against damage from effects for weather, aging, corrosion or other causes.

1.08 WARRANTY

A. Provide Standard Manufacturer warranty for 5 years for materials and labor.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Manufacturer's: Subject to compliance with requirements, provide products of one of the following:
   1. Manufacturers of Polymer-Base Protective Coating (Class PB), Externally- Reinforced (type A) Systems:
      a. Dyrvit
      b. Senergy, Inc.
      c. Sto Industries, Inc.

2.02 MATERIAL FOR POLYMER-BASED PROTECTIVE COATING, EXTERNALLY REINFORCED SYSTEM:

A. General: Provide adhesive, board insulation, reinforcing fabrics, base and finish coat materials, and accessories which are compatible with one another and approved for use by exterior insulation and finish system manufacturer.
   1. Provide color and texture of protective coating system as selected by Architect from manufacturer's colors and textures available for type of finish coat indicated.

B. Surface-Sealer: System manufacturer's standard adhesion intermediary designed to improve bond between substrate of type indicated and adhesive for application of insulation.

C. Adhesive for application of Insulation: System manufacturers standard formulation designed for use indicated, compatible with substrate over which insulation is installed and complying with the following requirements:
   1. Factory-mixed formulation designed for adhesive attachment of insulation to gypsum board, when mixed to a ratio of 1 lb. adhesive to 1 lb. Portland cement.

D. Molded Polystyrene Board Insulation: Rigid, cellular polystyrene thermal insulation formed by the expansion of polystyrene resin beads or granules in a closed mold to comply with ASTM C 578 for Type I: aged block form prior to cutting and shipping by air drying for not less than 6 weeks or by another method producing equivalent results: 2' x 4' thickness indicated but not less than the minimum thickness allowed by system manufacturer and by complying with requirements of system manufacturer for corner squareness and other dimensional tolerances.

E. Reinforcing Fabric: System manufacturer's standard, balanced, alkali-resistant, open weave glass fiber fabric made from multi-end strands with tensile strength of not less than 120 lbs. and 140 lbs. in warp and fill directions respectively, per ASTM D 1682; and complying with the following requirements for weight of fabric per sq. yd.:
   1. Weight of Standard Reinforcing Fabric: Not less than 3.75 oz.
   2. Weight of Impact-Resistant Reinforcing Fabric: Not less than 20.4 oz.
   3. Weight of Strip Reinforcing Fabric: Not less than 3.75 oz.

F. Base-Coat Materials: System manufacturer's standard, job-mixed formulation of portland cement complying with ASTM C 150, Type I, white or natural color; and system manufacturers standard 100% polymer-based designed for use indicated.

G. Finish Coat Materials: System manufacturer's standard mixture complying with the following requirements for material composition and method of combining materials:
   1. Factory-mixed formulation of 100% polymer emulsion, color-fast mineral pigments, sound stone particles, and no non-polymer fillers such as fiberglass shorts. Color and texture to be selected by Architect.

H. Water: Clean and potable.

2.03 MIXING

A. General: Comply with system manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water or other materials. Do not introduce admixtures, water or other materials except as approved by system manufacturer. Mix materials in clean containers. Use materials within time period specified by system manufacturer or discard.

PART 3 EXECUTION

3.01 INSPECTION

A. Installer shall examine substrates to determine if they are in satisfactory condition to receive exterior insulation and finish system. A satisfactory substrate is one that complies with requirements, including installation tolerances, of the sections in which the substrate and related work is specified. Obtain Installer's written report listing conditions detrimental to performance of work of this section. Do not proceed with installation of system until unsatisfactory conditions have been corrected.

3.02 PREPARATION:

A. Pre-Installation Meeting: At Contractor's direction, Installer, system manufacturer's technical representatives, installer of substrate materials and other trades whose work effects exterior insulation and finish system, shall meet at project site to review procedures and time schedule proposed for installation of the system and coordination with related work.

B. Substrate Preparation: Perform preparation and cleaning procedures in compliance with system manufacturer's to obtain optimum bond between substrate and adhesive used to attach insulation.
   1. Apply surface-sealer over substrates where required by system manufacturer for improving adhesion.

3.03 INSTALLATION OF BOARD TYPE INSULATION AND SUBSTRATES:

A. Comply with system manufacturer's current published instructions for installation of exterior insulation and finish system as applicable to each type of substrate indicated.
B. Install insulation boards to comply with the following requirements:
   1. Apply boards over dry substrates in courses with long edges oriented horizontally;

begin first course from a level base line and work upwards.
2. Stagger vertical joints in successive courses to produce running bond pattern.
3. Offset joints of insulation from joints in sheathing.
4. Interlock ends at internal and external corners.
5. Abut boards tightly at joints within and between each course to produce flush, continuously even surfaces without gaps or raised edges between insulation boards. If gaps occur, fill with insulation cut to fit gaps exactly; insert without use of adhesives.
6. Rasp or sand flush any irregularities in surfaces of insulation projecting more than 1/32".
7. Cut insulation to fit openings, corners and projections precisely and to produce edges and shapes conforming to details indicated. Form joints for sealant application by leaving gap of width indicated between insulation edges and dissimilar adjoining surfaces projecting through insulation.
8. Interrupt insulation where expansion joints are indicated in sub-stratus behind exterior insulation and finish systems.
9. Coordinate installation of insulation with flashing to produce a wall system which does not allow water to penetrate behind protective coating.
10. Install insulation boards in strict accordance with manufacturer's instructions using mechanical anchors into studs at 8" o.c. vertically and at each stud horizontally, but not more than 16" o.c. Use anchors of appropriate size as manufactured by Wind-Lock Co., similar to Wind Devil Fastener #S-3x2 1/2.

3.04 INSTALLATION OF POLYMER-BASED COATING, EXTERNALLY REINFORCED SYSTEM:

A. Allow adhered insulation to remain undisturbed for period prescribed by system manufacturer by not less than 24 hours prior to beginning rasping and sanding insulation or application of base coat and reinforcing fabric.

B. Apply Base Coat to exposed surfaces of insulation in minimum thickness specified by system manufacturer.

C. Fully embed reinforcing fabric of weight indicated below in wet base coat to produce wrinkle-free installation with fabric continuous at corners and lapped or otherwise treated at joints to comply with system manufacturers requirements.
   1. Fabric Weight: Standard except where otherwise indicated.
   2. Fabric Weight: Impact resistant at all walls within 5' of sidewalks, entry areas, and loading dock to 10' high.

D. Double Layer Application: Where indicated at impact resistant areas or required by system manufacturer, apply a second base coat and second layer of reinforcing fabric of standard weight in same manner as first application, do not apply until first base coat has cured.

E. Treat exposed edges of insulation board, including those forming substrates of sealed joints within system or between system and other work, by encapsulating with base coat, reinforcing fabric and finish coat.

F. Apply finish coat over dry base coat in minimum thickness required by system manufacturer to produce a uniform finish of texture and color matching approved sample.

3.05 CLEANING AND PROTECTION

A. Remove temporary covering and protection of other work. Promptly remove protective coatings from window and door frames, and any other surfaces outside areas indicated to receive protective coating.

C. Provide final protection and maintain conditions, in manner suitable to installer and system manufacturer, which ensures exterior insulation and finish system being without damage or deterioration at time of substantial completion. If, despite these precautions, damage occurs, restore to a condition indistinguishable in appearance from, and equivalent in performance to, undamaged areas by replacing or repairing in compliance with system manufacturer's recommendations.

END OF SECTION

07411

METAL ROOF

PART I - GENERAL

1.01 DESCRIPTION OF WORK:

A. This section covers all materials, labor, engineering design, equipment and services necessary for complete fabrication and installation of Metal Roof Panels and related Sheet Metal Work as shown on the Drawings.

B. Contractor to furnish and install roll formed metal panel system with continuous integral locking system. Provide all necessary accessories, ridges, hips, valleys, eaves, rakes, corners, all associated flashings, closure members and fasteners to ensure a weathertight installation. Contractor to include all gutters, gutter brackets, downspouts and conductor heads as indicated on the Drawings.

C. Related Work Specified Elsewhere:

1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS.
2. Section 07200 BUILDING INSULATION

1.02 SUBMITTALS:

A. Submit Manufacturer provided shop drawings with an Engineer's seal prepared by the panel manufacturer showing layout of panels and all trim details, underlayment (felts & Ice & Water Shield), flashing conditions, fastening and anchoring methods, weatherproofing, terminations, and penetrations of panels. Installer created drawings will not be accepted.

B. Include panel manufacturer's calculations with registered engineer seal, verifying roof panel and corresponding roof anchor layout resist wind pressures imposed on it pursuant to applicable building codes. Panel manufacturer shall submit certification that the assembly is UL Listed and complies with UL test for wind-uplift resistance of roof assemblies - Class UL90.

C. Submit Manufacturer's Product Data.

D. Submit actual sample of each product specified showing panel construction and color. 12 inches long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.

1.03 QUALITY ASSURANCE:

A. Products specified are based on products manufactured A-Lert Company.

B. Metal Roof System is to match Existing Roof System as install by Alert Roofing

C. Warranty:

1. Panel installer shall issue a 2-year warranty from the date of Substantial Completion. Furnish a written warranty signed by the Panel Applicator guaranteeing materials and workmanship for watertightness of the roofing system, flashings, penetrations, and against all leaks.
2. Panel manufacturer shall provide a 20-year weathertightness warranty, dated from date of substantial completion, no dollar limit, non-prorated. Manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain watertight, including leaks, within specified warranty period.
3. Panel manufacturer shall provide a 40-year warranty on paint finish covering chalking, cracking, peeling, and fading.
4. Panel manufacturer shall provide a 25-year galvalume substrate warranty.
5. Any additions or changes required by the roofing manufacturer to fully maintain this warranty shall be included in the bidder's price.

D. Perform Field Uplift Test in accordance with requirements indicated on the Structural Drawings.
E. All materials and workmanship to comply with established industry procedures and standards.

1.04 DELIVERY, STORAGE & HANDLING:

A. Material shall be stored on site in a dry environment protected from water damage. Panels are to be stored to allow for positive drainage in the event that materials are subjected to moisture.

B. Accessories with strippable protective film shall not be exposed to direct sunlight or extreme heat.

C. Do not allow storage of other trade materials on finished product or allow for other work to be staged off finished panels.

PART II - PRODUCTS

2.01 METAL ROOF PANELS: Match Existing Metal Roof Panels as manufactured by A-Lert Roof System, Centurion Industries, based on submittal and approval by Architect.

2.02 FLASHING AND TRIM: All flashing and trim shall be fabricated of the same material, gauge, finish and color as the roof panels, unless specifically noted otherwise. Fabrications shall be in accordance with standard SMACNA procedure and details.

2.03 FABRICATION: Panels are to be roll formed in continuous lengths from 24 gauge 40 K.S.I. steel. End laps will not be allowed. Panels to be Galvalume coated complying with ASTM A792, Class AZ50.

2.04 FINISH: Finish shall be full strength Kynar 500®/Hylar 5000® fluoropolymer coating applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.75 ± 0.05 mil over 0.20 ± 0.05 mil prime coat, to provide a total top side dry film thickness of 0.95 ± 0.10 mil. Bottom side shall be coated with a primer (non-metallics only) and beige polyester coating with a total dry film thickness of 0.35 ± 0.05 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500®/Hylar 5000® finish supplier.

2.05 COLOR: MATCH EXISTING roof panels and associated trim.

2.06 ICE & WATERSHIELD: 40 mil rubberized asphalt and polyethylene, as manufactured by W.R. Grace and Co. and as approved by Roof Panel Mfr.

2.07 Gutters: Match Existing - Formed from same material and finish as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches (914 mm) o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets.

2.08 Downspouts: Formed from same material and finish as roof panels. Fabricate in 10-foot long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual."

PART III - EXECUTION

3.01 INSPECTION:

A. The Contractor shall examine the alignment of the substrate before installing any metal panels and shall not proceed with installation if the substrate does not meet a minimum of ¼" deflection over 20'0 span.

B. Pre Roofing Conference: Conduct conference at Project site.
   1. Meet with Owner, Architect, metal panel Installer, Representative from the metal panel manufacturer's plant, structural-support Installer, and installers whose work interfaces with or affects metal panels, including installers of roof accessories and roof-mounted equipment.
   2. Review with Panel Mfr's Rep and Installer methods and procedures related to metal panel installation, including manufacturer's written instructions.
      a. Review flashings, special details, drainage, penetrations, equipment curbs, and condition of other construction that affect metal panels.
      b. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
      c. Review temporary protection requirements for metal panel systems during and after installation.
      d. Review procedures for repair of metal panels damaged after installation.
      e. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.
      f. Panel Mfr's Rep will verify the acceptability of the substrate and submit a written approval of substrate conditions.

3.02 FABRICATION
A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using factory set, non-adjustable, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

3.03 INSTALLATION:
A. Field erection of all metal panels and accessories to be accomplished using qualified field mechanics.
B. Metal panels should be erected level and plumb, in proper alignment and relation to substrate and established lines. Panel erection must be started correctly and held true to line.
D. Metal panel and accessory erection shall be in accordance with an approved set of shop drawings.
E. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.
F. Where aluminum materials come in contact with dissimilar materials, a bituminous paint or caulking tape shall be installed to insulate between the dissimilar materials. Factory applied protective paint coatings or G-90 galvanized steel is considered adequate insulation. Provide separation of dissimilar metals wherever required to maintain all warranties.

3.04 ADJUSTING AND CLEANING:
A. Replace panels that have irreparable damage.

B. Repair panels with minor damage.

C. Clean all foreign material from panel (building) gutter system when applicable.

D. Remove strippable film coating (if used) as soon as possible after surrounding material has been installed.

END OF SECTION

SECTION 07421

COMPOSITE METAL WALL PANELS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: COMPOSITE METAL WALL PANELS.

1. Applications of composite include:

a. Exterior installation of composite metal panels.

b. Interior installation of composite metal panels.

B. Alternates: Products and installation included in this section are specified by alternates. Refer to Division 01 Alternates Section for alternates description and alternate requirements.

C. Related Sections: Section(s) related to this section include:

1. Cold-Formed Metal Framing: Division 05 Metal Framing Sections.

2. Sheet Metal Flashing and Trim: Division 07 Flashing and Trim Section.

3. Joint Sealers: Division 07 Joint Treatment Section.

4. Aluminum Windows: Division 08 Aluminum Windows Section.

5. Glazing: Division 08 Glass and Glazing Section.

6. Metal Framed Curtain Wall: Division 08 Curtain Wall Sections.

1.02 REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. ASTM International:

1. ASTM D1781 Standard Test Method for Climbing Drum Peel for Adhesives.

2. ASTM D1929 Standard Test Method for Determining Ignition Temperature of Plastics.

3. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.

4. ASTM E108 (Modified) Standard Test Methods for Fire Tests of Roof Coverings.

5. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials.

6. ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

7. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

8. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Curtain Wall, and Doors by Uniform Static Air Pressure Difference.

C. American Architectural Manufacturers Association (AAMA):

1. AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

2. AAMA 508 Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems.

D. International Organization for Standardization (ISO):

1. ISO 9001-2015 Quality Management Systems - Requirements.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide composite metal panels that have been manufactured, fabricated and installed to withstand loads from deflection and thermal movement and to maintain performance criteria stated by manufacturer without defects, damage or failure.

B. Deflection and Thermal Movement: Provide systems that have been tested and certified to conform to the following criteria under wind loading of [specify loading psf (kPa)] inward and [specify loading psf (kPa)] outward:

1. Normal Deflection: Deflection of perimeter framing member not to exceed L/175 normal to plane of the wall; deflection of individual panels not to exceed L/60.

2. Anchor Deflection: At connection points of framing members to anchors, anchor deflection in any direction not to exceed 1/16 inch (1.6 mm).

3. Thermal Movements: Allow for free horizontal and vertical thermal movement due to expansion and contraction of components over a temperature range from [specify temperature range in degrees F (degrees C)].

a. Buckling, opening of joints, undue stress on fasteners, failure of sealants, or any other detrimental effects of thermal movement will not be permitted.

b. Fabrication, assembly and erection procedures shall take into account the ambient temperature range at the time of the respective operation.

C. Water and Air Leakage: Provide systems that have been tested and certified to conform to the following criteria:

1. Pressure Equalized Rain Screen Systems.

D. Structural: Provide systems that have been tested in accordance with ASTM E330 at a design pressure of [specify design pressure in psf (kPa)] and have been certified to be without permanent deformation or failures of structural members.

1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer's SPEC-DATA sheet, for specified products.

C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors and textures.

1. Include details showing thickness and dimensions of the various system parts, fastening and anchoring methods, locations of joints and gaskets, and location and configuration of joints necessary to accommodate thermal movement.

D. Samples: Submit selection and verification samples for finishes, colors and textures.

1. Selected Samples: Manufacturer's color charts or chips illustrating full range of colors, finishes and patterns available for composite metal panels with factory applied finishes.

2. Verification Samples:

a. Structural: 12 inches × 12 inches (305 × 305 mm) sample composite panels in thickness specified from an available stock color, including clips, anchors, supports, fasteners, closures and other panel accessories, for assembly approval. Include panel assembly samples not less than 24 inches × 24 inches (610 × 610 mm) showing 4-way joint.

b. Include separate sets of drawdown samples on aluminum substrate, not less than 3 inches × 5 inches (76 × 127 mm), of each color and finish selected for color approval. Larger samples of standard colors are available with production-applied coatings.

E. Quality Assurance Submittals: Submit the following:

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties, or a third party listing documenting compliance to a comparable code section.

2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical requirements.

3. Manufacturer's Instructions: Manufacturer’s installation instructions.
4. Manufacturer’s Field Reports: Manufacturer’s field reports.

F. Closeout Submittals: Submit the following:
1. Warranty: Warranty documents specified.

1.05 QUALITY ASSURANCE

A. Qualifications:
1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in the installation of work similar to that required for this project.
a. Certificate: When requested, submit certificate indicating qualification.
2. Manufacturer Qualifications: Company with a minimum of 5 years of continuous experience manufacturing panel material of the type specified:
a. Able to provide specified warranty on finish.
b. Able to provide a list of 5 other projects of similar size, including approximate date of installation and name of Architect for each.
c. Able to produce the composite material without outsourcing of the coating or laminating process.
d. Able to provide a certificate of registration to ISO 9001-2015.
3. Fabricator Qualifications: Company with at least 3 years of experience on similar sized metal panel projects and qualified by panel material manufacturer. Capable of providing field service representation during construction.

B. Mock-Ups: Install at project site a job mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner’s and Architect’s acceptance of finish color (drawdown samples to be used for color approval of nonstandard coil coated colors), texture and pattern and workmanship standard. Comply with Division 01 Quality Control, Mock-Up Requirements Section.
1. Mock-Up Size – 4’ X 4’ X 2’ , sifficient to demonstrate full range of details.
2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
3. Incorporation: Mock-up may be incorporated into final construction upon Owner’s approval.

C. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, substrate conditions, manufacturer’s installation instructions and manufacturer’s warranty requirements. Comply with Division 01 Project Management and Coordination, Project Meetings Section.

1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 01 Product Requirements Sections.

B. Ordering: Comply with manufacturer’s ordering instructions and lead time requirements to avoid construction delays.

C. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.
1. Protection: Protect finish of panels by applying heavy-duty removable plastic film during production.
2. Delivery: Package composite wall panels for protection against transportation damage. Provide markings to identify components consistently with drawings.
3. Handling: Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.

D. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperatures recommended by manufacturer.
1. Storage: Store panels in well-ventilated space out of direct sunlight.
a. Protect panels from moisture and condensation with tarpaulins or other suitable weather tight covering

installed to provide ventilation.

b. Slope panels to ensure positive drainage of any accumulated water.

c. Do not store panels in any enclosed space where ambient temperature can exceed 120 degrees F

2. Damage: Avoid contact with any other materials that might cause staining, denting or other surface damage.

1.07 PROJECT CONDITIONS

A. Substrate Tolerances: The General Contractor is responsible for providing a substrate with a tolerance of 1/4 inch in 20.0 feet (6mm in 6m), on level, plumb, and location control lines as indicated and within 1/8 inch (3mm) offset of adjoining faces of alignment of matching profiles tolerances are noncumulative.

B. Field Measurements: Verify locations of wall framing members and wall opening dimensions by field measurements prior to fabrication of MCM System. Indicate measurements on the “As Built Shop Drawings”. Field measurements to be taken once all substrate materials and adjacent materials are installed.

C. Project Schedule: Provisions in the project schedule must accommodate the time interval between field measurements and fabrication/installation.

1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.

1. Warranty Period:

a. Panel Integrity: 10 years commencing on Date of Substantial Completion.

b. Finish: 30 Years commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 COMPOSITE METAL WALL PANELS

A. Quality Standard - Manufacturer: Mitsubishi Chemical America, Inc. ALPOLIC Division, ALPOLIC Composite Metal Panels.

1. Standard ALPOLIC composite metal panels.

B. Manufacturers of Comparable Products to submit documents for approval by Owner.

2.02 COMPOSITE METAL PANEL MATERIALS

A. Composite Metal Panels:

1. Core: Thermoplastic material that meets performance characteristics specified when fabricated into composite assembly.

2. Face Sheets: Aluminum alloy 3105 H14, 0.020 inch (0.51 mm) thick and as follows:

a. Coil coated with FEVE fluoropolymer paint finish that meets or exceeds values expressed in AAMA 2605 where relevant to coil coatings.

b. Coil coated with specified finish [Less than 1000 ft^2 (93 m^2) quantities].

c. Thermally bonded in a continuous process, under tension, to the core material.

3. Bond Integrity: Tested for resistance to delamination as follows:

a. Peel Strength (ASTM D1781): 22.5 in-lb/in (100 N-m/m) minimum.

4. Fire Performance:

a. Flamespread (ASTM E84): Class A (4 and 6 mm).

b. Smoke Developed (ASTM E84): Class A (4 and 6 mm).

c. Surface Flammability (Modified ASTM E108): Pass (4 and 6 mm).

d. V-O Rating (4 mm): Comply with UL 94.

5. Product Transparency:

a. Provide a Product Transparency Declaration (PTD) for the Composite metal panels

B. Production Tolerances:

1. Width: +/- 2 mm.
2. Length: +/- .012” per ft (1 mm/meter).
3. Thickness (4 mm Panel): +/- 0.008 inch (0.2 mm).
4. Thickness (6 mm Panel): +/- 0.012 inch (0.3 mm).
5. Bow: Maximum 0.5% length or width.
6. Squareness: Maximum 0.2 inch (5 mm).
7. Edges of sheets shall be square and trimmed with no displacement of aluminum sheets or protrusion of core material.

C. Panel Thickness: 4 mm typical ; 6 mm for applications as recommended by Manufacturer..

2.03 ACCESSORIES

A. General: Provide fabricator’s standard accessories, including fasteners, clips, anchorage devices and attachments for specific applications indicated on contract documents.

2.04 RELATED MATERIALS

A. General: Refer to other related sections in Related Sections paragraph specified herein for related materials, including cold-form metal framing, flashing and trim, joint sealers, aluminum windows, glass and glazing and curtain walls.

2.05 FABRICATION

A. General: Shop fabricate to sizes and joint configurations indicated on drawings.

1. Where final dimensions cannot be established by field measurements, provide allowance for field adjustment as recommended by the fabricator.
2. Form panel lines, breaks and angles to be sharp and true, with surfaces that are free from warp or buckle.
3. Fabricate with sharply cut edges and no displacement of aluminum sheet or protrusion of core.

2.06 FINISHES

A. Factory Finish: Lumiflon-based fluoropolymer resin coating that meets or exceeds values expressed in AAMA 2605 where relevant to coil coatings.

1. Color: Red and Natural Finish Aluminum as selected by Owner

2.07 SOURCE QUALITY

A. Source Quality: Obtain composite panel products from a single manufacturer.

PART 3 EXECUTION

3.01 MANUFACTURER’S INSTRUCTIONS

A. Compliance: Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions and product carton instructions.

3.02 EXAMINATION

A. Substrate Tolerances: The General Contractor is responsible for providing a substrate with a tolerance of 1/4 inch in 20.0 feet (6mm in 6m), on level, plumb, and location control lines as indicated and within 1/8 inch (3mm) offset of adjoining faces of alignment of matching profiles tolerances are noncumulative.

B. Field Measurements: Verify locations of wall framing members and wall opening dimensions by field measurements prior to fabrication of MCM System. Indicate measurements on the “As Built Shop Drawings”. Field measurements to be taken once all substrate materials and adjacent materials are installed.

C. Project Schedule: Provisions in the project schedule must accommodate the time interval between field measurements and fabrication/installation.

3.03 INSTALLATION

A. General:

1. Install panels plumb, level and true in compliance with fabricator’s recommendations.

2. Anchor panels securely in place in accordance with fabricator’s approved shop drawings.

3. Installation Tolerances: Maximum deviation from horizontal and vertical alignment of installed panels: 0.25 inch in 20 feet (6.4 mm in 6.1 m), noncumulative.

B. Related Products Installation Requirements: Refer to other sections in Related Sections paragraph herein for installation of related products.

3.04 FIELD QUALITY REQUIREMENTS

A. Field Quality Control: Comply with panel system fabricator’s recommendations and guidelines for field forming of panels.

B. Fabricator’s Field Services: Provide fabricator’s field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with fabricator’s instructions.

1. Site Visits: 1-After Mock up is complete for Mfr’s Rep Approval , 2- within one week of initial Installation 3- upon final completiomn of Composite Metal Wall Panel Installation.

3.05 ADJUSTING

A. Adjusting:

1. Repair panels with minor damage such that repairs are not discernible at a distance of 10 feet (3 m).

2. Remove and replace panels damaged beyond repair.

3. Remove protective film immediately after installation of joint sealers and immediately prior to completion of composite metal panel work.

4. Remove from project site damaged panels, protective film and other debris attributable to work of this section.

3.06 CLEANING

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer’s instructions prior to owner’s acceptance. Remove construction debris from project site and legally dispose of debris.

3.07 PROTECTION

A. Protection: Protect installed product’s finish surfaces from damage during construction.

1. Institute protective measures as required to ensure that installed panels will not be damaged.

END OF SECTION

FLEXIBLE SHEET ROOFING SYSTEM

PART 1 GENERAL

1.01 GENERAL NOTES

A. Contractor will perform all work by competent, trained, and properly equipped personnel in strict accordance with good roofing practices and applicable industry standards.
B. Contractor will observe all published safety prevention policies and practices relating to application of roofing system and related work. All federal, state, and local codes shall be followed.
C. Contractor will follow application, safety, etc. information as published in the most current edition of the Roofing Mfr's Roofing System Technical Specification.

1.02 WORK INCLUDED

A. Work under this section covers the installation of a 60 mil white TPO roofing system, mechanically fastened to meet Factory Mutual Standards, and as indicated in the Drawings.

B. Contractor shall include all related items of work as noted herein or indicated on the drawings **or otherwise required to complete the specified elements of work and provide the necessary warranties for this work.**

C. Contractor will dispose of all materials properly. Any material removal shall comply with state and local codes and requirements and shall be disposed of in a legal manner.

1.03 RELATED SECTIONS

A. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS.
B. Sheet Metal Flashing is covered in 07600, FLASHING & SHEET METAL.Section 07600 - Sheet Metal, Flashing and Trim.
C. Section 07900 - JOINT SEALERS
D. Section 07950 - EXPANSION CONTROL SYSTEMS

1.04 SUBMITTALS

A. Application Information:
   1. Submit copy of Roofing Mfr's application specification.
   2. Submit copy of job related Roofing Mfr's details including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, drains, and any other relevant details.
B. Letter from Mfr's Field representative approving the substrate for application of TPO roofing.

1.05 QUALIFICATIONS

A. Manufacturer:
   1. Company specializing in manufacturing the roofing membrane specified in this Section with THREE years of manufacturing experience.
   2. System supplier must have ISO 9002 certification.
   3. Manufacturer must be able to provide the project with the membrane and poly-Isocyanurate insulation.
B. Applicator:
   1. Shall provide a Letter from the roofing manufacturer attesting that roofing contractor is currently licensed by Roofing Mfr., and has been for at least three years, to install the specified system.
   2. Shall have a fully staffed office within 100 miles of the job site.
   3. Shall have at least Fifteen years experience in the Roofing Business, and currently installing a minimum of 300,000 square feet per year.
   4. Shall have at least three years experience in installing specified system.
   5. Provide a minimum of Three similar projects with references of specified system completed by the Contractor

1.07 QUALITY INSPECTION/OBSERVATION

A. Inspection by Manufacturer: Provide a final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer.
   1. Technical Representative shall not perform any sales functions.
   2. Contractor shall complete any necessary repairs required for issuance of warranty.
B. Provide Pull-out test by an independent laboratory for all mechanical fasteners, such as required for base sheet, termination bar and perimeter wood blocking.
C. Provide materials identification test by independent laboratory to determine compatibility of existing blocking with Roofing materials.

1.08 PRE-INSTALLATION CONFERENCE

A. Before start of roofing work, attend a conference to discuss the proper installation of materials. Attendees shall include all parties directly affecting work of this Section.

1.09 DELIVERY, STORAGE AND HANDLING

A. Deliver products in manufacturer's original containers dry, undamaged, seals and labels intact and legible.
B. Store all materials clear of ground and moisture with weather protective covering.
C. Keep all combustible materials away from ALL ignition sources.

1.10 ENVIRONMENTAL REQUIREMENTS

A. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice.
B. Do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application. Consult Roofing Mfr's Technical Specifications on cold weather application.

1.11 WARRANTY

A. Type/Term:
   1. Provide 20 year Roofing Mfr's Roofing System Limited Warranty. Warranty shall include membrane, roof insulation, flashing and all other products supplied by Roofing Mfr.
B. Coverage:
   1. No Dollar Limitation, Non - Prorated
   2. Scope of coverage:
      Repair any leak in the TPO Roofing System caused by the ordinary wear and tear of the elements, manufacturing defect in Roofing Mfr's materials, and the workmanship used to install these materials.
C. Roofing Manufacturer shall submit certification that system complies with UL test for wind uplift resistance I-90.

PART 2 PRODUCTS

2.01 NAILERS FOR FLANGES AND ROOF ACCESSORIES

A. Description: Structural Grade No. 2 or better Southern Pine, Douglas Fir, or Exterior Grade plywood. All wood shall be pressure treated for rot resistance **AND PROPERLY CURED.**
   1. Nailer: Minimum 3 ½ in. (nominal) wide or as wide as the nailing flange of each roof accessory. Thickness of roof insulation.
B. Reference Standards:
   1. Southern Pines: PS 20; SPIB Grading Rules.
   2. Western Woods: PS 20; WWPA Grading Rules.
   3. Plywood: PS 1; APA Grade Stamps.
   4. Pressure preservative treatment: AWPB LP2.

2.02 MANUFACTURERS - MEMBRANE MATERIALS

A. Mechanically fastened single-ply membrane system, reinforced TPO sheet roofing, Reference Standard: Firestone Ultraply TPO, 60 mil scrim reinforced.

2.03 INSULATION

A. Firestone ISO 95+ composite and tapered to match existing conditions, installed per Factory Mutual Standards. Thickness as required by International Energy Conservation Code.

2.04 TPO SHEET ROOFING SYSTEM COMPONENTS

A. Firestone MB Base Sheet as required by the Roofing Mfr. over roof deck indicated in the Drawings.
B. Firestone Ply IV sheet in full bed of asphalt as required by the Roofing Mfr.
C. TPO Flashing : Non-reinforced, TPO, single-ply flashing composed of PVC / Elvaloy blend. Nominal Thickness: .050 inch
D. Pourable Sealer: 2-Part urethane , 2-color for reliable mixing.
E. Seam Plates, Batten Strips and Insulation Plates: Steel with a Galvalume coating. Corrosion-resistant to meet FM-4470 criteria.
F. Termination Bar: 1.3" X 0.10" thick aluminum bar with integral caulk ledge.

2.05 MISCELLANEOUS

A. Roof Walkway Pads: Reinforced TPO Walkway Pads, .060" X 30" X 30" with traffic bearing surface
B. TPO molded inside corners, outside corners, pipe boots.
C. Splash blocks: standard concrete at each Downspout as indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine roof deck to verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
B. Examine roof substrate to verify that it is properly sloped to drains.
C. Start work with sealants and adhesives at 60° - 80° F.
D. Fumes from adhesive solvents may be drawn into the building during installation through rooftop intakes. Appropriate measures must be taken to assure that fumes from adhesive solvents are not drawn into the building through air intakes.
E. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

3.02 PROTECTION OF OTHER WORK

A. Protect neighboring work, property, cars, and persons from spills and over spray from adhesives, sealants and coatings and from damage related to roofing work.
B. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

3.03 MATERIAL STORAGE AND HANDLING

A. Deliver materials to job site in their original containers as labeled by the manufacturer. Store in accordance with Roofing Mfr's instructions.

3.04 WOOD NAILER LOCATION AND INSTALLATION

A. Wood nailers are to be lab tested by Installer to confirm compatibility with roofing materials.
B. Total wood nailer height shall match the total thickness of insulation being used and shall be installed with a 1/8" gap between each length and at each change of direction.
D. Wood nailers shall be firmly fastened to the deck. Mechanically fasten wood nailers to resist a force of 200 lbs. per lineal foot. Provide additional anchors as needed to meet all requirements of the roof manufacturer's warranty.

3.05 MEMBRANE INSTALLATION

A. Follow Roofing Mfr's installation instructions.
B. Lap splice areas that have been contaminated must be wiped down with a dry or damp (water only) clean cloth prior to heat welding and allow to completely dry.

C. All field and flashing splices on the horizontal surface shall be completed using an automatic heat welder which has been designed for hot air welding of thermoplastic membranes.
D. Hand held welders are only to be used on vertical welds or where an automatic welder is not practical or cannot be used.
E. Seams made with the automatic welder shall be a minimum of 1-1/2" wide. Seams made with hand welders shall be a minimum of 2" wide. Use 2" wide silicone or silicone coated steel hand rollers to assure proper mating of surfaces as hand heat welding proceeds.
F. Probe all completed welds using a slotted screwdriver or cotter pin puller type tool to verify seam integrity. Do not probe welds until they have had time to cool to ambient conditions. Any welds found to be insufficiently welded need to be repaired on a daily basis.

3.06 FLASHING - PENETRATIONS

A. Flash all penetrations passing through the membrane in accordance with Roofing Mfr's instructions
B. Flash Pipe with Pre-Molded Pipe Flashings where practical.
C. Using the longest pieces practical, flash all walls, parapets, curbs, etc., a minimum of 8" high per Roofing Mfr's Details.
D. Flash all gravel stops or roof edges as outlined in Roofing Mfr's Details.

3.07 SHEET METAL WORK

A. Install sheet metal as shown on roof drawings.
B. Follow current SMACNA guidelines for installation or Roofing Mfr's requirements, whichever is more stringent.

3.08 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed as required by the manufacturer
B. Correct identified defects or irregularities.

3.09 CLEAN-UP

A. Clean all contaminants from building and surrounding areas.
B. Remove trash, debris, equipment from project site and surrounding areas.
C. Repair or replace damaged building components or surrounding areas to the satisfaction of the building owner.

END OF SECTION

07600

FLASHING AND SHEET METAL

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers architectural sheet metal work as shown on Drawings and specified.

B. Related Work Specified Elsewhere

I. Refer to all sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS

2. Masonry flashing is specified in Section 04700 SIMULATED MASONRY.

3. Flashing associated with Membrane Roofing is specified in Section 07530.

1.02 SUBMITTALS

A. Samples

1. Finished surfaces: Submit samples of sheet metal finished in each specified color for the exterior and interior of the building.

B. Shop Drawings: Submit shop drawings showing layout, joining, profiles, and anchorages of fabricated work including major counter flashings, trim/fascia units, and expansion joint systems, layouts at 1/4" scale, details at 3" scale.

C. Warranty

1. Submit to the Owner a written warranty signed by General Contractor and sheet metal subcontractor stating that sheet metal work shall be completely watertight for a period of two years following Substantial Completion. The warranty shall cover all costs for repairing and/or replacing defective work due to improper materials or workmanship.

2. Pre-finished materials. Manufacturer shall provide a 20 twenty-year warranty on the sheet metal finish to cover cracking, peeling, and fading of finish.

1.03 QUALITY ASSURANCE

A. Standards

1. Anodized aluminum shall be in accordance with the Aluminum Association Standards. Painted aluminum shall be in accordance with the Architectural Aluminum Manufacturer's Association.

1.04 JOB CONDITIONS

A. Coordination: Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of the work and protection of materials and finishes.

PART 2 PRODUCTS

2.01 MATERIALS

A. Flashing/Trim, Copings

1. 24 gage, G-90 galvanized steel with custom color fluorocarbon finish with minimum 0.8 mil finish coat over 0.3 mil prime coat. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500 finish supplier.

B. Miscellaneous Materials and Accessories

1. Fasteners: Same metal as flashing/sheet metal or, other noncorrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened

2. Mastic Sealant: Polyisobutylene; nonhardening, non-skinning, nondrying, nonmigrating sealant

3. Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed; comply with FS TT-S-00027, TT-S-00230, or TT-S-001543

4. Epoxy Seam Sealer: 2-part non-corrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints
5. Adhesives: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet
6. Polyethylene Underlayment: 20-mil carbonated polyethylene film
7. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

2.02 FABRICATION

A. 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 for 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. Take field measurements prior to fabrication, where possible. Comply with material manufacturer instructions and recommendations for forming material

1. Forming: Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems
2. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Form aluminum and prefinished metal seams with epoxy seam sealer; rivet joints for additional strength where required
3. Butt Joints: Where butt joints are shown, provide splice plates that extend at least 6" on both sides of joint provide for installation of elastomeric sealant
4. Expansion Provisions: Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently water/weatherproof, form expansion joints of interlocking hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints). Provide for expansion at expansion joints in substrates
5. Thermal Expansion: Provide for thermal expansion of exposed sheet metal work exceeding 15'-0" running length and as follows:
    a. Flashing and trim: 10'-0" maximum spacing, and 2'-0" from corners and intersections
6. Sealant Joints: Where movable, non-expansion type joints are indicated or required for performance of work, form metal to provide for installation of elastomeric sealants
7. Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with paper slip sheet or with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

PART 3 EXECUTION

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Provide accessories and any other items essential to complete the sheet-metal installation, though not specifically indicated or specified.

B. Installation

1. Expansion Joints.
    a. Provide expansion and contraction joints in sheet metal work at not over 40 feet (12.0 m) on center, except that in extruded aluminum work, joint spacing shall be as recommended by the manufacturer
2. Flashing and Sheet Metal: 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, providing for thermal expansion of metal units; conceal fasteners, and set units true to line and level. Install' work with laps, joints, and seams that will be permanently watertight and weatherproof.

3.02 ADJUSTMENT AND CLEANING

A. Thoroughly clean sheet metal work of flux, scraps, and dirt.

B. Protection of Aluminum
1. Aluminum surfaces in contact with dissimilar metals, wet or green wood, mortar, masonry, concrete, or other absorptive materials shall be given a coat of bituminous paint or shall be protected by a non-absorptive tape or gasket between aluminum and adjoining surfaces.

C. Other Protection: Installer shall 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 Date of Substantial Completion.

END OF SECTION

07900

CAULKING AND SEALANTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. Caulking as specified herein is for use on the interior of the building unless sealant is indicated on the Drawings.

B. Sealant as specified herein shall be used on the exterior of the building, and elsewhere "Sealant" is indicated on the Drawings.

C. Related Work Specified Elsewhere
1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS.
2. See Section O8400 ENTRANCES AND STOREFRONTS for responsibility of sealants used in connection therewith.
3. Caulking for filling voids between plumbing fixtures and mounting surfaces (except at ceramic tile surfaces) is specified in Pluming Drawings.
4. Refer to Mechanical and Electrical Drawings, for responsibility of penetration sealants used in connection therewith.

1.02 SUBMITTALS

A. Section Cross-Reference: Refer to Division 1 - Submittals Section for submittal requirements.

B. Submit Manufacturer's Product Data, Specifications, handling & curing instructions, and performance data for each elastomeric product required.

C. Samples
1. General: Review will be for color and texture only
2. Submit 6" long sample of each type of sealant and caulking compound (with associated backup material) that will be exposed to view.

D. Product Warranty: Submit manufacturer's standard warranty to the Owner for each proprietary product herein specified, with warranty period beginning on Date of Substantial Completion. Warranty period shall be five (5) years.

E. Certification: Furnish written certification that specified firestop sealant meets or exceeds standard requirements when tested per ASTM E84 and E814.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING.

Deliver materials to the project in the original package with seals unbroken and with the manufacturer's name and brand stamped clearly thereon.

PART 2 PRODUCTS

2.01 MATERIALS

A. Select materials for compatibility with joint surfaces and select modulus of elasticity and hardness or grade as recommend by manufacturer for each application indicated
1. Color shall be as indicated or otherwise as selected by the Architect from Mfr's standard colors.
2. Materials utilized shall be from new cartridges with shelf-life valid during installation.

B. Caulking shall be one of the following: (For Interiors). Quality Standard : "AC-20" Acrylic Latex Caulk manufactured by Pecora Corp

C. Elastomeric Sealant. Except as otherwise indicated, provide manufacturer's standard, non-modified, two-part, polyurethane non-sag elastomeric sealant. Quality Standard - "Dynatrol II" Dynamic Sealant manufactured by Pecora Corp.

D. Sanitary Sealant. Provide joints between plumbing fixtures and walls/floors. Quality standard : GE Silicone Sanitary Sealant.

E. Miscellaneous Materials
1. Joint Primer/Sealer: Provide type of joint primer/sealer recommended by sealant manufacturer for joint surfaces to be primed or sealed.
2. Bond Breaker Tape: Polyethylene tape or other plastic tape as recommended by the caulk/sealant manufacturer to be applied to sealant-contact surfaces where bond to the substrate or joint filler must be avoided for performance of sealant. Provide self-adhesive tape recommended by caulk/sealant manufacturer.
3. Sealant and Caulk Backer Rod: Compressible rod and rectangular stock of polyethylene foam, polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable nonabsorptive material as recommended by caulk/sealant manufacturer for compatibility with caulk/sealant.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS.
Comply with manufacturer's printed instructions, except where more stringent requirements are shown or specified, and except where manufacturer's technical rep directs otherwise.

3.02 JOINT PREPARATION
A. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture, and other substrates which could interfere with seal or bond.
B. Prime or Seal joint surfaces where indicated , and where recommended by sealant manufacturer. Confine primer/sealer to areas of sealant bond ; do not allow spillage or migration onto adjacent surfaces.
C. Where no backstop occurs to receive the caulking or sealant compound, fill joints with filler material as recommended by the caulking or sealant manufacturer.

3.02 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Apply caulking or sealant, and primer, in strict accordance with the printed instructions of the caulking or sealant manufacturer. Apply primer when and where recommended by the manufacturer.
B. Backer Rod: Install sealant backer rod, except where shown to be omitted or recommended to be omitted by manufacturer. For exterior joints over 1" wide, use rectangular type backer-rod.
C. Bond Breaker: Install bond breaker tape where recommended by manufacturer.
D. Installation Techniques: Employ only proven installation techniques, which will ensure that caulks/sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with "wetting" of joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so joint will not trap moisture and dirt.
E. Sealant Depth: Install sealant to depths as shown or, if not shown, as recommended by sealant manufacturer but with the following general limitations, measured at center (thin) section of bead:
F. For joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
G. Spillage: Do not allow sealants or compounds to overflow from confines of joints or spill onto adjoining surface, or to migrate into the voids of adjoining surfaces. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

3.04 CURE AND PROTECTION
A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and

surface durability. Advise Contractor of procedures required for cure and protection of joint sealers during construction period, so they will be without deterioration or damage (other than normal wear and weathering) at time of substantial completion.

END OF SECTION

07950

EXPANSION CONTROL

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section includes Interior & Exterior Expansion Control Systems.

B. Related Work Specified Elsewhere
1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS
2. METAL ROOFING Section 07410.
3. MEMBRANE ROOFING Section 07530
3. Exposed metal flashings are covered in Section 07600, SHEET METAL WORK.

1.02 SUBMITTALS

A. Shop Drawings : For Each Expansion Control System specified, include Plans, Elevations, Sections, Details, Splices, Block out requirements, attachment to other Work and Line Diagrams showing entire rout of each expansion Control System.

B. Samples
1. each type of expansion control system indicated. include manufacturer's color charts showing full range of colors and finishes available for each exposed metal and elastomeric seal material.
2. Samples of each type of Expansion Control Systems full width x 6" long

C. Product Schedule : prepared by the Supplier.
1. Manufacturer & Model number for each Expansion Control System
2. Expansion Control System location cross referenced on the Drawings.
3. Nominal Joint Width
4. Movement Capability
5. Materials, color, finishes
6. Product Options

PART 2 PRODUCTS

2.01 SYSTEM DESCRIPTONS

A. General : Provide Expansion Control System of design, basic profile, materials, and operation indicated Provide units with capability to accommodate variations in adjacent surfaces.
1. Furnish units in longest practical lengths to minimize field splicing. Install with hairline mitered corners where Expansion Control System change direction or abut other materials.
2. Include Factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous Expansion Control System.

B. Coordination. Coordinate installation of Exterior Wall Expansion Control System with Existing Conditions to ensure that all transitions are Watertight.

C. Performance Requirements. Expansion Control Systems shall remain in place without separation of any parts.

2.02 EXPANSION CONTROL SYSTEMS

A. Manufacturer : MM Systems Corporation – BASIS of DESIGN.
1. Other manufactures , subject to compliance with requirements,
2. Source limitation. Obtain Expansion Control Systems from a single source manufacturer.

B. Masonry – Masonry. MM System Model VSS

C. Wall-Wall (Gyp Bd Construction). MM Systems Model FSWP, Aluminum
D. Wall-Wall (Masonry – Gyp Board) MM Systems Model EX-K2, Stainless Steel, No. 4 finish
E. Wall – Ceiling. MM Systems Model VSGL. Aluminum, White
F. Ceiling – Ceiling. MM Systems Model VSG. Aluminum, White
G. Wall- Roof - MM Systems Corporation Model RWSS. Elastomeric to match Roof

2.03 MATERIALS

A. Aluminum 6063-T5 for Extrusions. 6061-T6 for Sheet & Plate.
B. Elastomeric Seals ; ASTM E1783 ; preformed elastomeric membranes or extrusions to be installed in metal frames.
C. Compression Seals: ASTM E1612 preformed elastomeric extrusions having an internal Baffle system and designed to function under compression.
D. Cellular Foam Seals: Extruded, compressible foam designed to function under compression.
E. Accessories. Manufacturers standard anchors, clips, fasteners, set screws, spacers, and other accessories, compatible with material in contact, as indicated or required for complete installations.

2.04 GENERAL FINISH REQUIRMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for applying and designating finishes.
B. Protect Mechanical Finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

PART 3 EXECUTION

3.01 PREPARATION

A. Examine surfaces where Expansion Control Systems will be installed for installation tolerances and other conditions affecting performance of the Work.
   1. Proceed with installation only after unsatisfactory conditions have been corrected.
B. Prepare substrates according to Expansion Control System Manufacturer's written instructions.
C. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion control systems. Provide fasteners of metal type, and size to suit type of construction indicated and to provide for secure attachments of Expansion Control Syste

3.02 INSTALLATION

A. Comply with Manufacturer's written instructions for storing, handling, and installing Expansion Control System and materials unless more stringent requirements are indicated.
B. Metal Frames : Perform cutting, drilling and fitting required to install Expansion Control System
   1. Install in true alignment and proper relationship to joints and adjoining finished surfaces.
   2. Cut and fit ends to accommodate thermal expansion and contraction of metal without bucking frames.
   3. Install frames in continuous contact with adjacent surfaces. Shimming is not permitted.
C. Seals in Metal Frames
   1. Install with minimum number of end joints.
   2. Provide continuous lengths for straight sections.
   3. Seal transitions according to manufacturer's instructions. Vulcanize or Heat-weld field spliced joints as recommended by manufacturer.
D. Compressible Seals. Apply adhesive or lubricated adhesive as recommended by the manufacturer to both frame interfaces or sides of masonry before installing compressible seals.
E. Foam Seals : Install with adhesive recommended by the manufacturer.
F. Epoxy Bonded Seals : Pressurize seal for time period and to pressure recommended by manufacturer. Do not over-pressurize.

G. Terminate exposed ends of Expansion Control Systems with field- or factory-fabricated termination devices.

3.03 PROTECTION

A. Do not remove protective covering until finish work l adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.

B. Protect installation from damage by work of other Sections. Where necessary due to heavy construction traffic, remove and properly store cover plates or seals and install temporary protection over Expansion Control Systems. Reinstall cover plates or seals prior to Substantial Completion pf the Work.

END OF SECTION

08100

HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 QUALITY STANDARD:

A. Provide hollow metal work manufactured by a single firm specializing in production of this type of work.

B. Frames shall comply with the Steel Door Institute “Recommended Specifications for Standard Steel Doors and Frames” (S.D.I. 100) and as herein specified.

1.02 SUBMITTALS:

A. Submit shop drawings for the fabrication and erection of hollow metal work. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections.

B. Provide a schedule of doors and frames using same reference numbers for details and openings as those on the Contract Drawings.

PART 2 PRODUCTS

2.01 METAL FRAMES:

A. Provide frames of types and styles indicated on drawings or schedules and complying with SDI 100 for minimum materials and construction requirements. Frames shall not be less than 14 gage steel for exterior, and 16 gage for interior.

B. Assemble frames in shop, weld corners, holds, returns, as required by Drawings. Weld to hairline joint, exposed beads ground smooth. Provide glazing stops, moldings for field assembly with countersunk oval head screws, not over 16” on centers. All removable stops to be on interior side of frame.

C. Provide jamb rebates for rubber door silencers; locate three for single doors; two for pairs of doors.

D. Provide concealed reinforcement to receive mortise type hardware; mortise, drill, tap to template requirements of applied hardware; drilling and tapping done on job. Provide 18 gauge steel plaster guards, welded over mortised hardware reinforcement.

E. Provide lateral stiffners in openings over 42” wide with formed 12 gauge steel channels in frame head, spot weld at frequent intervals

F. Equip frames one each side with at least 3 anchors. Use anchors as required for indicated conditions, anchor heads of width, length required to fill void back of frame.

G. Provide spreaders for frames of two 2” x 3/4” steel channels; tack weld to jambs, mullions.

H. Provide UL labels as scheduled.

2.02 METAL DOORS

A. Provide doors of types and styles indicated on Drawings or Schedules and complying with SDI 100 for minimum materials and construction requirements.

B. Exterior doors shall not be less than 16 gage steel with a rigid polyurethane core. Steel channels min. 18 gage, full width of the door, shall be installed at the top and bottom edges and spot welded to both sheets. Top of the door shall be finished flush.

C. Interior doors shall not be less than 18 gage with honeycomb cell core.

2.03 FINISHES:

A. After fabrication, thoroughly clean, phosphate treat (to assure maximum paint adhesion) and dip or spray all surfaces of the door and frame exposed to view with a coat of rust inhibiting primer, either air dried or baked on. SDI - 118, "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces" shall apply to the product finish.

B. All exterior doors and frames to be galvanized with G-90.

PART 3 EXECUTION

3.01 STORAGE:

A. Store frames at the building site under cover. Place units on at least 4" wood sills or on the floors in a manner that will prevent rust and damage. Avoid the use of non-vented plastic or canvas shelters which create a humidity chamber. If the wrapper on the door becomes wet, remove the carton immediately. Provide a 1/4" space between the doors to promote air circulation.

3.02 INSTALLATION OF FRAMES:

A. Install the frames plumb, rigid, and in true alignment, and fasten them so as to retain their position and clearance during construction of partitions. Fill frames in masonry walls with mortar as the wall is laid up. Fill frames in steel stud walls completely with plaster.

3.03 REPLACEMENT: Damaged work will be rejected and shall be replaced.

END OF SECTION

08200

WOOD DOORS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers Interior Flush Solid Wood Doors complete, unless otherwise specified.

B. Related Work Specified Elsewhere
1. Refer to all sections in Division 0, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS.
2. Installation of wood doors is covered in Section 06100, ROUGH CARPENTRY.
3. Metal door frames are covered in Section 08100, HOLLOW METAL DOORS AND FRAMES.
4. Wood door hardware is covered in Section 08710, FINISH HARDWARE.
5. GLASS & GLAZING Section 08800

C. Definitions:
1. Interior Doors - undercut dimension, 3/4 inch (19 mm), unless otherwise indicated on the door schedule, shall be the clear dimension from the floor elevation, as shown on the floor plan(s), to the bottom of the door.

1.02 SUBMITTALS. Submit shop drawings of Wood Doors and related items specified herein to Architect for approval, prior to manufacturing. Shop drawings shall indicate thickness, size, joinery, size of cutouts, full size molding profiles, face veneers, and core construction.
1. Solid Core Doors - Submit Samples of veneer and finish
2. Shop drawings shall indicate doors to have UL label.

1.03 GUARANTEE. Furnish wood doors with the door manufacturer's warranty covering defects in materials and workmanship. Duration of warranty shall be as follows:
1. Solid Core Doors - lifetime.

PART 2 PRODUCTS

2.01 MATERIALS

A. Wood doors shall be Premium Grade Solid Core in accordance with the Architectural Woodwork Institute Standards, for Flush Doors with Transparent Finish.
B. Quality Standard : Flush: Eggers, VT Industries, or approved equal manufacturer. All Flush doors furnished on the Project shall be by one manufacturer.
1. Face veneer of doors shall match Existing Doors.
2. All Sets well matched for color & grain.
3. Veneer to be HPVA “AA” Grade ,
4. Flush Doors Balanced Center Matched veneer.
5. Pairs of Flush doors shall have book-matched, center-balance matched faces veneers.
C. Doors shall have matching veneer edge strips laminated to the stiles
D. Interior glass light framed with, solid wood to match veneer.

2,02 FINISH
A. Flush - Factory Finish all Wood Doors. Manufacturer’s standard for Natural Finish Exterior & Interior Wood Doors. Wood Stain Selection from mfr’s standard Finishes.
B. Glazing. The Wood Finish used should flow from the wood slightly onto the glass to assure against water leakage and protect the glazing compound from drying out.

PART 3 EXECUTION

3.01 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery of Materials

1. Doors shall not be delivered to the site until the entire building has been free from dampness due to plastering, gypsum wall board finishing or other moisture-producing work for at least ten days.
2. Protect doors during transit by enveloping each unit in an individual cover. Pallet-loads of doors shall be provided with covers and skids to protect materials from transit damage.
3. Doors and protective covers shall be individually marked in accordance with approved Shop Drawings.

B. Storage of Materials, Equipment, and Fixtures

1. Heat shall be provided in the door storage area during cold or humid weather. Protect doors against dampness, store in dry and well ventilated area, and do not subject units to extreme changes of temperature or humidity. Comply with the "On-Site Care" recommendations of NWMA pamphlet, "Care and Finishing of Wood Doors," and with the manufacturer's instructions.

3.02 INSPECTION. Installer shall examine door frames and verify that frames are of the correct type and have been installed as required for proper hanging of corresponding doors. Installer shall notify Contractor in writing of conditions detrimental to the installation of wood doors. Hanging of doors shall not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

3.03 PREPARATION

A. Carefully prepare doors as required for all finish hardware. Obtain hardware manufacturer's templates for use during machining. Verify hardware location and core type of door prior to machining.

B. Acclimatize doors to the average prevailing humidity in the installation area prior to hanging wood doors.

3.04 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION. Install wood doors in accordance with Section 06200, FINISH CARPENTRY, and manufacturer's instructions.

3.05 ADJUSTMENT AND CLEANING. After the doors are installed in their openings, provide adequate protection to prevent damage due to other construction operations and movement of materials, equipment and people through the door openings.

END OF SECTION

08400

ALUMINUM STOREFRONTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers Exterior storefronts complete. Supplying of fastenings, connections to building structure, and other items not mentioned specifically herein, but which are necessary to make a complete installation shall also be included.

B. Related Work Specified Elsewhere
1. Refer to Division O, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS.
2. Hollow metal doors and frames are covered in Section 08110, HOLLOW METAL DOORS AND FRAMES.
3. Glass, glazing and sealants of units shall be part of work included in this Section and shall be as specified in Section 08800, GLASS AND GLAZING.
4. Hardware is covered in Section 08710, FINISH HARDWARE.

1.02 QUALITY ASSURANCE

A. System Performance. Provide exterior entrance and storefront assemblies that have been designed and fabricated to comply with system performance characteristics listed below as demonstrated by testing systems according to test methods designated.
1. Wind Loading. Provide capacity to withstand loading noted on Drawings, tested in accordance with ASTM E 330, with Glass deflection not more than1/2”.

B. Transmission characteristics of fixed framing shall comply with requirements indicated below.
1. Air infiltration shall be not more than 0.06 CMF per square foot of fixed area in accordance with ASTM E 283.
2. No uncontrolled water penetration shall occur at pressure differential of 6.24 psf (299 Pa) in accordance with ASTM E 331 (excluding operable door edges.)
3. Condensation resistance shall be not less than 51 CRF in accordance with AAMA 1502.7.
4. Thermal transmittance shall provide U-value of no more than 0.65 Btu/hr/sf/degree F in accordance with AAMA 1503.1.

C. Design Criteria.
1. Design. Final design of storefront system shall not be approved until submittal and review of shop drawings and test reports.
a. Contract Documents indicate general aesthetic requirements of overall storefront system design. Storefront manufacturer shall be responsible for detail design of storefront system and anchoring to Building Structure.

D. Qualifications.
1. Installer Qualifications: Engage a firm who can provide evidence to indicate successful experience in the installation of work specified herein.
a. Manufacturer Acceptance: Installer shall be acceptable to the material manufacturer and shall provide a letter certifying the approval of the material manufacturer.
b. Installer shall be one who maintains a complete staff of trained mechanics and supervisors sufficient to perform work of this section.
2. Welding Qualifications: Comply with requirements of AWS D1.1 Structural Welding Code, for welding design, workmanship, techniques, inspection, and qualification of welding operators.

1.03 SUBMITTALS

A. Section Cross-Reference: Refer to Division 1 - Submittals Section for submittal requirements.

B. Manufacturer's Product Data:
   1. Specifications and Instructions. Submit material specifications and installation instructions for products specified under Part 2 - Products.
      a. Modifications. Modify submission by letter form to reflect project requirements and job conditions.
      b. Storage and Handling Instructions: Include instructions for storage, handling and protection of products.
      c. Installer Copy. Indicate by transmittal form that copies of modified (if any) specifications and instructions have been distributed to Installer.
   2. Supplementary Installation Instructions: Retain at job site manufacturer's supplementary installation instructions for products specified under Part 2 - Products. Maintain and make available installation instructions retained at job site.

C. Shop Drawings.
   1. General. Submit shop drawings for fabrication and erection not fully described by manufacturer's data.
      a. Include plans and elevations at not less than 1/2" to 1'-0" scale, and details at not less than 3" to 1'-0" scale.
      b. Indicate required anchorage accessory items, field dimensions and finishes.
   2. Detailing. Include details of metal sections showing thickness, contraction and expansion joints; methods of control of water leakage and condensate; details of methods and procedures for erection and glazing.

D. Samples.
   1. Submit two samples each showing full density range of finish on 6" squares of sheet aluminum.

E. Maintenance Manual. Submit maintenance manual, with instructions for cleaning, sealant/gasket repair and glass replacement.

F. Calculations. Submit calculations, for information, confirming, that specified structural requirements and wind loading are met. Include code basis.

G. Certification. Submit certificates of compliance with the following tests.
   1. Water Leakage: ASTM E 331, no penetration.
   2. Air Infiltration: ASTM E 283, 0,06 cfm maximum infiltration.
   3. Uniform Load Test. ASTM E 330, not to exceed L/175 when tested at positive and negative loads as prescribed by Code.

1.04 JOB CONDITIONS

A. Coordination. Coordination of work of this section with that of other building trades is mandatory with particular attention being given to work in those areas where other materials by other trades are adjacent to and connect to aluminum storefront systems.

PART 2 PRODUCTS

2.01 GENERAL MATERIALS REQUIREMENTS:

A. Source Quality Control.
   1. Obtain materials (of each type) from a single manufacturer or source to ensure matching of quality, color, pattern and texture.
   2. Do not change source or brands of materials during course of construction.

2.02 MATERIALS

A. Aluminum storefront system doors and frames shall be manufactured by Kawneer. Systems manufactured by Amarlite, U.S. Aluminum, VistaWall, or Tubelite are acceptable based on products of equal quality, performance, and appearance. Frames and door stiles shall be tubular extrusions with 1/8 inch minimum wall thickness,
   1. Exterior Frames shall be TRIFAB VG 451T, Center Glaze as manufactured by Kawneer. Frames shall include all transoms and sidelights shown on Drawings. Glazing stops shall be square type.
   2. Glass and glazing shall be as noted on Drawings and specified in Section 08800, GLASS AND GLAZING.
   3. All exposed surfaces shall be free of scratches and other serious blemishes and shall receive finish conforming with Aluminum Association Standard AA-M12C22A41.
   4. Extrusions shall be 6063-T5 alloy and temper (ASTM B 221 alloy G.S. 10A-T5). Fasteners, where exposed, shall be aluminum, stainless steel or plated steel in accordance with ASTM A 164. Perimeter anchors shall be aluminum or steel, providing the steel is property isolated from the aluminum. Glazing gaskets shall be elastomeric extrusions.
   5. Finish: Dark Anodized Bronze to Match Existing
   6. The framing system shall provide for flush glazing on all sides with no projecting stops. Vertical and horizontal framing members shall have a nominal face dimension of 2" (50.8 mm). Overall depth shall be 4 1/2" (114.6 mm).
   7. Brake metal trim where indicated on the Drawings with finish to match storefront.
   8. Finish Hardware per SCHEDULE.

2.03 FABRICATION

A. Field Measurements. Take field measurements prior to fabrication.

B. General.
   1. Shop Assembly: Perform fitting and assembly of the work in the shop to the greatest extent possible. Work that cannot be permanently shop-assembled shall be completely assembled, marked, and disassembled before shipment, to assure assembly in the field.
      a. Pre-glazing: Pre-glaze door and frame units to greatest extent possible, in coordination with installation and hardware requirements.
      b. Surface Mounted Hardware: Do not drill and tap for surface mounted hardware items until time of installation of project site.
   2. Exposed Work: Exposed work shall be carefully matched to produce continuity of line and design. Joints in exposed metal work shall be accurately fitted and rigidly secured with hairline contacts. Back-up metal for splice points to match aluminum finish color.
   3. Welding: Comply with AWS recommendations to avoid discoloration, grind exposed welds smooth and restore mechanical finish.
   4. Protect aluminum units from damage during fabrication, shipping, and storage in accordance with AAMA, CW No.
   5. Continuity: Maintain accurate relation of planes and angles, with hairline fit of contacting members. Provide custom mitered corner joints.
   6. All holes, notches, etc. in tempered glass doors and sidelites shall be drilled or cut in the glass prior to tempering.

PART 3 EXECUTION

3.01 PREPARATION

A. Provide separation between aluminum surfaces and sources of corrosion or electrolytic action, such as copper or untreated steel, by coating area of dissimilar metals with heavy-bodied bituminous paint.
B. Paint aluminum surfaces in contact with lime mortar or concrete with alkali-resistant coating.

3.02 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Installation shall be in accordance with requirements of manufacturer and as shown on Drawings.
B. Inspection: Examine substrates and conditions under which products of this section are to be installed and verify that the Work may commence. Do not proceed with the Work until

satisfactory conditions have been fully resolved. Commencement of Work will be constructed as acceptance of substrates and conditions.

3.03 ADJUSTMENT AND CLEANING

A. Clean and leave free from imperfections items provided with final finish. Remove protective coating when completion of construction activities no longer requires its retention.
B. Protection. Institute protective measures and other precautions required to assure that aluminum entrances and storefronts will be without damage or deterioration, other than normal weathering. Metal work to be exposed in the finished wall shall be adequately protected during all phases of the work, to prevent damage by scratches, stains, discoloration or other causes. Damage to metal or glass surfaces during fabrication, handling, shipment, or erection shall be remedied without additional cost.

END OF SECTION

FINISH HARDWARE

PART I - GENERAL

1.01 SCOPE: It is the intent of this specification to give a complete and finished job. Should hardware be omitted which by code or use must be furnished, this contractor shall furnish same , being of like design, quality, and finish to hardware on similar openings. Refer to Drawings for Finish Hardware Schedule.

1.02 Coordinate Material Selection and Installation with OWNER'S ACCESS CONTROL SUPPLIER.

1.03 QUALIFICATION OF SUPPLIER. Only bids from a firm having a registered member of the American Society of Architectural Hardware Consultants in its employment, who will be responsible for scheduling, ordering and consultation, will be acceptable.

1.04 SUBMITTALS: After award of Contract, submit architectural finish hardware schedule, detailing each door and hardware required. Upon receipt of approved schedules, forward proper templates to door and frame supplier. No hardware shall be ordered or templated prior to receipt of approved hardware schedule.

1.05 DELIVERY & STORAGE: Provide and maintain adequate storage for all finish hardware. Each item of finish hardware shall be delivered wrapped in individual unbroken cartons bearing the manufacturer's name, number and type.

PART II - PRODUCTS

2.01 KEYING: Locksets to be master keyed as directed by Owner..

2.02 FINISH: Brushed Chrome, except as indicated otherwise.

2.03 DESCRIPTION OF HARDWARE:

A. BUTTS: Shall be (unless indicated otherwise) as manufactured by Stanley, min. 3 per door, 4 ½" x 4 ½". Ball Bearing .

B. LOCKS: Schlage series D, lever handle style, OMEGA design. Provide Knurled Outside Lever where required by Code.

C. CLOSERS: LCN 4010 series Heavy Duty w/ 30-year warranty, with 90º Hold Open feature per Hardware Schedule,

D. THRESHOLDS, WEATHERSTRIPPING & DOOR SWEEPS: National Guard Products. Provide for all exterior doors.

E. STOPS: Wall type – Rockwood : Square RM-867, Round RM-861

F. SILENCERS: Equal to Baldwin 570. Furnish 3 per jamb single frame.

G. EXIT DEVICES: Von Duprin #98EO-LD

H. FLUSH BOLTS: Acceptable manufacturers are C.R. Laurence Co. and Ives.

I. ELECTRIC STRIKE As selected by Library Security Consultant DSI Systems, Inc. Operated with DC current, silent operation. CONTRACTOR TO REMOVE DUST COVER AFTER INSTALLATION

J. KICK PLATE : Rockwood K1062

PART III - EXECUTION

3.01 INSTALLATION: Install hardware items in compliance with the manufacturer's instructions. Do not install surface mounted items until finishing operations have been completed on the substrate. Mount hardware items at heights indicated in "recommended Locations for Builders Hardware" by the National Builders Hardware Association, unless otherwise indicated or required for compliance with governing regulations.

3.02 ADJUSTMENT AND CLEANING:

A. Lubricate moving parts as recommended by manufacturer. Utilize graphite-type if no other lubrication is recommended.

B. Replace units that cannot be adjusted or lubricated to operate freely and smoothly as intended for the application.

END OF SECTION

08800

GLASS AND GLAZING

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers glass and glazing complete. Products indicated are minimum requirements, Manufacturer will determine suitability of each product according to application due to Code or differential shading.

B. Related Work Specified Elsewhere:

1. Refer to Division 0, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS.

1.02 SUBMITTALS

A. Samples.

1. The following list includes required samples that shall be submitted:

a. Insulating glass.

b. Annealed and tempered glass.

B. Manufacturer's Product Data.

1. Specifications and Installation Data: Submit material specifications and installation data for products specified under Part 2 Products. Include instructions for storage, handling and protection of products.

C. Maintenance Data: Manufacturer's instructions and recommendations for maintenance, cleaning and repairing each product installed. Include precautious against materials and methods which may be detrimental to finishes.

D. Glazing Materials: Manufacturer's specifications and installation instructions for each type of glazing sealant, gasket and associated miscellaneous material required. Include manufacturer's published data, or letter of certification, or certified test laboratory report indicating that each material complies with the requirements and is intended generally for the applications shown.

E. Material Data: Indicating that glazing materials will withstand the forces prescribed herein. Include basis for determining windloading criteria. Indicate concurrence with glazing channel dimensions. Manufacturer will confirm the glazing materials submitted comply with the manufacturer’s recommendations for partial shading of the glass and placement of window blinds and shading

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING Glass units shall be handled and stored in accordance with manufacturer's instructions.

1.04 JOB CONDITIONS Glazier must examine framing and glazing channel surfaces, backing, removable stop design, and conditions under which glazing is to be performed. Do not proceed with glazing until unsatisfactory conditions have been corrected in a manner acceptable to glazier.

1.05 WARRANTIES. Contractor shall furnish a written warranty from the glass manufacturer as follows:

A. Insulating glass: Manufacturer's standard warranty that insulating units will not develop material obstruction of vision between the interior glass surfaces caused by failure of the hermetic seal due to faulty construction for twenty years from date of substantial completion of the Project.

B. Glass units (except as listed above): Manufacturer's standard warranty that glass units supplied to Project will be free from defects in material and workmanship.

1.06 PERFORMANCE REQUIREMENTS.

A. Watertight and airtight installation of each piece of glass is required. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash and doors) without failure of any kind including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.

B. Glazing channel dimensions as shown are intended to provide for necessary minimum bite on the glass, minimum edge clearance and adequate sealant thicknesses, within allowable tolerances. The installer is responsible for correct glass size for each opening, within the tolerances and necessary dimensions established.

C. Protect glass from edge at all times during handling, installation and operation of the building. Glass breakage during the warranty period will be considered a form of faulty material or workmanship (resulting from edge damage) unless known to result from vandalism or other causes not related to materials and workmanship.

D. Comply with all federal standards and applicable codes for locations of safety glass.

PART 2 PRODUCTS

2.01 MATERIALS

A. Except where otherwise specified, each piece of glass shall bear the manufacturer's label to identify type, thickness and quality.
1. Glass shall be as herein specified and in conformance with standards as indicated.
2. All exterior glass to be insulated, tinted glass, Low-e.
3. Glass in Exterior Doors to be clear insulated Low-e
4. All interior glass to be 1/4” clear glass, tempered, except as noted otherwise.

B. Fully tempered glass shall be glazing quality, shall meet ASTM C 1048 and ANSI Z97.1, and unless otherwise indicated on the Drawings, shall be as follows:
1. 1/4 inch (6.0 mm) thick.
2. Type I, clear.

C. Insulating glass shall consist of two lites of glass with a hermetically and permanently sealed air space and shall conform to Sealed Insulating Glass Manufacturer's Association (SIGMA) No. 65-7-2, "Sealed Insulating Glass Units."
1. Exterior lite shall be 1/4 inch (6.0 mm) fully tempered , Low-e, tinted.
2. Air space shall be 1/2 inch (120 mm).
3. Two types of interior lites of insulated glass shall be used.
   a. Fully Tempered where required by code due to adjacent walking surface or doors.
   b. Float glass unless otherwise required.
4. Spacers on all insulated glass to **match frames finish.**
   a. Twin primary seals of polyisobutylene, tubular aluminum, or galvanized steel spacer bar frame with welded corners and filled with desiccant, and secondary seal outside the bar bonded to both sheets of glass and bar, of polysulfide, silicone or hot-melt butyl elastomeric sealant.
5. Manufactured by one of the following:
   a. PPG Industries, Inc.
   b. LOF.
   c. Spectrum Glass.

D. Glazing compound shall be as follows:
1. For metal frames, suitable type for application, and except as otherwise specified, in accordance with section, "Glazing Materials" of FGMA Glazing Manual. Metal sash putty, non-skinning compounds, non-resilient type preformed sealers, and preformed impregnated type gaskets will not be permitted. When flexible vinyl gasket channels are used, material shall conform to ASTM D 2287.
   a. Compound used for glazing aluminum shall be pigmented with aluminum powder to match aluminum unit without staining or discoloring. It shall be non-hardening, and shall be a type that does not require painting.
   b. Glazing accessories. As required to supplement accessories provided with items to be glazed and to provide a complete installation, including glazing points, clips, shims, angles, heads, setting blocks, and spacer strips.

PART 3 EXECUTION

3.01 PREPARATION

A. Field Measurements:

1. Sizes for glass shall be measured from the actual frames, doors and sash.

3.02 INSTALLATION:

1. Workmanship shall be in accordance with the Standards of the Flat Glass Marketing Association Glazing Manual.
2. Glazing. In conformance with nomenclature and procedures of Flat Glass Marketing Association Glazing Manual, glazing installation shall be as follows:
    a. Aluminum doors and entrances. Glaze in accordance with manufacturer's instructions. Use tempered glass.

3.03 ADJUSTMENT, REPLACEMENT AND CLEANING:

1. Upon completion of the Work, glass surfaces shall be thoroughly cleaned, with labels, paint spots, putty and other defacements removed. Cracked, broken and imperfect glass shall be replaced at no additional cost to the Owner.
2. Maintain glass in a clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to the deterioration of glazing materials and other work.
3. Wash and polish glass on both faces not more than 4 days prior to Owner's acceptance of the work in each area. Comply with glass manufacturer's recommendations.

END OF SECTION

GYPSUM DRYWALL

PART 1 GENERAL

1.01 RELATED DOCUMENTS
- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division - 1 specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK
- A. Types of work include:
  1. Gypsum Drywall Walls and Ceilings
  2. Drywall Finishing
  3. Metal Studs – ref Structural Drawings

1.03 QUALITY ASSURANCE
- A. Manufacturer: Obtain gypsum board products from a single manufacturer, or from manufacturers recommended by the prime manufacturer of gypsum boards.

1.04 REFERENCES:
- A. Gypsum Board Standard: Comply with applicable requirements of ANSI/ASTM C 840 for application and finishing of gypsum board, unless otherwise indicated.
- B. Steel Framing Standard: Comply with applicable requirements of ASTM C 754 for installation of steel framing for gypsum board.
- C. Gypsum Board Terminology Standard: GA-505 by Gypsum Association.

1.05 SUBMITTALS:
- A. Product Data: Submit manufacturer's product specifications and installation instructions for each gypsum drywall component, including other data as may be required to show compliance with these specifications.
- B. Expansion/ control joints: Submit proposed layout, for approval by Architect, prior to hanging gyp. board.

1.06 PRODUCT HANDLING
- A. Deliver, identify, store and protect gypsum drywall materials to comply with referenced standards.

1.07 JOB CONDITIONS: Environmental Conditions: Comply with referenced standards.

PART 2 PRODUCTS

2.01 QUALITY STANDARD: Gypsum Board and related products by United States Gypsum Company.

2.02 GYPSUM BOARD
- A. Gypsum Wallboard ASTM C 36, of types, edge configuration and thickness indicated; in maximum lengths available to minimize end-to-end butt joints.
  - Type 1. Regular, with tapered edges - 5/8" thick. ½"
  - Type 2. Water-resistant, with tapered edges - 5/8" thick.
  - Type 3. Fire-Rated, Type "X", with tapered edges - 5/8" thick.
  - Type 5. Abuse-resistant, with tapered edges - 5/8" thick

2.03 TRIM ACCESSORIES
- A. General: Provide manufacturer's standard trim accessories of types indicated for drywall work, formed of galvanized steel unless otherwise indicated, with either knurled and perforated or expanded flanges for nailing or stapling, and beaded for concealment of flanges in joint compound. Provide corner beads, L-type edge trim-beads, U-type edge trim-beads, special L-kerf-type edge trim beads, and one-piece control joint beads.

2.04 JOINT TREATMENT : Reinforcing tape and joint compound complying with ASTM C 475.

PART 3 EXECUTION

3.01 GENERAL GYPSUM BOARD INSTALLATION REQUIREMENTS

A. Install wall / partition boards vertically to avoid end-butt joints wherever possible.

B. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16" open space between boards. Do not force into place.

C. Locate either edge or end joints over supports, except in horizontal applications or where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abutt, tapered edges against tapered ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.

D. Layout expansion joints at not more than 30 ft. apart, for approval by the Architect.

3.02 METHODS OF GYPSUM DRYWALL APPLICATION

A. On partitions / walls apply gypsum board vertically (parallel), unless otherwise indicated, and provide sheet lengths which will minimize end joints.

B. Screw fasten gypsum boards to wood / steel support system.

3.03 INSTALLATION OF DRYWALL TRIM ACCESSORIES

A. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges by nailing or stapling in accordance with manufacturer's instructions and recommendations.

B. Install metal corner beads at external corners of drywall work.

C. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound, except where semi-finishing type is indicated. Install L-type trim where work is tightly abutted to other work, and long leg of L-type trim. Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled (including expansion joints).

3.04 FINISHING OF DRYWALL

A. General: Apply treatment at gypsum board joints (both directions), flanges of trim accessories, penetrations, fastener heads, surface defects and elsewhere as required to prepare work for decoration. Prefill open joints and rounded or beveled edges, if any using type of compound recommended by manufacturer.

B. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.

C. Apply joint compound in 3 coats (not including prefill of openings in base), and sand between last 2 coats and after last coat.

D. Level 4 Finish Typical. Level 5 Finish at Accent Walls – see Finish Plan.

3.05 PROTECTION OF WORK:

A. Installer shall advise Contractor of required procedures for protecting gypsum drywall work from damage and deterioration during remainder of construction period.

END OF SECTION

CERAMIC TILE

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. The extent of ceramic tile – Interior & Exterior - and accessories is shown on drawings and in schedules.

B. Related Work Specified Elsewhere.
1. Refer to all sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS.
2. Reference FINISH SCEHDULE on the drawings.

1.02 QUALITY ASSURANCE

A. Industry Standards:
1. Some Products and execution are specified in this section by reference to published specifications or standards (with respective abbreviations used). These referenced publications may be subject to special conditions where specified hereinafter.
2. Referenced Publications
   a. American Society for Testing and Materials (ASTM)
   b. American National Standards Institute (ANSI)
   c. Tile Council of America (TCA)
   d. Marble Institute of America, Inc. American Standard Specifications for Interior Marble (MIA.)

1.03 SUBMITTALS

A. Product Data: Manufacturer's detail descriptive and specification data and installation instructions for product described hereinafter (3 each).

B. Samples: Complete color line available for ceramic floor and base tile and grout (3 each).

1.04 PRODUCT HANDLING

A. Delivery: Deliver products of this section in manufacturer's original packaging with labels intact and legible.

B. Storage and Protection: Store products in a housed, dry and ventilated area and protect from damage from any causes.

1.05 JOB CONDITIONS

A. Temperature: Maintain at not less than 50 degrees F throughout installation operations and for at least seven (7) days after completion of the tile and marble work.

B. Ventilation: Use spark proof fans for ventilation.

C. Lighting: Maintain lighting not less than three (3) watts per square foot of floor area in all areas where setting and grouting operations are in progress.

PART 2 PRODUCTS

2.01 MATERIALS

A. Ceramic and Porcelain Tile:
1. Reference 09000 FINISH LEGEND.

B. Solid Surface Thresholds: 2” wide x 1/2” thick x length required to allow fitting at door jambs and beveled edges and honed finish

C. Setting Material:
1. Ceramic Tile, Porcelain Tile, and Thresholds:
a. Floors: Cement Mortar Bonded conforming with TCA F113-03.
b. Walls and Base: Dry-set mortar conforming to TCA W243-03.
c. Thresholds: Cement Mortar Bonded conforming to TCA F113-03.
d. Grout: Color Selection to be from full line of Manufacturer’s Color Offerings
2. Water: Potable

PART 3 EXECUTION

3.01 INSTALLATION

A. Preliminary Requirements
1. Substrate Surface Variations
a. Concrete Slabs: Not exceeding 1/4” in 10’
b. Gypsum Board: Not exceeding 1/8” in 8’
c. Substrate shall be sound, dimensionally stable, free of cracks, waxy or oily films and have not protruding appendages.
2. Layout of Tile work:
a. Determine location of all movement joints.
b. Layout all tile work so as to minimize cuts less than 1/2 tile size.
c. Locate both cuts in walls and floors so as to be at least conspicuous.
d. Align all floor joints to give uniform grout lines parallel to walls, unless otherwise shown on the drawings.
e. Align all wall and base joints and all trim joints to give uniform grout lines that are plumb and level.

B. Setting Tile and Marble:
a. Floors: Cement Mortar Bonded conforming with TCA F113-03.
b. Walls and Base: Dry-set mortar conforming to TCA W243-03.
c. Thresholds: Cement Mortar Bonded conforming to TCA F113-03

3.02 FIELD QUALITY CONTROL

A. Cleaning: After grout has stiffened, sponge and wash tile with clear water, then rub with damp cloth or sponge and then polish with dry cloth.

B. Protection:
1. Foot Traffic: After completion of the installation, prohibit all foot traffic for a period of not less than seven days.
2. Protective Covering: Cover all tile floors with a non-staining construction paper, masked in place, remove prior to final inspection, rinse floor and wall tile with clear water and polish with clean dry cloth.

END OF SECTION

ACOUSTICAL CEILING SYSTEMS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This section covers all Work, labor and materials necessary for all acoustical treatment ceiling systems.

B. Related Work Specified Elsewhere:
1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS and Division 1, GENERAL REQUIREMENTS.
2. Gypsum drywall surfaces to receive acoustical materials are specified in Section 09250, GYPSUM WALLBOARD.
3. Reference FINISH SCHEDULE on the drawings.

1.02 SUBMITTALS

A. Section Cross-Reference: Refer to Division 1 - Submittals Section for submittal requirements.

B. Manufacturer's Product Data:
1. Specifications and Installation Data: Submit material specifications and installation data for products specified under Part 2 - Products.
   a. Modifications: Modify submission by letter form to reflect project requirements and job conditions.
   b. Recommendations: Submit manufacturers written recommendations specified herein.
   c. Required Product Data Submittals:
      1) Ceiling Treatment Materials.
      2) Suspension Systems.

C. Samples:
1. General: Review will be for color, finish and texture only.
2. Verification Samples: For verification purposes, submit complete sets of samples, illustrating full range of color and texture to be expected in the completed Work. Provide samples of the following minimum size:
   a. Exposed Grids: Submit one 12" long sample of each type of exposed main and cross runner.
   b. Moldings: Submit one 24" long sample of each type required.
   c. Acoustic Units: Submit one set of 24" square samples. The set shall consist of three 24" square samples showing each end range and one middle range of the full range of color, finish and texture to be expected in the completed work.

D. Maintenance Data: Submit manufacturer's recommendations for cleaning and refinishing each type of acoustic unit used in the work. Include precautions against materials and methods which may be detrimental to finishes and acoustic efficiency.

E. Maintenance/Replacement Materials: Provide maintenance/replacement materials. Furnish full size units matching units installed, packaged for storage, and identified with appropriate labels. Furnish amounts as follows:
1. Furnish amount equal to 2% of each type of acoustical unit installed.

1.03 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Storage of Materials, Equipment, and Fixtures:
1. Storage and protection. Do not store or install materials in the building until all glazing has been completed, all exterior openings have been closed in, all activities that contribute excessive moisture have been stabilized, and until relative humidity is within the limits recommended by the acoustical material manufacturer. Retain temperature at a uniform minimum of 60 degrees (16 degrees C.) before, during and after installation.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Engage a firm which has experience in the installation of Work specified herein.
1. Firm Experience Period: 5 years of experience.
2. Field Foreman Experience: 5 years of experience.
3. Manufacturer Acceptance: Installer shall be acceptable to material manufacturer.

PART 2 PRODUCTS

2.01 MATERIALS

A. Acoustical units shall conform to Fed. Spec. SS-S-118, ASTM E 84 Class A flame spread rating. Grid and Panel Systems are indicated on the Drawings.
B. Ceiling Tile Quality Standard Armstrong “Kitchen Zone” 24 x 24 Square Lay-in with USDA approved Grid and Wall Mold.

PART 3 EXECUTION

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Installation:
1. Install acoustical materials in the best workmanlike manner, with all lines level and true. Neatly make all joints.
2. Install acoustical units & grid in strict accordance with manufacturer’s recommendations, with ASTM c 636, ASTM C 635, and as specified herein.

3.02 ADJUSTMENT AND CLEANING

A. Cleaning. Following erection, clean dirty or discolored surfaces of units. Leave free from defects. Remove units which are damaged or improperly applied. Replace as directed.

END OF SECTION

PAINTING

PART I GENERAL

1.01 DESCRIPTION OF WORK

A. General

1. The term "paint," as used herein, means the entire coating system and includes emulsions, enamels, and other coatings, whether paints, stains, varnish, sealers, cement-emulsion fillers, as used as prime, intermediate, or finish coats.
2. This Section covers painting of all surfaces exposed to view, except as otherwise specified herein. Also included is the preparation of surfaces to be painted and "back priming" of trim and millwork (and painting of parking area lanes, stalls and curbs).
    a. Top, bottom, and edges of doors shall be finished as specified for the faces of the doors after they have been properly fitted.
    b. All interior and exterior wood trim and millwork shall be back primed with one coat interior alkyd enamel primer before installation.
    c. Prime coats specified herein will not be required on items delivered with prime or shop coats.

B. Related Work Specified Elsewhere:

1. Section 01200 SUBMITTALS
2. Sheens, except as specified herein, and colors are specified in Section 09999, COLOR SCHEDULE.

1.02 QUALITY ASSURANCE

A. Qualifications. Following the award of the Contract, submit the following information to the Architect. Submittal shall be made as required for Shop Drawings in accordance with the GENERAL CONDITIONS.

1. Name of painting subcontractor.
2. Name of manufacturer whose products he proposes to use. Use only one manufacturer's materials throughout the job except for special finishes as specified
3. Manufacturer's complete and detailed Specifications for the materials and methods to be employed for each type of application or finishing herein specified.
4. Statement by the paint supplier certifying that the materials are the best grade of their type in his line.

1.03 SUBMITTALS

A. Samples:

1. No painting shall begin until samples are approved by the Architect.
2. When the building is ready for painting, the Architect will designate an area to be finished according to the Specifications, using materials and applied according to the manufacturer's directions. The designated area, when accepted, together with approved samples shall serve as a standard for the remainder of the Work as to material quality, appearance, color matching, and workmanship. Commence no other interior painting and finishing until the pilot area has been accepted by the Architect.

B. Manufacturer's Product Data:

1. Specifications and Instructions: Retain at job site material specifications and installation instructions for products specified under Part 2 Products. Maintain and make available product data retain at job site for use of all parties.

C. Maintenance Materials (Extra Stock): Provide one gallon of extra stock for every 50 gallons or portions thereof, of each paint or stain color.

E. Samples

1. General: Review will be for color and texture only. Compliance with other requirements is responsibility of Contractor.
2. Required Samples: Submit following Samples:
    a. On 12" x 12" gypsum wallboard, provide two (2) samples of each color and material, with texture to simulate actual conditions. Label with application information.

b. On 4” x 24” wood surface. provide two (2) samples of painted or stained wood finish. Label with application information.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials: All paint shall be delivered to the site in the manufacturer's sealed containers with manufacturer's labels intact. Labels shall bear the manufacturer's name, brand, type of paint, color of paint, and instructions for use.

B. Storage of Materials, Equipment, and Fixtures:

1. Store all paint and other related materials used on the job in a single place. Keep such storage place clean and orderly. Any damages to such storage space or to its surroundings shall be made good under this Section. Oily or solvent soaked rags and all waste shall be removed every night and all necessary precautions shall be taken to reduce fire hazard to a minimum. Upon completion of the Work, the storage space shall be left clean and in as good condition as any other area.
2. Keep one usable multi-purpose dry chemical fire extinguisher in storage area. Fire extinguisher shall be UL listed and have a minimum capacity of ten (10) pounds.

1.05 JOB CONDITIONS

A. Environmental Conditions and Requirements:

1. Broom clean areas to be painted to remove dust.
2. Apply water-based paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50°F and 90°F .
3. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45°F and 95°F.
4. Do not apply paint in snow, rain, fog or mist; or when relative humidity exceeds 85%; or to damp or wet surfaces.
5. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer before and during application and drying periods.
6. After painting operations begin in a given area, broom cleaning will not be allowed; cleaning will then be done only with commercial vacuum cleaning equipment.

PART 2 PRODUCTS

2.01 MATERIALS

A. Paint Manufacturers. Materials shall be manufactured by Sherwin Williams. Materials manufactured by Pratt and Lambert, Pittsburgh, or Duron, are acceptable based on products of equal quality, performance and appearance.

B. Stain Manufacturers. Materials shall be manufactured by Pratt and Lambert. Materials manufactured by Cabot Stains, Olympic or Diamond Vogel are acceptable based on products of equal quality, performance and appearance.

C. Painting materials such as thinners, oils, driers, etc., shall be of the highest quality and have identifying labels on the containers.

D. Provide application equipment and incidentals as required for completion of the work.

PART 3 EXECUTION

2.01 WOKMANSHIP

A. Only skilled mechanics shall be employed
B. Perform work only under adequate illumination.
C. Equipment shall be kept clean
D. All materials shall be mixed, thinned, modified and applied only as specified by the manufacturer’s directions on the container.
E. The Contractor shall have secured approval of color samples before applying any paint or finish. All priming coats and under- coats will be tinted to approximate shade of final coat.
F. The Contractor will provide a Schedule showing when he expects to have complete the respective coats for various areas and surfaces. This schedule shall be kept current as job progress dictates. Succeeding coats shall not be applied until completed coats have been approved.

G. Always protect not only the Work under this Section, but also all adjacent Work and materials by suitable covering or other method during the progress of this Work. Any damage resulting from inadequate protection shall be repaired at the Contractor's expense.
H. Upon completion of the Work, remove all paint and varnish spots from the floors, glass, and other surfaces. Remove from the premises all rubbish and accumulated materials of whatever nature caused by the Work under this Section and leave the Work in clean orderly and acceptable condition.
I. Remove and protect hardware, accessories, device plates, lighting fixtures, factory finish work, and similar items; provide ample in-place protection. Upon completion of each space, carefully replace all removed items. This work will be performed only by skilled mechanics using adequate tools commensurate with work done.
J. Coverage and hide shall be complete. When color, stain, dirt, or undercoats show through final coat of paint, the surface shall be covered by additional coats until the paint film is of uniform finish, color, appearance and coverage.

3.02 PREPARATION

A. The Contractor shall inform the Architect of his painting schedule and coordinate the required inspections.
B. Inspect all surfaces to be painted and perform such surface preparation as recommended by the Paint Mfr and as is normally required by good painting practice.
    1. If acids have been used for cleaning. thoroughly neutralize, rinse and dry all traces of acid before any paint is applied.
    2. All surfaces to be finished shall be clean and free of dirt, dust, grease, oil or other surface contaminants.
C. Wood. Sandpaper to a smooth and even surface and wipe with tack rag before first coat and between coats.
    1. Touch-up sap spots and knots with a sealer recommended by the paint manufacturer. Fill voids and nail holes after primer or first coat is dry. using a filling compatible with the finishing system specified and tinted to camouflage repairs.
D. Iron and Steel. Remove all loose scale and rust from iron and steel to produce a satisfactory surface for painting.
    1. Thoroughly wash all metal surfaces with mineral spirits to remove any dirt or grease before painting.
    2. Touch up chipped or abraded spots on items that have been shop coated with a suitable primer before proceeding.
E. Galvanized metal to be painted shall be wiped clean per SSPC SP-1.
F. Aluminum. Wipe clean all aluminum to be painted with phosphoric acid cleaning compound such as "Alumaprep."
G. Concrete and Masonry Units.
    1. Prepare surfaces to be painted by removing all dirt, dust, oil, grease, and surplus concrete.
    2. Spot-coat filled areas, suction spots and any other defects with one coat of wall primer and sealer.
H. Concrete Floors to be sealed.
I. Plaster and Drywall Surfaces.
    1. Inspect surfaces and fill all cracks, gouges, holes, and abrasions with a plaster patching compound or "spackle."
    2. No paint or sealer shall be applied on plaster until it is thoroughly dry. Where reasonable doubt exists, check plaster surfaces with a moisture meter until moisture content does not exceed 13 percent. Touch up all suction spots or "hot spots" in plaster or cement after the application of the first coat and before applying the second coat, to produce an even result in the finish coat.

3.03 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. All workmanship shall be of high quality, and all materials evenly spread and smoothly flowed on without runs or sags.
    1. No exterior paint shall be applied while the surface is damp or during cold or frosty weather or when the temperature is likely to drop below freezing during the complete curing cycle of the applied finish.
    2. No painting shall be done in rooms or areas where plaster or concrete is to be applied or cured, until such materials are thoroughly dry.

3. Adhere strictly to all manufacturer's recommendations with respect to temperature and surface conditions set forth for a particular product. Nothing in these Specifications shall be deemed to reduce the requirements of these recommendations.
4. Do not thin, adulterate, or otherwise change material except as recommended by the manufacturer.
5. All coats shall be thoroughly dry before applying succeeding coats.
6. Spray application of paints, except as herein specified, will not be permitted unless specific permission has been secured in writing from the Architect and unless the surfaces and materials are entirely suitable to this type of application as proven by on-the-job demonstration.
7. The material for stipple finish shall be of proper consistency to produce a moderate textured stippled surface when applied and textured with a suitable roller.

3.04 SCHEDULES

A. Painting Schedule.

1. Number of Coats. The number of coats of finishes specified hereafter are the minimum which shall be used for the various surfaces. However, apply materials with a uniform film thickness, with opaque finishes providing such complete hiding that an additional coat would not improve the hiding.
2. In general, the type of paint specified herein is referred to by general terms, without reference to any paint manufacturer. The paint to be used shall be the best grade of the paint manufacturer, conforming to the terminology used herein and suitable to the type of surface to which the paint is to be applied.
3. Section 09999, COLOR SCHEDULE for Color selections.

B. Painting Schedule EXTERIOR

1. Exterior aluminum surfaces other than prefinished aluminum.
    a. One coat. Zinc-chromate primer, alkyd type.
    b. Two coats. Alkyd enamel.
2. Exterior galvanized metal surfaces.
    a. One coat. Zinc dust coating for galvanized metal.
    b. Two coats. Exterior two component epoxy.
3. Exterior iron and steel.
    a. Two coats. Exterior two component epoxy.
4. Exterior Cementitious Siding
    a. Exterior Grade Acrylic, consistent with Siding Mfr’s recommendations
5. Exterior Wood Soffit & Timber Beams
    a. Two coats. Acrylic Semi – transparent Stain, Satin finish

C. Painting Schedule INTERIOR

1. . Interior concrete floors and walls.
    a. Two coats. Two component epoxy.
2.. Interior concrete masonry units.
    a. One coat. Block filler-latex binder type.
    b. Two coats. Two component epoxy.
3.. Interior gypsum wallboard walls.
    a. One coat. Latex primer, tinted.
    b. Two coats. Latex enamel, Satin Sheen.
4. Interior gypsum wallboard ceilings and soffits.
    a. Two coats. Latex primer, tinted. Flat Sheen
6. All interior hardwood, stain finish.
    a. Two coats. Oil stain.
    b. Two coats. Urethane varnish
    c. Sand lightly between coats.
6. Interior Wood – Back Prime all Standing & Running Trim .
7. Interior of wood cabinets and drawers, underside of all plastic laminate countertops.
    a. Two coats. Clear sealer.
8. All interior woodwork, where indicated on Drawings to have painted finish. or indicated as paint-grade wood.
    a. One coat. Interior latex enamel primer or undercoat, tinted.
    b. Two coats. Interior latex enamel, Gloss .
10. Interior ferrous surfaces, unless otherwise specified
    a. One coat. Rust-inhibiting metal primer.
    b. Two coats. Two Component epoxy Semi Gloss

11. Interior galvanized surfaces, unless otherwise specified.
    a. One coat. Zinc dust-type primer for galvanized metal.
    b. Two coats. Two component epoxy.

B. Surfaces not to be painted.
    1. Galvanized Ductwork, not exposed to view.
    2. Surfaces in mechanical equipment rooms unless called for in Section 09999, COLOR SCHEDULE.
    3. Surfaces in pipe chases, pipe tunnels, crawl spaces, attics, and elevator shafts. other than ungalvanized ferrous surfaces.
    4. Factory-finished mechanical and electrical equipment.
    5. Code-required labels, such as UL and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plates.
    6. Surfaces indicated on the Drawings "not to be painted."

3.05 FIELD QUALITY CONTROL

A. Testing Procedures:
    1. The right is reserved by Owner to invoke the following material testing procedure at any time, and any number of times during period of field painting:
        a. Engage services of and independent testing laboratory to sample paint being used. Samples of materials delivered to project site will be taken, identified and sealed, and certified in presence of Contractor.
        b. Testing laboratory will perform appropriate tests for any or all of following characteristics: Abrasion resistance, apparent reflectivity, flexibility, washability, absorption, accelerated weathering, dry opacity, accelerated yellowness, recoating, skinning, color retention, alkali resistance and quantitative materials analysis.
    2. If test results show that material being used does not comply with specified requirements, Contractor may be directed to stop painting work, and remove noncomplying paint; pay for testing; repaint surfaces coated with rejected paint; remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are noncompatible.

3.06 ADJUSTMENT AND CLEANING

A. Clean-Up: During the progress of work, remove from project daily all masking tape, all discarded paint materials, rubbish, cans and rags. Upon completion of painting work, clean paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surface.

B. Protection:
    1. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
    2. All workers exposed to ammonia fumes or spray mists shall wear respiration protection sufficient to meet NIOSH and OSHA standards for free silica dusts and ammonia vapors.

C. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

D. At the completion of work of other trades, touch-up and restore damaged or defaced painted surfaces.

END OF SECTION

10200

LOUVERS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. This Section covers exterior stationary louvers complete as shown on Drawings and specified herein
   1. Provide accessories, anchorage devices, and other items essential to complete louver installation, though not specifically indicated or specified.

B. Related Work Specified Elsewhere:
   1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS.
   2. Exterior operable louvers are specified in Division 15, MECHANICAL.
   3. Louvers in metal and wood doors are included with the doors, and are not a part of this Section.
   4. Ductwork and ductwork connections to louvers are covered in Division 15, MECHANICAL.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aluminum Louvers
   1. Louvers shall be stationary, drainable, storm resistant type, extruded aluminum, Model No. ELF811D-55 manufactured by Rufkin. Louvers manufactured by Airolite company or Construction Specialties, Inc. are acceptable based on products of equal quality, performance, and appearance as specified herein. Blades and frames shall be minimum 0.080 inch (2.1 mm) thick with reinforcing bosses and shall be of 6063-T5 alloy. Head, jamb, and sill shall be a one piece structural member, with integral calking slot and retaining bead. Supports and blades shall have provision for expansion and contraction. Fastenings shall be stainless steel or aluminum. Louvers shall be free of scratches, blemishes, and defects. Sizes shall be as shown on Drawings.
      a. Provide louvers with removable insect screens, consisting of aluminum frame with 3/4” x .051” (19 mm x 1.3 mm) aluminum wire mesh. Insect screen shall be attached to interior of louver with stainless steel screws or clips.
      b. Louver finish shall be baked enamel WHITE, to match soffit.
      c. Provide drainable blades positioned at approximately 45 degree angle and spaced 5" on center.

PART 3 EXECUTION

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Installation shall be in strict accordance with the manufacturer's instructions.

END OF SECTION

10522

FIREFIGHTING DEVICES

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. Firefighting devices specified in this Section consist of fire extinguishers shown on the Drawings and as specified herein, complete.

B. Related Work specified elsewhere:

1. Refer to all Sections in Division 0, CONTRACT REQUIREMENTS, and Division 1, GENERAL REQUIREMENTS.

1.02 SUBMITTALS

A. Shop Drawings. Indicate extinguisher location, size, mounting height and method of installation.

1.03 DELIVERY, STORAGE AND HANDLING

A. Deliver and store in protective packaging to prevent soiling and physical damage.

B. Handle to prevent damage to finished surfaces and operating mechanism.

1.04 INSPECTION SERVICE

A. Extinguishers shall have an inspection certification tag attached, indicating date of charge and service agent's name and address. Charge date less than sixty days prior to Date of Substantial Completion. Service agent shall be located within 50 miles of project.

B. Provide an inspection service agreement for inspection and servicing of extinguishers for one year following date of initial charge, as well as for servicing and recharging extinguishers failing to hold charge within the initial one-year period. Recharging extinguishers due to use or vandalism shall not be included in service agreement. Provide this agreement to the Owner.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fire Extinguishers and cabinets.

1. Extinguishers shall be standard UL labeled extinguishers manufactured by the Ansul Co., PotterRoemer, J. L. Industries, or Larsen Manufacturing Co. The unit references listed herein are Larsen numbers.

a. Extinguisher: MP6, 6lbs. multipurpose ABC dry chemical extinguisher.

PART 3 EXECUTION

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Installation.

1. Provide Fire Extinguishers as indicated on the drawings.
2. Securely fasten extinguisher cabinets and brackets to structure, square, and plumb, in accordance with manufacturer's instructions.
3. Provide blocking built into walls at anchorage locations.

3.02 CLEANING AND PROTECTION

A. Protect installed equipment and finished surfaces from damage or defacement. Replace items which cannot be repaired to satisfaction of Architect.

B. Prior to date of Substantial Completion, clean and polish all surfaces, including cabinet interiors.

END OF SECTION