SPECIFICATIONS

FOR

TCEQ OFFICE ADDITION
RALPH CHASE BUILDING
CITY OF SAN ANGELO, TEXAS

SAN ANGELO, TEXAS

KFW ARCHITECTS AIA

37B West Concho Avenue
San Angelo, Tx 76903
p:325.653.2900

POWER SYSTEMS INC.
MEP Consultant
P.O. Box 2863
San Angelo, Tx. 76902
325.659.2235

SKG Engineering
Structural Consultant
706 South Abe Street
San Angelo, Tx. 76903
325.655.1288

PROJECT MANUAL
APRIL 8, 2020

City of San Angelo's RFB FC-01-20
Requisition No. 130262

ARCHITECT'S PROJECT NO. 280-06-1119

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DIVISION 10 - SPECIALTIES

NOTE: MPE SPECIFICATIONS AND TABLE OF CONTENTS WILL BE FOUND FOLLOWING ARCHITECTURAL AND STRUCTURAL SPECIFICATIONS.

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04/08/2020

PLUMBING, MECHANICAL & ELECTRICAL SPECIFICATIONS

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SECTION	TITLE
26 06 20	WIRING DEVICES
26 28 00	CIRCUIT AND MOTOR DISCONNECTS
26 51 00	LUMINAIRES
27 20 00	COMMUNICATIONS AND COMPUTER SYSTEMS
28 23 00	ACCESS CONTROL SYSTEMS & CCTV SYSTEMS
28 31 00	FIRE ALARM SYSTEM

MEP 2015 ENERGY CODE CERTIFICATES (COMCHECK)

April 3, 2020

Paul Wilkerson, PE Texas # 50732

Power Systems

Firm #F-6257

SECTION 01 0102

FINISH SCHEDULE

TCEQ Office Addition – Ralph Chase Building

INTERIOR (Refer to Finish Schedule on drawings for exact location of finishes.)

Office Additions:

1. Carpet Squares: "EF Contract" - contact Steve Robles – 325-942-7069
    a. Size: **Carpet Tile 24" x 24"L**
    b. Color: **AER45 – OFF THE MAP**
    c. Style: **AERIA MAP**
    d. Yarn Content: **AVALAR RE**
2. Field Base: Armstrong or Approved Equal (verify brand with Maintenance Director Dwain Halfmann 325-656-6265)
    a. 4" Resilient base
    b. Color: **13 Shale** – (Field verify match with existing prior to ordering material)
3. Field Wall Color: Sherwin Williams (verify brand with Maintenance Director Dwain Halfmann 325-656-6265)
    a. Color: (Field verify to match existing wall paint color in adjacent space)
4. Ceilings: Acoustical Ceiling Tile – verify with Maintenance Director Dwain Halfmann 325-656-6265
    a. Color: **White – (**Field verify exact match to existing ACT in adjacent space) – verify with Maintenance Director Dwain Halfmann 325-656-6265
5. Hollow Metal Frames (as sched.): Sherwin Williams – verify with Maintenance Director Dwain Halfmann 325-656-6265
    a. Color: (Field verify to match existing frame paint color in adjacent space)
6. Wood Doors (as sched.):
    a. Architectural Wood Doors: Aspiro Series
    b. Veneer: **White Birch** (plain sliced)
    c. Finish: **Stain to match the existing passage doors**

Breakroom:

1. Resilient Vinyl Floor: Armstrong - contact Steve Robles – 325-942-7069
    a. Size: **VCT Tile 12" x 12"**
    b. Color: **STANDARD EXCELON IMPERIAL TEXTURE – TAUPE #51901**
2. Field Base:
    a. Armstrong or Approved Equal
    b. 4" Resilient base
    c. Color: **13 Shale** – (Field verify match with existing prior to ordering material)
3. Field Wall Color: Sherwin Williams
    a. Color: (Field verify to match existing wall paint color in adjacent space)
4. Ceilings: Acoustical Ceiling Tile – verify with Maintenance Director Dwain Halfmann 325-656-6265
    a. Color: **White – (**Field verify exact match to existing ACT in adjacent space)
5. Hollow Metal Frames (as sched.): Sherwin Williams – verify with Maintenance Director Dwain Halfmann 325-656-6265
    a. Color: (Field verify to match existing frame paint color in adjacent space)
6. Wood Doors (as sched.) – verify with Maintenance Director Dwain Halfmann 325-656-6265
    a. Architectural Wood Doors: Aspiro Series
    b. Veneer: **White Birch** (plain sliced) – verify with Maintenance Director Dwain Halfmann 325-656-6265
    c. Finish: **Stain to match the existing passage doors**
7. Millwork Laminate Clad Countertop (where shown on plan): Wilsonart, Color: **10745-60 FONTHILL PEAR**
8. Millwork Laminate Clad Cabinets (where shown on plan): Wilsonart, Color: **10745-60 FONTHILL PEAR**

END OF FINISHES

SECTION 01 1100

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project description.
2. Work by Others.
3. Work sequence.
4. Owner occupancy.
5. Future work.
6. Contractor's use of site and premises.
7. Owner furnished Products.

1.2 PROJECT DESCRIPTION

A. Work of this Project is described as the construction of new interior spaces (build-out, approximately 1,130 s.f.) within the existing Ralph Chase Office Building. Contractor will be working within an existing space adjacent to other occupied spaces. Care will be taken to minimize disruption of other spaces.

B. Work includes general construction, plumbing, HVAC, and electrical. Additionally, there will be some minor structural work done to augment wood joists around new rooftop HVAC unit.

C. The Project will be constructed under a single contract.

1.3 CONTRACTOR'S USE OF SITE AND PREMISES

A. Contractor shall have limited use of the site outside of the building.

1. The allocated TCEQ parking spaces will remain partially open during construction and can be used for parking and for staging – coordinate with TCEQ and Building Maintenance.

B. Move any stored products under Contractor's control that interfere with the operations of the Owner

C. Assume full responsibility for protection and safekeeping of products under this Contract stored on site. Some construction materials can be stored in the shell space just adjacent to the New TCEQ Office Addition. Coordinate with the Building's Maintenance Department.

D. Obtain and pay for use of any additional storage or work areas needed for operations.

E. Coordinate use of site and premises with the Owner:

1. Off-street parking lot.
2. Storage and staging areas: Some storage and staging area may be located at the TCEQ parking spaces – coordinate with Owner and Building Maintenance Department.
3. Some new construction materials may be stored in the Shell Space just adjacent to the New Office Addition.

F. Conform to Building Rules and Regulations.

G. If access to adjacent common or occupied spaces is required:

1. Schedule operations with Owner in advance.
2. Perform work after normal business hours or on weekends when directed by Owner.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

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

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

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

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

1.02 RELATED SECTIONS

A. Contract Documents issued by the Architect.

1.03 SCHEDULE OF VALUES

A. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.

B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

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

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

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

F. Revise schedule to list approved Change Orders, with each Application for Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit to the Architect at monthly intervals.

B. Present required information in typewritten form.

C. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.

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

1. Item Number.
2. Description of work.
3. Scheduled Values.
4. Previous Applications.
5. Work in Place and Stored Materials under this Application.
6. Authorized Change Orders.
7. Total Completed and Stored to Date of Application.
8. Percentage of Completion.
9. Balance to Finish.
10. Retainage.

E. Execute certification by signature of authorized officer.

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

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

H. Submit three copies of each Application for Payment or email Pay Application with Items “I” below to kye@kfwarchitects.com.

I. Include the following with the application:

1. Transmittal letter as specified for Submittals in Section 01 3000.
2. Construction progress schedule, revised and current as specified in Section 01 3000.
3. Partial release of liens from major Subcontractors and vendors.

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

1.05 MODIFICATION PROCEDURES

A. Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum

or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA Form G710, or other documents.

B. Construction Change Directive: Architect may issue a document, signed by Owner, instructing Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time.

2. Promptly execute the change in Work.

C. Proposal Request: Architect may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. Contractor shall prepare and submit a fixed price quotation within 7 calendar days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 6000.

E. Computation of Change in Contract Amount:

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

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

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

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

1. On request, provide following data:

a. Quantities of products, labor, and equipment.

b. Taxes, insurance, and bonds.

c. Overhead and profit.

d. Justification for any change in Contract Time.

e. Credit for deletions from Contract, similarly documented.

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

a. Origin and date of claim.

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

c. Time records and wage rates paid.

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

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

G. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract on AIA G701.

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

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

J. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

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

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

1. All closeout procedures specified in Section 01 7000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Product Substitution Procedures.

1.2 GENERAL

A. Definition: Proposal by Contractor to use manufacturer, product, material, or system different from one required in Contract Documents.

B. Do not substitute Products unless a substitution request has been approved by Architect.

C. Substitutions during Bidding: Refer to Instructions to Bidders.

D. Architect will consider substitution requests within 30 days after award of Contract. After initial 30-day period, substitutions requests will be considered only due to non-availability of a specified Product through no fault of Contractor.

E. In case of non-availability of a specified Product notify Architect in writing as soon as non-availability becomes apparent.

1.3 SUBSTITUTION REQUESTS

A. Submit substitution requests on form provided in Project Manual

B. Document specified product and proposed substitution with complete data, including:
1. Product identification, including name and address of manufacturer.
2. Product description, performance and test data, and reference standards.
3. Sample, if requested.
4. Description of any anticipated effect that acceptance of proposed substitution will have on Progress Schedule, construction methods, or other items of Work.
5. Description of any differences between specified product and proposed substitution.
6. Difference in cost between specified product and proposed substitution.

C. Burden of proof for substantiating compliance of proposed substitution with Contract Document requirements remains with Contractor.

D. A request constitutes a representation that the Contractor:
1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified Product.
2. Will provide the same warranty for the substitution as for the specified Product.
3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension that may subsequently become apparent.
5. Will reimburse Owner for design services associated with re-approval by authorities or revisions to Contract Documents to accommodate the substitution.

E. Substitutions will not be considered if:
1. They are indicated or implied on Shop Drawings or other submittals without submittal of a substitution request.
2. Approval will require substantial revision of Contract Documents without additional compensation to Architect.

F. Submit electronically in Adobe PDF format.

G. Architect will notify Contractor of approval or rejection of each Substitution Request.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

DOCUMENT 01 2519

SUBSTITUTION REQUEST FORM

DATE: _____

TO: _____

ATTENTION: _____

PROJECT: _____

We submit for your consideration the following product as a substitution for the specified product:

Section No.	Paragraph	Specified Product
_____	_____	_____

Proposed Substitution: _____

_____

Reason for Substitution: _____

_____

Product Data:

Attach complete technical data for both the specified product and the proposed substitution. Include information on changes to Contract Documents that the proposed substitution will require for its proper installation.

Samples:

___ Attached ___ Will be furnished upon request

Does the substitution affect dimensions shown on Drawings?

___ No ___ Yes (explain) _____

_____

Effects of proposed substitution on other Work:

_____

_____

Differences between proposed substitution and specified Product:

_____

_____

Manufacturer's warranties of the proposed substitution are:

___ Same ___ Different (explain) _____

_____

Maintenance service and spare parts are available for proposed substitution from:

_____

_____

Previous installations where proposed substitution may be seen:

Project: _____ Project: _____

Owner: _____ Owner: _____

Architect: _____ Architect: _____

Date Installed: _____ Date Installed: _____

Cost savings to be realized by Owner, if proposed substitution is approved:

_____

Change to Contract Time, if proposed substitution is approved:

___ No Change ___ Add _____ days ___ Deduct _____ days

Submittal constitutes a representation that Contractor has read and agrees to the provisions of Section 01 2500.

Submitted by Contractor:

_____
Signature

_____
Firm

For Use by Architect:

Based on the information supplied by the [Contractor,] [Construction Manager,] the Architect has reviewed the proposed substitution on the basis of design concept of the Work and conformance with information given in Contract Documents.

___ Approved ___ Approved as Noted ___ Rejected

Submit Additional Information: _____

_____

By: _____ Date: _____

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Project coordination.
   2. Coordination drawings.
   3. Project meetings.

B. Related Sections:
   1. Section 01 7700 - Contract Closeout.

1.2 PROJECT COORDINATION

A. Coordinate scheduling, submittals, and work of various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.

C. Coordinate space requirements and installation of mechanical and electrical items that are indicated diagrammatically on Drawings.
   1. Follow routing shown as closely as practical; place runs parallel with building lines.
   2. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean up of work of separate Sections in preparation for Substantial Completion.

F. After Owner occupancy, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of Owner's activities.

1.3 COORDINATION

A. Hold coordination meetings with trades providing mechanical, plumbing, fire protection, and electrical work.

B. Resolve conflicts between trades, prepare composite coordination drawings and obtain signatures on original composite coordination Drawings.

C. When conflicts cannot be resolved:
   1. Cease work in areas of conflict and request clarification prior to proceeding.
   2. Prepare drawings to define and to indicate proposed solution.
   3. Submit drawings for approval when actual measurements and analysis of Drawings and Project Manual indicate that various systems cannot be installed without significant deviation from intent of Contract Documents.

D. Submit original composite coordination drawings as part of Project Record Documents specified in Section 01 7700.

1.4 PROJECT MEETINGS

A. Schedule and administer preconstruction conference, progress meetings, and pre-installation conferences

B. Make physical arrangements for meetings; notify involved parties at least 4 days in advance.

C. Record significant proceedings and decisions at each meeting; reproduce and distribute copies to parties in attendance and others affected by proceedings and decisions made.

1.5 PRECONSTRUCTION CONFERENCE

A. Schedule within 15 days after date of Notice to Proceed at Contractor's central site convenient to all parties.

B. Attendance:
1. Contractor.
2. Owner.
3. Architect and principal consultants.
4. Major subcontractors and suppliers as Contractor deems appropriate.

C. Review and Discuss:
1. Relation and coordination of various parties, and responsible personnel for each party.
2. Use of premises, including office and storage areas, temporary controls, and security procedures.
3. Construction schedule and critical work sequencing.
4. Processing of:
    a. Contract modifications.
    b. Shop Drawings, Product Data, and Samples.
    c. Applications for Payment.
    d. Substitutions.
    e. Requests for Information.
    f. Other required submittals.
5. Adequacy of distribution of Contract Documents.
6. Procedures for maintaining contract closeout submittals.
7. Installation and removal of temporary facilities.
8. Notification procedures and extent of testing and inspection services.

1.6 PROGRESS MEETINGS

A. Schedule bi-weekly progress meetings.

B. Location: Contractor's Project field office.

C. Attendance:
1. Contractor.
2. Owner.
3. Architect and consultants as appropriate to agenda.
4. Subcontractors and suppliers as appropriate to agenda.
5. Others as appropriate to agenda.

D. Review and Discuss:
1. Work progress since previous meeting, including:
    a. Field observations, deficiencies, conflicts, and problems.
    b. Progress and completion date.
    c. Corrective measures needed to maintain quality standards, progress, and completion date.
2. Status of:
    a. Requests for information.
    b. Submittals.
    c. Contract modifications.
3. Coordination between various elements of Work.

4. Maintenance of Project Record Documents.

1.7 PRE-INSTALLATION CONFERENCES

A. Where required in individual specification Section, convene a pre-installation conference at project site or other designated location.

B. Require attendance of parties directly affecting or affected by work of the specific Section.

C. Review conditions of installation, preparation and installation procedures, and coordination with related work.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 3216

CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Construction progress schedule.

B. Related Sections:
   1. Section 01 1100 - Summary of Work:
   2. Section 01 2900 - Payment Procedures.

1.2 FORMAT

A. Prepare Progress Schedule as a horizontal bar chart with separate bar for each major portion of Work or operation, identifying first work day of each week.

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

1.3 CONTENT

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

B. Identify each item by specification Section number.

C. Identify work of logically grouped activities.

D. Provide subschedules to define critical portions of the entire Progress Schedule.

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

F. Provide separate schedule of submittal dates for Shop Drawings, Product Data, and Samples, including:
   1. Dates reviewed submittals will be required from Architect.
   2. Decision dates for selection of finishes.
   3. Delivery dates for [Owner furnished products] [and] [Products identified under Allowance].

G. Coordinate content with Schedule of Values specified in Section 01 2900.

H. Revisions:
   1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
   2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

I. Provide narrative report to define problem areas, anticipated delays, and impact on Progress Schedule. Report corrective action taken, or proposed, and its effect.

1.4 SUBMITTAL

A. Submit initial Progress Schedule within 15 days after date of Notice to Proceed. After review, resubmit required revised data within 10 days.

B. Submit revised Progress Schedule with each Application for Payment.

C. Submit one copy.

1.5 DISTRIBUTION

A. Distribute copies of approved Progress Schedule to project site file, Subcontractors, suppliers, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Progress Schedule.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Submittal procedures.
   2. Proposed Products list.
   3. Submittal schedule.
   4. Shop Drawings.
   5. Product Data.
   6. Samples.
   7. Quality control submittals.

B. Related Sections:
   1. Section 01 4000 - Quality Requirements.

1.2 SUBMITTAL PROCEDURES

A. Number each submittal with Project Manual section number and a sequential number within each section. Number resubmittals with original number and an alphabetic suffix.

B. Identify Project, Contractor, Subcontractor or supplier, pertinent Drawing sheet and detail numbers, and specification Section number, as appropriate.

C. Submit all submittals listed under “Submittals for Review” simultaneously for each Product or Specification Section.

D. Where multiple Products function as an assembly, group submittals for all related Products into single submittal.

E. Architect will not review incomplete submittals.

F. Apply Contractor’s stamp, signed or initialed certifying that:
   1. Submittal was reviewed.
   2. Products, field dimensions, and adjacent construction have been verified.
   3. Information has been coordinated with requirements of Work and Contract Documents.

G. Schedule submittals to expedite the Project, and deliver to Architect. Coordinate submittal of related items.

H. For each submittal, allow 14 days for Architect’s review, excluding delivery time to and from Contractor.

I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of completed Work.

J. Revise and resubmit submittals when required; identify all changes made since previous submittal.

K. Distribute copies of reviewed submittals to concerned parties and to Project Record Documents file. Instruct parties to promptly report any inability to comply with provisions.

1.3 PROPOSED PRODUCTS LIST

A. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

B. Submit electronically in Adobe PDF format.

1.4 SUBMITTAL SCHEDULE

A. Within 15 days after date of Notice to Proceed, submit a submittal schedule showing all submittals proposed for project, including submittals listed as:
   1. Submittals for Review.
   2. Quality Control Submittals.
   3. Closeout Submittals.

B. Include for each submittal:
   1. Specification section number.
   2. Description of submittal.
   3. Type of submittal.
   4. Anticipated submittal date.
   5. For submittals requiring Architect’s review, date reviewed submittal will be required from Architect.

C. Submit electronically in Adobe PDF format.

1.5 SHOP DRAWINGS

A. Present information in clear and thorough manner.

B. Identify details by reference to sheet and detail numbers or room number shown on Drawings.

C. Reproductions of details contained in Contract Documents are not acceptable.

D. Submit electronically in Adobe PDF format.

1.6 PRODUCT DATA

A. Mark each copy to identify applicable products, models, options, and other data.

B. Supplement manufacturers' standard data to provide information unique to this Project.

C. Submit electronically in Adobe PDF format.

1.7 SAMPLES

A. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

B. Where so indicated, submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect's selection.

C. Include identification on each sample, with full Project information.

D. Unless otherwise specified in individual specifications, submit two of each sample.

E. Architect will notify Contractor of approval or rejection of samples, or of selection of color, texture, or pattern if full range is submitted.

1.8 QUALITY CONTROL SUBMITTALS

A. Quality control submittals specified in Section 01 4000 are for information and do not require Architect’s responsive action except to require resubmission of incomplete or incorrect information.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. References.
   2. Quality assurance and control of installation.
   3. Mockups.
   4. Manufacturer's field services and reports.
   5. Design data and calculations.
   6. Test reports and certifications.
   7. Manufacturer's installation instructions.

1.2 REFERENCES

A. For products or workmanship specified by reference to association, trade, or industry standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

C. Conform to edition of reference standard in effect as of Owner/Contractor Agreement.

D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.3 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply fully with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.4 MOCKUPS

A. Definition:
   1. Mockups are field samples constructed, applied, or assembled at the project site for review by the Owner and Architect that illustrate materials, equipment, or workmanship.
   2. Approved mockups establish the standard of quality by which the Work will be judged.

B. Construct, apply, or assemble specified items, with related attachment and anchorage devices, flashings, seals, and finishes.

C. Perform work in accordance with applicable specifications sections.

D. Erect at project site at location acceptable to Architect. Protect from damage.

E. Removal:
   1. Mockups may remain as part of the Work only when so designated in individual specification sections.
   2. Do not remove mockups until removal is approved by Architect or upon Final Completion.
   3. Where mockup is not permitted to remain as part of the Work, clear area after removal of mockup has been approved by Architect.

1.5 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, or startup of equipment, as applicable, and to initiate instructions when necessary.

B. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

C. Submit report to Architect within 10 days of observation.

1.6 DESIGN DATA AND CALCULATIONS

A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide design data and calculations.

B. Accuracy of design data and calculations is the responsibility of the [Contractor.] [Construction Manager.]

C. When so specified, prepare design data and calculations under the direction of a professional engineer licensed in the state in which the Project is located. Affix engineer’s seal to submittals.

D. Submit electronically in Adobe PDF format.

1.7 TEST REPORTS AND CERTIFICATIONS

A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide test reports and manufacturers’ certifications.

B. Indicate that material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Submittals may be recent or previous test results on material or Product, but must be acceptable to Architect.

D. Submit electronically in Adobe PDF format.

1.8 MANUFACTURER'S INSTALLATION INSTRUCTIONS

A. When Contract Documents require that Products be installed in accordance with manufacturer's instructions:
   1. Submit manufacturer's most recent printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, as applicable.
      a. Submit in quantities specified for Product Data.
      b. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
      c. Identify conflicts between manufacturers' instructions and requirements of Contract Documents.
   2. Perform installation of Products to comply with requirements of manufacturer's instructions.

3. If installation cannot be performed in accordance with manufacturer's instructions, notify Architect and await instructions.
4. Submit electronically in Adobe PDF format.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 4523

TESTING AND INSPECTION SERVICES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Laboratory selection and payment.
   2. Laboratory duties.
   3. Contractor's responsibilities.

B. Related Sections: Individual specifications sections contain specific tests and inspections to be performed.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
   2. D3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials.
   3. D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
   4. E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.
   5. E543 - Standard Specification for Agencies Performing Nondestructive Testing.

1.3 QUALITY ASSURANCE

A. Contractor shall employ and pay for services of an independent testing laboratory to perform specified testing and inspection.

B. Employment of Testing Laboratory shall in no way relieve Contractor of his obligations to perform work in accordance with Contract Documents.

C. Refer to the Conditions of the Contract for provisions related to special inspections and testing.

D. Qualifications of Laboratory:
   1. Authorized to operate in State in which project is located.

1.4 LABORATORY DUTIES

A. Cooperate with Architect and Contractor; provide qualified personnel after due notice.

B. Perform specified inspections, sampling, and testing of materials and methods of construction:
   1. Comply with specified standards.
   2. Ascertain compliance or noncompliance of materials with requirements of Contract Documents.

C. Promptly notify Architect and Contractor of observed irregularities or deficiencies of Work or products.

D. Promptly submit written report of each test and inspection; electronically in Adobe PDF format to Architect, Owner, and Contractor.

E. Each report to include:
   1. Date issued.
   2. Project title and number.
   3. Testing Laboratory name, address, and telephone number.
   4. Name of Inspector and signature of individual in charge.
   5. Date and time of sampling or inspection.

6. Record of temperature and weather conditions.
7. Date of test.
8. Identification of product and specification section.
9. Location of sample or test in project.
10. Type of inspection or test.
11. Results of tests and compliance or noncompliance with Contract Documents.
12. Interpretation of test results when requested by Architect or Contractor.

F. Perform additional tests when required by Architect or Contractor.

G. Laboratory is not authorized to:
1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of work.
3. Perform any duties of Contractor.

1.5 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with Laboratory personnel, provide access to Work, and to manufacturer's operations.

B. When materials require testing prior to being incorporated into Work, secure and deliver to Laboratory adequate quantities of representative samples of materials proposed to be used.

C. Furnish copies of product test reports as required.

D. Furnish incidental labor and facilities:
1. To provide access to work to be tested.
2. To obtain and handle samples at site or at source of product to be tested.
3. To facilitate inspections and tests.
4. For safe storage and curing of test samples.

E. Notify Laboratory sufficiently in advance of operations to allow for Laboratory assignment of personnel and scheduling of tests.

F. When tests or inspections cannot be performed after such notice, reimburse Owner for Laboratory personnel and travel expenses incurred due to Contractor's negligence.

G. Make arrangements with Laboratory and pay for additional samples and tests required for Contractor's

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Temporary utilities.
2. Field offices and sheds.
3. Temporary controls.
4. Protection of installed Work.
5. Security.
6. Progress cleaning.
7. Water, erosion, sediment, dust, and mold and mildew control.
8. Access roads and parking areas.
9. Removal.

1.2 REFERENCES

A. Green Seal, Inc. (GS) 37 - Environmental Standard for Industrial and Institutional Cleaners.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 TEMPORARY ELECTRICITY

A. Existing electrical system may be used during construction. Coordinate with Owner.

B. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.

C. Maintain distribution system and provide routine repairs.

3.2 TEMPORARY LIGHTING

A. Provide temporary lighting for construction and security purposes.

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

C. Maintain lamps and provide routine repairs.

D. Provide portable lights when required to provide minimum lighting levels necessary for specific work.

3.3 TEMPORARY HEAT

A. Provide temporary heating devices required to maintain specified ambient temperatures for construction.

3.4 TEMPORARY VENTILATION

A. Ventilate enclosed areas to facilitate curing of materials, disperse humidity, and prevent accumulations of dust, fumes, vapors, or gases.

B. Provide temporary fan units as required to maintain clean air for construction.

3.5 TEMPORARY TELEPHONE, AND COMPUTER SERVICES

A. Contractor shall be accessible during normal business hours via mobile telephone with voice mail or an answering service.

3.6 TEMPORARY WATER

A. Connect to existing water source for water required for construction.
   1. Regulate system to prevent interference with Owner's usage.
   2. Costs of water used will be paid for by Owner. Exercise measures to conserve water.

B. Extend branch piping and provide temporary hoses so that water is available at locations needed for work.

C. Protect from freezing.

D. Maintain distribution system and provide routine repairs.

3.7 TEMPORARY SANITARY FACILITIES

A. Existing toilets designated by Owner may be used during construction.

B. Maintain facilities in clean and sanitary condition.

3.8 FIELD OFFICES AND SHEDS

A. A temporary Field Office and storage required for construction may be set up for use within the existing Ralph Chase Building. Coordinate with Owner for exact location.

B. Do not unreasonably encumber site or premises with excess materials or equipment.

3.9 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from construction operations.

3.10 PROTECTION OF INSTALLED WORK

A. Protect installed work from construction operations; provide special protection when required in individual specification sections.

3.11 SECURITY

A. Provide a project security program, to:
   1. Protect the Work, stored products, and construction equipment from theft and vandalism.
   2. Prevent entry by unauthorized persons.

3.12 PROGRESS CLEANING

A. Maintain areas free from waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Provide containers for collection of waste materials, debris, and rubbish; remove and dispose of off site as required by construction activities.

C. Periodically clean interior areas to provide suitable conditions for finish work.

3.13 TEMPORARY CONTROLS

A. Dust Control:
   1. Provide dust control materials and methods to minimize dust from construction operations.
   2. Prevent dust from dispersing into atmosphere.

B. Mold and Mildew Control:
   1. Provide continuous measures to prevent formation of mold and mildew in construction.
   2. Do not install materials sensitive to mold and mildew growth until protection can be provided.
   3. Promptly remove and replace materials exhibiting mold and mildew growth.

3.14 REMOVAL

A. Remove temporary utilities, equipment, facilities, and services when construction needs can be met by use of permanent construction or upon completion of Project.

B. Remove foundations and underground installations; grade site as indicated.

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

D. Restore existing and permanent facilities used during construction to original or to specified condition.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Products.
   2. Transportation and handling.
   3. Storage and protection.
   4. Reuse of existing materials.
   5. Product options.

B. Related Sections:
   1. Section 01 2500 - Substitution Procedures.

1.2 PRODUCTS

A. Provide interchangeable components by the same manufacturer for identical items.

B. Do not use products containing asbestos or other known hazardous materials.

1.3 TRANSPORTATION AND HANDLING

A. Coordinate delivery of Products to prevent conflict with Work and adverse conditions at site.

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

C. Promptly inspect shipments to ensure that Products comply with requirements of Contract Documents, are undamaged, and quantities are correct.

D. Provide equipment and personnel to handle products by methods to prevent damage.

1.4 STORAGE AND PROTECTION

A. Store and protect Products in accordance with manufacturer's instructions with manufacturer's seals and labels intact and legible.

B. Store Products on site unless prior written approval to store off site has been obtained from Owner.

C. Store Products subject to damage by elements in weathertight enclosures. Maintain temperature and humidity within ranges required by manufacturer's instructions.

D. Exterior Storage:
   1. Store fabricated Products above ground; prevent soiling and staining.
   2. Cover products subject to deterioration with impervious sheet coverings; provide ventilation to prevent condensation.
   3. Store loose granular materials in well drained area on solid surfaces; prevent mixing with foreign matter.

E. Arrange storage areas to permit access for inspection. Periodically inspect stored products to verify that products are undamaged and in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products specified by reference standard only:
   1. Select any Product meeting the specified standard.

2. Submit Product Data to substantiate compliance of proposed Product with specified requirements.

B. Products specified by naming two or more acceptable Products: Select any named Product.

C. Products specified by stating that the Contract Documents are based on a Product by a single manufacturer followed by the statement "Equivalent products by the following manufacturers are acceptable":
   1. Select the specified Product
   2. Submit a substitution request under provisions of Section 01 2500 for Products by a named manufacturer having equivalent or superior characteristics to the specified Product and meeting the requirements of the Contract Documents
   3. If the specified Product is not selected, submit Product Data to substantiate compliance of proposed Product with specified requirements.
   4. The specified Product establishes the required standard of quality.

D. Products specified by naming one or more Products followed by "or approved substitute" or similar statement:
   1. Submit a substitution request under provisions of Section 01 2500 for Products not listed.
   2. The specified Product establishes the required standard of quality.

E. Products specified by naming one or more Products or manufacturers followed by the statement "Substitutions: Under provisions of Division 01":
   1. Submit a substitution request under provisions of Section 01 2500 for Products not listed.
   2. The specified Product establishes the required standard of quality.

F. Products specified by naming one Product followed by the statement "Substitutions: Not permitted": Substitutions will not be allowed.

G. Products specified by required performance or attributes, without naming a manufacturer or Product:
   1. Select any Product meeting specified requirements.
   2. Submit Product Data to substantiate compliance of proposed Product with specified requirements.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 7000

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition.

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Starting of systems and equipment.

G. Demonstration and instruction of Owner personnel.

H. Closeout procedures, except payment procedures.

1.02 RELATED SECTIONS

A. Section 01 1100 - Summary: Work sequence.

B. Section 01 3000 - Administrative Requirements: Submittals procedures.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.

E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.05 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible

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

D. Coordinate space requirements, supports, and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:

1. Review conditions of installation, preparation and installation procedures.

2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Execute cutting and patching to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.

B. Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

C. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

D. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

E. Restore work with new products in accordance with requirements of Contract Documents.

F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

G. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

H. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

I. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

J. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do no burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.08 STARTING SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Use cleaning materials that are not hazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, gutters, downspouts, and drainage systems.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

I. The General Contractor shall be responsible for providing an approved and reputable janitorial contractor to perform all necessary classroom/building cleaning services prior to COSA-TCEQ taking occupancy of such areas.

The general clean up provided by the Contractor shall consists of sweeping and mopping of all non-carpeted areas; vacuuming of all carpeted areas, and to include spot cleaning of carpet stains; scrubbing and waxing of vinyl tile areas; cleaning of all light fixtures, exit lights, HVAC vents, grills and registers; counter tops, sink/lavs; restroom fixtures, faucets and flush valves; toilet partitions; walls, windows, blinds; doors and door knobs; mirrors. General cleaning may also include any other cleaning as may be deemed necessary by COSA.

J. General contractor shall be responsible for notifying COSA's specified representative upon completion of cleaning services. The COSA will set up and perform inspection of the area(s). The contractor shall be held responsible for any additional touch up or potential "redo" of any or all of a designated area.

3.12 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Notify Architect when work is considered ready for Substantial Completion.

C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.

D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.

E. Notify Architect when work is considered finally complete.

F. Complete items of work determined by Architect's final inspection.

3.13 ONE YEAR WALKTHROUGH

A. Schedule a walkthrough of the project, with the Architect and Owner approximately eleven months subsequent to Substantial Completion. This walkthrough will determine any corrective issues that need to occur to the work since Substantial Completion.

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Closeout procedures.
2. Final cleaning.
3. Adjusting.
4. Project record documents.
5. Operation and maintenance data.
6. Warranties.
7. Spare parts and maintenance materials.
8. Starting of systems.
9. Demonstration and instructions.

1.2 CLOSEOUT PROCEDURES

A. Final Inspection:
1. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with the Contract Documents and ready for Architect's inspection.
2. If Architect performs reinspection due to failure of Work to comply with claims of status of completion made by Contractor, Owner will compensate Architect for such additional services and will deduct the amount of such compensation from final payment to Contractor.

B. Submit final Application for Payment showing original Contract Sum, adjustments, previous payments, retainage withheld from previous payments, and sum remaining due.

C. Closeout Submittals:
1. Evidence of compliance with requirements of governing authorities.
2. Certificate of Occupancy.
3. Project Record Documents.
4. Operation and Maintenance Data.
5. Warranties.
6. Keys and keying schedule.
7. Spare parts and maintenance materials.
8. Evidence of payment of Subcontractors and suppliers.
9. Final lien waiver.
10. Certificate of insurance for products and completed operations.
11. Consent of Surety to final payment.

1.3 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Clean surfaces exposed to view:
1. Clean glass.
2. Remove temporary labels, stains and foreign substances.
3. Polish transparent and glossy surfaces.
4. Vacuum carpeted surfaces; damp mop hard surface flooring.

C. Clean equipment and fixtures to a sanitary condition.

D. Clean or replace filters of operating equipment.

E. Clean debris from roofs and drainage systems.

F. Clean site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.4 ADJUSTING

A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain following record documents on site; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other Modifications to the Contract.
   5. Reviewed Shop Drawings, Product Data, and Samples.
   6. Material Safety Data Sheets.

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Make entries neatly and accurately.

E. Label each set or volume with title "PROJECT RECORD DOCUMENTS", project title, and description of contents.
   1. Organize contents according to Project Manual table of contents.
   2. Provide table of contents for each volume.

F. Drawings: Mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Drawings.

G. Specifications: Mark each Product section description of actual Products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and Modifications.

H. Shop Drawings: Mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Shop Drawings.

I. Submit one hard copy and electronically in Adobe PDF format along with final application for Payment.

1.6 OPERATION AND MAINTENANCE DATA

A. Identify as "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of project.

B. Contents:

1. Directory: List names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
2. Operation and maintenance instructions: Arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
    a. Significant design criteria.
    b. List of equipment.
    c. Parts list for each component.
    d. Operating instructions.
    e. Maintenance instructions for equipment and systems.
    f. Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.
3. Project documents and certificates including:
    a. Shop drawings and product data.
    b. HVAC balance reports.
    c. Certificates.
    d. Copies of warranties and bonds.

C. Submittal:
1. Submit electronically in Adobe PDF format at least 15 days prior to final inspection.
2. Architect will notify Contractor of any required revisions after final inspection.
3. Revise content of documents as required prior to final submittal.
4. Submit revised documents electronically in Adobe PDF format within 10 days after final inspection.

1.7 WARRANTIES

A. Execute and assemble documents from Subcontractors, suppliers, and manufacturers.

B. Include Table of Contents.

C. Submit electronically in Adobe PDF format along with final Application for Payment.

D. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

B. Deliver to Project site in location as directed; obtain receipt prior to final payment.

1.9 STARTING OF SYSTEMS

A. Notify Owner and Architect at least seven days prior to startup of each system or piece of equipment.

B. Prior to beginning startup verify that:
1. Lubrication has been performed.
2. Drive rotation, belt tension, control sequences, tests, meter readings, and electrical characteristics are within manufacturer's requirements.
3. Utility connections and support components are complete and tested.

C. Execute start-up under supervision of applicable manufacturer's representative or Contractor’s personnel in accordance with manufacturers' instructions.

D. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to startup, and to supervise placing equipment or system in operation.

E. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.10 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Utilize Operation and Maintenance Manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed upon times, at equipment location.

E. Prepare and insert additional data in Operation and Maintenance Manuals when need for additional data becomes apparent during instruction.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 05 4100

INTERIOR METAL SUPPORT ASSEMBLIES

PART 1GENERAL

1.1 SUMMARY

A. Section Includes:
1. Metal stud interior partition framing.
2. Metal interior wall furring.
3. Suspended metal channel soffit and ceiling framing.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
1. A591/A591M - Standard Specification for Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Weight (Mass) Applications.
2. A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
3. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
4. A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.
5. C635 - Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
6. C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
7. C645 - Standard Specification for Non-Load (Axial) Bearing Steel Studs, Runners (Track), and Rigid Furring Channels for Screw Application of Gypsum Board.
8. C754 - Standard Practice for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wall board, Backing Board, or Water-Resistant Backing Board.
9. E90 - Standard Test Method for Airborne Sound Transmission Loss of Building Partitions.
10. E413 - Standard Test Method for Classification for Rating Sound Insulation.

B. Gypsum Association (GA) GA-600 - Fire Resistance Design Manual.

C. Steel Framing Industry Association (SFIA) (www.sfia.memberclicks.net) - Member Directory.

D. Steel Stud Manufacturer's Association (SSMA)(www.ssma.com - Member Directory.

E. Underwriters Laboratories, Inc. (UL) - Fire Resistance Directory.

1.3 SUBMITTALS

A. Submittals for Review:
1. Product Data: Illustrate framing types, gages, and locations.

1.4 QUALITY ASSURANCE

A. Manufacturer: Current member of SSMA.

B. Installer Qualifications: Minimum 5 years experience in work of this Section.

C. Fire Resistance Ratings:

1. Construct assemblies to achieve fire resistance ratings indicated on Drawings, in accordance with referenced ratings.
2. If requirements of assembly numbers referenced conflict with Contract Document requirements, conform to assembly requirements.

D. Acoustics: Construct assemblies to achieve acoustic properties shown on drawings.

E. Deflection Limits:
1. Limit deflection of partitions to following limits, based on 5 PSF uniform design load, typical; 7.5 PSF for lobbies, gallery, and display rooms.
   a. Partitions to receive tile: L/360.
   b. Other partitions: L/240.
   c. If partition height exceeds stud manufacturer's limiting height for applicable loading and deflection, install bracing above ceiling, decrease stud spacing, or increase stud gage.
2. Limit deflection of ceilings to L/360.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. Clark Dietrich

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Steel: ASTM A653/A653M or ASTM A1003/1003M, Class G40hot dip galvanized.

2.3 COMPONENTS

A. Provide components in accordance with ASTM C645.

B. Studs: Non-load bearing roll-formed steel, SSMA stud profile, C-shaped, punched for utility access.

C. Top and Bottom Tracks:
1. Same material and finish as studs, C-shaped.
2. Standard track: SSMA stud track profile, 1-1/2 inch legs.
3. Deep leg track: SSMA deep stud track profile, 2 inch legs.
4. Deflection track: Deep leg track with slotted screw holes; permit plus or minus 1/2 inch movement of overhead structure without damage to partition.

D. Suspended Ceiling Framing:
1. Runner channels: 1-1/2 inches deep, cold roll formed, channel shaped, 16 gage base steel thickness.
2. Furring channels: Hat shaped, 7/8 inch deep, 25 gage base steel thickness.

E. Suspended Soffit Framing:
1. Runner channels: 1-1/2 inches deep, cold roll formed, 16gage base steel thickness.
2. Furring channels: 3/4 inch deep, cold roll formed, 16 gage base steel thickness.

F. Resilient Channels: 1/2 inch deep x 2-1/2inches wide, 25 gage base steel thickness.

G. Wall Furring Channels: Hat shaped, depth as indicated, minimum 25 gage base steel thickness.

2.4 ACCESSORIES

A. Fasteners: 3/8 inch long pan head screws.

B. Wire: ASTM A 641, galvanized steel.
   1. Hanger wire: 8 gage base steel thickness.
   2. Tie wire: 18 gage base steel thickness, soft annealed.

C. Wall Furring Brackets: Galvanized steel, two piece adjustable type.

D. Furring Channel Clips: Galvanized steel.

PART 3 EXECUTION

3.1 INSTALLATION OF PARTITION FRAMING

A. Install in accordance with ASTM C754 and manufacturer's instructions.

B. Attach top and bottom tracks at ends and 24 inches on center maximum.

C. Position studs vertically in tracks, spaced maximum 16 inches on center unless indicated otherwise.

D. Install deflection track at head of partitions extending to structure. Cut studs 1/2 inch shorter than required length and fit into top track. Fasten studs to top track in manner permitting track movement.

E. Locate studs maximum 2 inches from door frames and abutting construction.

F. Use heavier gage studs or double studs on both sides of openings in partitions.

G. Install horizontal track as header above openings in partitions. Install studs from header to top track.

H. Brace furred partitions with adjustable bracket located at mid height.

I. Provide wood or metal bracing in partitions to receive and support fixtures, trim, accessories and other applied items.

J. Brace ceiling height partitions to structure at 48 inches on center maximum.

3.2 INSTALLATION OF CEILING FRAMING

A. Install in accordance with ASTM C754 and manufacturer's instructions.

B. Space hanger wires 36 inches on center maximum along runner channels and within 6 inches of ends of channels; secure to structure above.

C. Space runner channels 48 inches on center maximum and within 6 inches of abutting construction.
   1. Position channels for ceiling height; level and saddle tie along channels.
   2. Provide 1 inch clearance between channels and abutting construction.
   3. Overlap channel ends 12 inches at splices; secure each end with double loop tie wire.

D. Space furring channels 16 inches on center maximum, perpendicular to runners and within 6 inches of abutting construction.
   1. Provide 1 inch clearance between channels and abutting construction.
   2. Secure to runners with clips on alternate sides of runners; saddle tie if clips cannot be alternated.
   3. Overlap channel ends 8 inches at splices; secure each end with double loop tie wire.

E. Where openings interrupt furring or runner channels, install reinforcing to restore stability.

F. Provide double runner or furring channels side by side where [expansion and] control joints occur; do not continue channels over joints.

3.3 INSTALLATION OF CEILING FRAMING

A. Install in accordance with ASTM C636 and manufacturer’s instructions.

B. Space hanger wires maximum 48 inches on center. Install additional hangers where required to support light fixtures and ceiling supported equipment.

C. Do not suspend hangers directly from metal deck. Attach steel channel horizontally to adjacent framing members; place hanger at regular spacing.

D. Hang suspension system independent of walls, columns, ducts, pipes, and conduit.

E. Where ducts or other equipment prevent regular spacing of hangers:
   1. Reinforce nearest related hangers to span extra distance, or:
   2. Suspend steel channel horizontally beneath duct or equipment; place hanger at regular spacing.

F. Install main tees at maximum 48 inches on center. Fully engage end locks.

G. Install cross tees perpendicular to main tees to form 16 x 48 inch modules. Lock cross tees to main tees.

3.4 INSTALLATION OF RESILIENT FURRING

A. Install channels perpendicular to framing spaced maximum 16 inches on center. Locate channels within 2 inches of floor and within 6 inches of ceiling.

B. Screw attach channels to each support.

C. Overlap channels minimum 2 inches at splices, centered over framing member. Screw attach to framing member through both flanges.

3.5 INSTALLATION OF WALL FURRING

A. Install in accordance with ASTM C754 and manufacturer's instructions.

B. Space channels 24 inches on center maximum and within 3 inches of corners; secure at maximum 24 inches on center with fasteners staggered on alternating flanges.

C. Nest channels minimum 8 inches at splices; secure with two fasteners in each flange.

3.6 INSTALLATION OF SHAFT WALL SYSTEM

A. Install in accordance with manufacturer's instructions.

B. Position tracks at floor and ceiling with short leg toward finish side of wall; attach at ends and 24 inches on center maximum.

C. If wall height exceeds maximum panel length, position panel end joints within upper or lower third of wall. Stagger joints top and bottom in adjacent panels; reinforce end joints with horizontal stud.

D. Install stud between tracks with liner inserted into stud groove.

E. Progressively install succeeding studs and liner panels.

F. Install full length studs vertically at intersections, door openings, corners, and ends of partitions.

G. Frame openings cut within a liner panel with track around perimeter.

H. Over doors, install horizontal track; attach to studs with clip angles and screws.

END OF SECTION

SECTION 06 1100

FRAMING AND SHEATHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wall sheathing.
2. Wood blocking and furring.
3. Telephone and electrical panel backboards.
4. Roof curbs.
5. Preservative and fire-retardant treatment of wood.

B. Related Sections:

1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. American Wood Protection Association (AWPA) U1 - Use Category System - User Specification for Treated Wood.

B. ASTM International (ASTM):

1. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
2. F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws and Studs.
3. F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55 and 105 KSI Yield Strength.

C. Engineered Wood Association (APA) PRP-108 - Performance Standards and Qualification Policy for Structural-Use Panels.

D. National Institute of Standards and Technology (NIST) - Product Standard PS 20 - American Softwood Lumber Standard.

E. Northeastern Lumber Manufacturers Association (NELMA) - Standard Grading Rules for Northeastern Lumber.

F. National Lumber Grades Authority (NLGA) - Standard Grading Rules for Canadian Lumber.

G. Southern Pine Inspection Bureau (SPIB) - Standard Grading Rules for Southern Pine Lumber.

1.3 SUBMITTALS

1.4 QUALITY ASSURANCE

A. Lumber Grading Agency: Certified to NIST PS 20.

B. Identify lumber and sheet products by official grade mark.

C. Fire Retardant Treated Products: Bear label of recognized independent testing laboratory indicating flame spread rating of 25 or less, tested to ASTM E84.

1.5 DELIVERY, STORAGE AND HANDLING

A. Store materials minimum 6 inches above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation.

B. Do not store seasoned or treated materials in damp location.

C. Protect edges and corners of sheet materials from damage.

1.6 WARRANTIES

A. Provide manufacturer's warranty against rot and termite damage for composite wood.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Dimension Lumber:

1. Grading rules: NELMA.

B. Sheet Products:

1. Type: APA Plywood, Oriented Strand Board.
2. Panel grade:
    a. Wall sheathing: Per Structural
3. Exposure:
    a. Exterior applications: Exterior.
    b. Interior applications: Interior.

2.3 ACCESSORIES

A. Anchor Bolts: ASTM F1554.

B. Fasteners:

1. Type and size: As required by conditions of use.
2. Exterior locations and treated products: Hot-dip galvanized steel, ASTM A153/A153M, G90 coating class. Stainless steel, ASTM F593, Type 304 or 316.
3. Other interior locations: Plain steel.

C. Metal Connectors:

1. Galvanized steel, ASTM A653/A653M, G90 coating class.
2. Size and shape: To suit framing conditions.

D. Sill Gasket: 1/4 inch thick, plate width, closed cell polyethylene or urethane foam from continuous rolls.

E. Termite Shield: Galvanized sheet steel, minimum 26 gauge.

2.4 FABRICATION

A. Preservative Treatment:

1. Treat lumber and sheet products in accordance with AWPA U1:

a. Interior locations protected from moisture sources: Category UC1 - Interior/Dry.

b. Interior locations subject to sources of moisture: Category UC2 - Interior/Damp.

c. Exterior locations above ground: Category UC3A - Above Ground/Protected. UC3B - Above Ground/Exposed.

d. Exterior locations in contact with ground: Category UC4A - Ground Contact/General Use. UC4B - Ground Contact/Heavy Duty. UC4C - Ground Contact/Extreme Duty.

2. Treatment process: Type CCA - Chromated Copper Arsenate.

B. Fire Retardant Treatment; treat lumber and sheet products in accordance with AWPA U1:

1. Interior locations: Category UCFA - Fire Retardant/Interior.

2. Exterior locations: Category UCFB - Fire Retardant/Exterior.

3.

PART 3 EXECUTION

3.1 INSTALLATION

A. Set members level, plumb, and rigid.

B. Make provisions for erection loads, and for temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.

C. Place beams, joists, and rafters with crown edge up.

D. Construct load bearing framing members full length without splices.

E. Sills:

1. Place full width continuous sill flashings under framed walls on cementitious foundations. Lap flashing joint 4 inches.

2. Place treated sill gasket directly on cementitious foundation. Fit tight to protruding foundation anchor bolts. Completely seal.

3. Anchor sills to foundation with anchor bolts.

F. Stud Framing:

1. Provide single bottom plate and double top plates for load bearing partitions, unless noted otherwise on drawings.

2. Provide single bottom and top plates for non-load bearing partitions.

3. Anchor bottom plates to concrete structure with anchor bolts.

4. Triple studs at corners and partition intersections.

5. Anchor studs abutting masonry or concrete with toggle or expansion bolts.

6. Frame openings with double studs and headers. Space short studs over and under opening to stud spacing.

G. Wall Sheathing:

1. Place panels perpendicular to framing members, with ends over firm bearing and staggered.

2. At corners, place sheathing for a horizontal distance of 48 inches.

3. Leave 1/8 inch expansion space at panel ends and edges.

4. Secure to supports with nails spaced maximum 6 inches on center along edges and maximum 12 inches on center in field of panels.

H. Provide blocking, nailers, grounds, furring, and other similar items required to receive and support work.

I. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.

J. Install telephone and electrical panel backboards where indicated: Oversize panel by 12 inches on all sides.

3.2 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Surface Flatness of Floor: 1/4 inch in 10 feet maximum.

END OF SECTION

SECTION 06 4100

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Special fabricated cabinet units.
   2. Stainless Steel Countertops.
   3. Cabinet hardware.
   4. Shelving

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. Architectural Woodwork Institute/Architectural Woodwork Manufacturers of Canada/Woodwork Institute (AWI/AWMAC/WI) - Architectural Woodwork Standards.

B. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2006, 8th Ed., Version 2.0.

C. Forest Stewardship Council (FSC) STD-40-004 - Chain of Custody Standard.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings:
      a. Include dimensioned plan, sections, elevations, and details, including interface with adjacent work.
      b. Designate wood species and finishes.
   2. Samples:
      a. Each hardware component.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications:
   1. Minimum 5 years experience in work of this Section.
   2. Certified under AWI/AWMAC/WI Quality Certification Program.

1.5 DELIVERY, STORAGE AND HANDLING

A. Do not deliver materials until proper protection can be provided, and until needed for installation.
B. Protect units from moisture damage

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Cabinets:
   1. Design Basis: Contract Documents are based on products by Terrill Manufacturing.
   2. Cabinets will be equal in quality, detailing, and style to Trenstyle 200, as manufactured by Terrill Manufacturing. Cabinets will be laminate clad.

B. Acceptable Manufacturers - Plastic Laminate:
   1. Equivalent products by following manufacturers are acceptable:
      a. Formica Corp. (www.formica.com)
      b. Wilsonart International, Inc. (www.wilsonart.com)

C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Sheet Products:
1. Graded in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 4 requirements for quality grade specified.
2. Exposed and semi-exposed veneers: Close grain hardwood, of quality suitable for opaque finish
3. Sheet core: Medium density fiberboard
4. Plywood for countertops: PS 1, Exterior Type, veneer grade AC, not less than five ply construction

B. Lumber:
1. Graded in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 3 requirements for quality grade specified, average moisture content of 6 percent.
2. Exposed and semi-exposed locations: Close grain hardwood, of quality suitable for opaque finish.

C. Shelving
1. Plastic Laminate Shelves: 3/4" plastic laminate covered on all sides shelving.
2. Brackets and Standards: As noted on drawings

D. Plastic Laminate: NEMA LD-3.
1. High pressure decorative laminate:
a. Horizontal surfaces:
1) Postformed surfaces: Grade HGP 0.039 nominal thickness, through color
2) Other surfaces: Grade HGS. 0.015-8 inch nominal thickness, through color
b. Vertical surfaces:
1) Post-Formed surfaces: Grade VGP, 0.028 inch nominal thickness, through color
2) Other surfaces: Grade VGS, 0.028 inch nominal thickness, through color
2. Colors: Wilsonart Laminate , Color per architect.

2.3 ACCESSORIES

A. Stainless Steel Countertops:
1. ASTM A167, Type 304
2. Fabricate in largest sections practicable
3. Use 1.5mm (0.0598 inch) thick stainless steel

B. Fasteners: Type and size as required by conditions of use.

C. Adhesives: Type recommended by fabricator to suit application
1. Waterproof, type, compatible with backing and laminate materials.
D. Finish Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.
1. Shelving supports: as designated on drawings
2. Drawer pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.
3. Drawer Slides:
a. Type: Standard extension
b. Static Load Capacity: commercial grade
c. Mounting: Side mounted
d. Stops: Integral type
e. Features: Provide self closing/stay closed type.
f. Manufacturers:
1) Accuride International, Inc: www.accuride.com
2) Grass America Inc: www.grassusa.com
3) Knape & Vogt Manufacturing Company: www.kv.com
4. Hinges: European style concealed self-closing type, steel with polished finish

2.4 FABRICATION

A. Cabinets - Plastic Laminate Finish:
   1. Quality: AWI/AWMAC/WI Architectural Woodwork Standards, Section 10.
   2. Cabinet Style: Flush overlay.
   3. Cabinet Doors and Drawer Fronts: Flush style.
   4. Drawer Construction Technique: Lock shoulder joints.
   5. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
   6. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
   7. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
   8. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
   9. Mechanically fasten back splash to countertops with steel brackets at 16 inches on center.
   10. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

B. Shop assemble for delivery to project site in units easily handled.

C. Prior to fabrication, field verify dimensions to ensure correct fit.

D. Apply plastic laminate in full uninterrupted sheets; fit corners and joints to hairline. Slightly bevel arises. Apply laminate backing sheet to reverse side of laminate faced surfaces.

E. Where field fitting is required, provide ample allowance for cutting. Provide trim for scribing and site conditions.

F. Provide cutouts and reinforcement for plumbing, and electrical, and accessories. Prime paint surfaces of cut edges.

PART 3 EXECUTION

3.1 PREPARATION

A. Prior to installation, condition cabinets to average humidity that will prevail after installation.

3.2 INSTALLATION

A. Install in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.

B. Set plumb, rigid and level.

C. Scribe to adjacent construction with maximum 1/8 inch gaps.

D. Adhere countertops, splashes, and skirts with beads of adhesive.

E. Fill joints between cabinets , tops, splashes, and adjacent construction with joint sealer as specified in Section 07 9200; finish flush.

END OF SECTION

SECTION 07 2115

ACOUSTICAL BATT INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Provide glass fiber acoustical insulation for interior partitions as indicated in building plans.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. C665 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Wood Frame and Light Construction Buildings.
   2. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
   3. E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C.

1.3 SUBMITTALS

A. Quality Control Submittals:
   1. Certificates of Compliance: Certification from an independent testing laboratory that insulation meets fire hazard classification requirements.

1.4 QUALITY ASSURANCE

A. Fire Hazard Classification:
   1. Noncombustible, tested to ASTM E136.
   2. Flame spread/smoke developed rating of 25/50 or less, tested to ASTM E84.

1.5 DELIVERY, STORAGE AND HANDLING

A. Store insulation in clean, dry, sheltered area, off ground or floor, until used. Protect against wetting and moisture absorption.

1.6 PROJECT CONDITIONS

A. Do not install until insulation until building is substantially water and weather tight.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Johns Manville. (www.jm.com)
   2. Knauf Insulation. (www.knaufusa.com)
   3. Owens Corning. (www.owenscorning.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Acoustical Batt Insulation:
   1. Type: ASTM C665, glass fiber composition by Owens Corning or equal.

2. Facing: Unfaced.
   a. Thickness: Fill Stud Cavity, Refer to Wall Partition Schedule for Locations.

2.3 ACCESSORIES

A. Tape: Minimum 2 inches wide, pressure sensitive, waterproof.

B. Fasteners: Hot-dip galvanized steel staples, type best suited to application, minimum 5/8 inch penetration into framing.

C. Impale Fasteners: Steel impaling fasteners on metal base with lock washers, length to suit insulation thickness.

D. Wire Mesh: Hexagonal steel wire, galvanized.

PART 3 EXECUTION

3.1 INSTALLATION

A. Friction fit between framing members.

B. Butt insulation to adjacent construction. Butt ends and edges.

C. Carry insulation around pipes, wiring, boxes, and other components.

D. Ensure complete enclosure of spaces without voids.

E. Apply with vapor barrier facing towards interior of structure.

F. Tape seal lapped flanges, butt ends, and tears and holes in facings.

END OF SECTION

SECTION 07 8400

FIRESTOPPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Firestopping perimeter of and penetrations through fire rated assemblies.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. E814 - Standard Test Method for Fire Tests of Through-Penetration Firestops.
   2. E1966 - Standard Test Method for Fire-Resistive Joint Systems.
   3. E2307 - Standard Test Method for Determining Fire Resistance of Perimeter Fire Barrier Systems Using Intermediate-Scale, Multi-Story Test Apparatus.

B. Underwriters Laboratories, Inc. (UL):
   1. 1479 - Fire Tests of Through-Penetration Firestops.
   2. 2079 - Fire Resistance of Building Joint Systems.

1.3 SYSTEM DESCRIPTION

A. Provide continuous protection against passage of heat, fire, smoke, and gases at perimeter of and penetrations through rated assemblies.

1.4 SUBMITTALS

A. Submittals for Review:
   1. Product Data:
      a. Firestopping schedule; prepare in tabular format and identify:
         1) Type of assembly receiving firestop and required fire rating.
         2) Type of penetrating item.
         3) Proposed firestop system.
      b. Include UL or equivalent details for each firestop system.
   2. Test Reports: Indicate conformance with ASTM E814, ASTM E1966, ASTM E2307, UL 1479, or UL 2079.

B. Quality Control Submittals:
   1. Certificates of Compliance: Indicate conformance of installed systems with specified requirements.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: Minimum 3 years experience in work of this Section.

B. Firestopping: Fire resistance rating equivalent to adjacent construction, per drawings; tested to ASTM E814, ASTM E1966, ASTM E2307, UL 1479, or UL 2079.

C. Mockups:
   1. Provide mockup of each firestopping system.
   2. Locate where directed.
   3. Approved mockups may remain as part of the Work.

1.6 PROJECT CONDITIONS

A. Do not apply sealants, mortars, or putties when temperature of substrate material and surrounding air is below 40 degrees F or is anticipated to drop below that temperature within 24 hours after installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. Hilti, Inc. (www.us.hilti.com)
2. 3M Fire Protective Products. (www.3m.com)
3. Nelson Firestop Products. (www.nelsonfirestop.com)
4. Rectorseal. (www.rectorseal.com)
5. Specified Technologies, Inc. (www.stifirestop.com)
6. Tremco, Inc. (www.tremcosealants.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Firestopping: One or more of the following:
1. Silicone elastomer compound: Single or multiple component, low modulus, moisture curing silicone sealant.
2. Ceramic sealant: Single component, moisture curing ceramic sealant.
3. Intumescent sealant: Single component, water based intumescent sealant.
4. Acrylic sealant: Single component acrylic sealant, suitable for painting.
5. Putty: Single component ceramic fiber base putty or intumescent elastomer putty that expands on exposure to surface heat gain.
6. Mortar: Hydraulic cementitious mortar.
7. Pillows or blocks: Formed intumescent or mineral fiber pillows or blocks.
8. Intumescent strips: Solvent free intumescent wrap strips.
9. Mechanical devices: Incombustible fillers or silicone elastomer covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
10. Cast-in-place devices: Containing intumescent material and smoke/water seals.

2.3 ACCESSORIES

A. Forming and Damming Materials: As recommended by firestopping manufacturer for intended use.
1. Permanent: Mineral fiber board, mineral fiber matting, or mineral fiber putty.
2. Temporary: Plywood, particle board, or other.

PART 3 EXECUTION

3.1 PREPARATION

A. Prepare openings to receive firestopping as directed by manufacturer:
1. Remove incidental and loose materials from penetration opening.
2. Remove free liquids and oil from involved surfaces and penetration components.
3. Install damming materials to accommodate and ensure proper thickness and fire rating requirements and provide containment during installation.
4. Remove combustible materials and materials not intended for final penetration seal system.

3.2 INSTALLATION

A. Install firestopping at perimeter of and penetrations through fire rated assemblies.

B. Apply materials in accordance with manufacturer's instructions.

C. Apply firestopping material in sufficient thickness to achieve required ratings.

D. Compress fibered material to achieve a density of 40 percent of its uncompressed density.

E. Place foamed material in layers to ensure homogenous density, filling cavities and spaces. Place sealant to completely seal junctions with adjacent dissimilar materials.

F. Place intumescent coating in sufficient coats to achieve rating required.

G. Remove dam material after firestopping material has cured.

H. Finish exposed surfaces to smooth, flush appearance.

END OF SECTION

SECTION 07 9200

JOINT SEALERS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Joint backup materials.
2. Joint sealers.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
1. C920 - Standard Specification for Elastomeric Joint Sealants.
2. C1193 - Standard Guide for Use of Joint Sealants.
3. C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.

1.3 SUBMITTALS

A. Submittals for Review:
1. Product Data: Indicate sealers, primers, backup materials, bond breakers, and accessories proposed for use.
2. Samples:
a. 1/2 x 1/2 x 3 inch long joint sealer samples showing available colors.
b. 6 inch long joint backup material samples.
3. Warranty: Sample warranty form.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: Minimum 5 years experience in work of this Section.

B. Field Pre-Construction Testing: Test each joint sealer and joint substrate before beginning work of this Section:
1. Install sealers in mockups using joint preparation methods and materials recommended by sealer manufacturer.
2. Install field-test joints in inconspicuous location.
3. Test sealers using manufacturer's standard field adhesion test; verify joint preparation and primer required to obtain optimum adhesion of sealants to joint substrate.
4. When test indicates sealant adhesion failure, modify joint preparation, primer, or both and retest until joint passes sealant adhesion test.

1.5 PROJECT CONDITIONS

A. Do not apply sealers at temperatures below 40 degrees F unless approved by sealer manufacturer.

1.6 WARRANTIES

A. Furnish manufacturer’s10 year warranty providing coverage for [exterior] sealers and accessories that fail to provide air and water tight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. BASF Building Systems. (www.buildingsystems.basf.com)
2. Dow Corning Corp. (www.dowcorning.com)
3. GE Silicones. (www.siliconeforbuilding.com)

4. Pecora Corp. (www.pecora.com)
5. Sika Corp. (www.sikausa.com)
6. Tremco, Inc. (www.tremcosealants.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Joint Sealer Type 1: For self leveling applications with architect's approval
1. ASTM C920, Grade P, multiple component polyurethane type, self-leveling
2. Movement capability: Plus or minus 25 percent.
3. Color: To be selected from manufacturer's full color range.

B. Joint Sealer Type 2: Non-sag sealer for vertical and non-traffic bearing horizontal applications where a high amount of movement is anticipated
1. ASTM C920, Grade NS, silicone type, non sag.
2. Movement capability: Plus or minus 25 percent.
3. Color: To be selected from manufacturer's full color range.

C. Joint Sealer Type 3: Non-sag sealer for vertical and non-traffic bearing horizontal applications where a moderate amount of movement is anticipated
1. ASTM C920, Grade NS, single component butyl rubber type, non sag.
2. Movement capability: Plus or minus 12-1/2 percent.
3. Color: To be selected from manufacturer's full color range.

D. Joint Sealer Type 4: Non-sag sealer for vertical applications where a minimal amount of movement is anticipated
1. ASTM C834, single component acrylic latex, non sag.
2. Movement capability: Plus or minus 7-1/2 percent.
3. Color: To be selected from manufacturer's full color range.

E. Joint Sealer Type 5: Non-sag sealer for applications in potentially damp areas where mildew could occur
1. ASTM C920, Grade NS, single component silicone, non sag, mildew resistant.
2. Movement capability: Plus or minus 25 percent.
3. Color: To be selected from manufacturer's full color range.

2.3 ACCESSORIES

A. Primers, Bondbreakers, and Solvents: As recommended by sealer manufacturer.

B. Joint Backing:
1. ASTM C1330, closed cell polyethylene foam, preformed round joint filler, non absorbing, non staining, resilient, compatible with sealer and primer, recommended by sealer manufacturer for each sealer type.
2. Size: Minimum 1.25 times joint width.

2.4 MIXES

A. Mix multiple component sealers in accordance with manufacturer's instructions.
1. Mix with mechanical mixer; prevent air entrainment and overheating.
2. Continue mixing until color is uniform.

PART 3 EXECUTION

3.1 PREPARATION

A. Remove loose and foreign matter that could impair adhesion. If surface has been subject to chemical contamination, contact sealer manufacturer for recommendation.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Protect adjacent surfaces with masking tape or protective coverings.

D. Sealer Dimensions:
   1. Minimum joint size: 1/4 x 1/4 inch.
   2. Joints 1/4 to 1/2 inch wide: Depth equal to width.
   3. Joints over 1/2 inch wide: Depth equal to one half of width.

3.2 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Install sealers and accessories in accordance with ASTM C1193.

C. Install joint backing to maintain required sealer dimensions. Compress backing approximately 25 percent without puncturing skin. Do not twist or stretch.

D. Use bondbreaker tape where joint backing is not installed.

E. Fill joints full without air pockets, embedded materials, ridges, and sags.

F. Tool sealer to smooth profile.

G. Apply sealer within manufacturer’s recommended temperature range.

3.3 CLEANING

A. Remove masking tape and protective coverings after sealer has cured.

B. Clean adjacent surfaces.

3.4 SCHEDULE

JOINT LOCATION OR TYPE	SEALER TYPE
Exterior Joints:	
Joints in horizontal surfaces subject to pedestrian traffic	1
Joints in planter beds	5
Joints in above-grade surfaces	2
Interior Joints:	
Joints in horizontal surfaces subject to pedestrian traffic	1
Joints in toilet rooms, countertops, kitchens	5
Joints in acoustical assemblies	7
Other joints	4

END OF SECTION

SECTION 081113

HOLLOW METAL DOORS AND FRAMES

PART 1GENERAL

1.1 SUMMARY
- A. Section Includes:
  1. Hollow steel doors and frames.
- B. Related Sections:
  1. Division 01: Administrative, procedural, and temporary work requirements.
  2. Section 08 7100 - Door Hardware.
  3. Section 08 8000 - Glazing.

1.2 REFERENCES
- A. American National Standards Institute (ANSI)/Steel Door Institute (SDI):
  1. A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
  2. A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
  3. A250.11 - Recommended Erection Instructions for Steel Frames.
- B. ASTM International (ASTM):
  1. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
  2. A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
  3. C518 - Standard Test Method for Steady State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- C. National Fire Protection Association (NFPA) 80 - Standard for Fire Doors and Fire Windows.
- D. Steel Door Institute (SDI) 117 - Manufacturing Tolerances for Standard Steel Doors and Frames.
- E. Underwriters Laboratories (UL):
  1. 10B - Standard for Fire Tests of Door Assemblies.
  2. 10C - Standard for Positive Pressure Fire Tests of Door Assemblies.

1.3 SUBMITTALS
- A. Submittals for Review:
  1. Shop Drawings: Show locations, elevations, dimensions, model designations, fire, thermal, acoustical ratings, preparation for hardware, and anchoring details.
  2. Product Data: Show elevations, dimensions, gages of metal, hardware reinforcing gages and locations, and anchor types.

1.4 QUALITY ASSURANCE
- A. Doors: ANSI/SDI A250.8.
  1. Grade: III - Extra Heavy Duty.
  2. Model: 1 – Full Flush
  3. Exterior doors: Maximum thermal transmittance (U-value) of 0.50, tested to ASTM C518.
- B. Frames: ANSI/SDI A250.8, Grade III - Extra Heavy Duty.
- C. Fire Door and Frame Construction: Conform to UL 10B.
- D. Installed Fire Rated Door and Frame Assemblies: Conform to NFPA 80.

1.5 DELIVERY, STORAGE AND HANDLING
- A. Ship door frames with removable angle spreader; do not remove until frame is installed.
- B. Store doors upright in protected, dry area, off ground or floor, with at least 1/4 inch space between individual units.
- C. Do not cover with non-vented coverings that create excessive humidity.
- D. Remove wet coverings immediately.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Acceptable Manufacturers:

1. Ceco Door. (www.cecodoor.com)
2. Curries. (www.curries.com)
3. Pioneer Industries, Inc. (www.pioneerindustries.com)
4. Steelcraft. (www.steelcraft.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Steel Sheet:
1. ASTM A1008/1008M, cold rolled.

B. Galvanized Steel Sheet:
1. ASTM A653/A653M, hot dipped, Structural Quality, Class G40 galvanized.

C. Door Core:
1. Exterior doors: Rigid polystyrene insulation
2. Interior fire-rated and non-fire rated doors: Resin impregnated fibrous honeycomb

2.3 ACCESSORIES

A. Glass, Glazing Sealers, and Accessories: Specified in Section 08 8000.
B. Primer: Zinc rich type.

2.4 FABRICATION

A. Fabricate doors and frames in accordance with ANSI/SDI A250.8.
B. Fabricate exterior doors and frames from galvanized steel sheet.
C. Doors:
1. Fabricate from minimum 16 gage sheets.
2. Close top and bottom edges of doors with steel channel, minimum 16 gauge, extending full width of door, and spot welded to both faces, with top channel flush and bottom channel recessed.

D. Frames:
1. Fabricate from minimum 16 gage sheets.
2. Close corner joints tight with trim faces mitered and face welded, full profile welded, or continuously welded and ground smooth.
3. Anchors:
a. Provide one anchor at each jamb for each 30 inches of door height.
b. Design anchors to provide positive fastenings to adjacent construction.
c. Provide one floor anchor welded to each jamb.
4. Where frames will be filled with concrete or grout, install silencers in frames before erection.

E. Accurately form to required sizes and profiles.
F. Grind and dress exposed welds to form smooth, flush surfaces.
G. Do not use metallic filler to conceal manufacturing defects.
H. Fabricate with internal reinforcement for hardware specified in Section 087100; weld in place.
I. Glazing Stops:
1. Manufacturer's standard, screw on type with mitered corners.
2. Form stops from minimum 20 gage steel; prefit for field glazing.
3. Locate screws within 1 inch of ends of stops and maximum 8 inches on center.
4. Install glazing stops on secure side of frames.

J. Design Clearances:
1. Between door and frame: Maximum 1/8 inch.
2. Between meeting edges of pairs of doors:
a. Non-fire rated doors: 3/16 inch plus or minus 1/16 inch.
b. Fire-rated doors: 1/8 inch plus or minus 1/16 inch.
3. Undercut:
a. Non-fire rated doors: Maximum 3/4 inch.
b. Fire-rated doors: Comply with NFPA 80.
4. Between face of door and stop: 1/16 to 3/32 inch.

K. Manufacturing Tolerances: In accordance with SDI-117.

2.5 FINISHES

A. Dress tool marks and surface imperfections to smooth surfaces.
B. Clean and chemically treat steel surfaces.
C. Touch up damaged metallic coatings.

D. Apply manufacturer's standard rust inhibiting primer paint, air-dried or baked on, meeting requirements of ANSI/SDI A250.10.
E. Refer to Finish Schedule in Specifications.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install doors and frames in accordance with ANSI/SDI A250.11.
B. Set plumb and level.
C. Secure to adjacent construction using fastener type best suited to application.
D. Install glass as specified in Section 08 8000.
E. Install hardware in accordance with Section 08 7100.

3.2 ADJUSTING

A. Touch up minor scratches and abrasions in primer paint to match factory finish.

END OF SECTION

SECTION 08 1416

FLUSH WOOD DOORS

PART 1GENERAL

1.1 SUMMARY

A. Section Includes:
1. Wood veneer faced flush doors.
2. Factory finishing.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Section 08 7100 - Door Hardware.
3. Section 08 8000 - Glazing.

1.2 REFERENCES

A. Architectural Woodwork Institute/Architectural Woodwork Manufacturers of Canada/Woodwork Institute (AWI/AWMAC/WI) - Architectural Woodwork Standards.

B. ASTM International (ASTM) E90 - Standard Test Method for Measurement of Airborne-Sound Transmission Loss of Building Partitions.

C. Forest Stewardship Council (FSC) STD-40-004 - Chain of Custody Standard.

D. National Fire Protection Association (NFPA) 80 - Standard for Fire Doors and Fire Windows.

E. Underwriters Laboratories (UL):
1. 10B - Standard for Fire Tests of Door Assemblies.
2. 10C - Standard for Positive Pressure Fire Tests of Door Assemblies.

1.3 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings: Show locations, elevations, dimensions, fire ratings, and preparation for hardware.
2. Samples:
a. 6 x 6 inch door samples showing edges, core, and faces.
b. 12 x 12 inch veneer samples showing selected stain color and finish.
3. Warranty: Sample warranty form.

1.4 QUALITY ASSURANCE

A. Fire Door Construction: Conform to UL 10B or 10C.

B. Installed Fire Rated Door Assembly: Conform to NFPA 80.

1.5 DELIVERY, STORAGE AND HANDLING

A. Package doors in heavy plastic with identifying marks; slit plastic wrap on site to permit ventilation, but do not remove from plastic until ready to install.

B. Do not deliver doors until building is substantially water and weather tight.

C. Store doors flat and level, with spacers between doors to allow for air circulation, in protected, dry area.

D. Environmental Requirements: Maintain following conditions in building for minimum 7 days prior to, during, and after installation of doors:
   1. Temperature: 60 to 80 degrees F.
   2. Humidity: 25 to 55 percent.

1.6 WARRANTIES

A. Furnish manufacturer's 2 year warranty providing coverage against:
   1. Defects in materials and workmanship.
   2. Warpage beyond specified amount.
   3. Telegraphing of core construction.
   4. Delamination of faces.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Design Basis: Masonite Architectural Doors, Aspiro Series, Maple Species (www.masonitearchitectural.com)
   2. Eggers Industries. (www.eggersindustries.com)
   3. VT Industries, Inc. (www.vtindustries.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Flush Wood Doors:
   1. AWI/AWMAC/WI Architectural Woodwork Standards, Section 9.
   2. Core type:
      a. Solid, fire rated: Fire-Resistant Composite Core.
      b. Solid, non rated: Particleboard.
   3. Fire-rated doors: Provide treated edges on meeting stiles; metal astragals not acceptable.
   4. Wood veneers faces: Soft maple species, rotary cut, of quality suitable for transparent finish (prefinished)
   5. Glazing beads: Formed metal.
   6. Adhesives: Water Resistant type.

2.3 ACCESSORIES

A. Glass and Glazing Accessories: Specified in Section 08 8000.

2.4 FABRICATION

A. Fabricate doors in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 9.
   1. Grade: Custom.
   2. Performance Level: Heavy Duty.
   3. Edge Type: Solid wood.
   4. Number of plies: 5.

B. Prefitting; fit doors to frames at factory with following clearances:
   1. Fire rated doors:
      a. Width: Cut lock edge only; 3/16 inch maximum.
      b. Height: Cut bottom edge only; Conform to NFPA 80.
   2. Non-rated doors:
      a. Width: Cut hinge and lock edges equally.
      b. Height: Cut bottom edge only; maximum 3/4 inch.
   3. Edge clearances:
      a. Jambs and head: 1/8 inch maximum between door and frame.
      b. Sills without thresholds: 1/8 inch maximum between door and top of finish floor.

c. Sills with thresholds: 1/4 inch maximum between door and top of threshold.
d. Meeting stiles of pairs: 1/8 inch maximum between doors.

4. Lock edge: Bevel 1/8 inch in 2 inches.

C. Premachining: Machine doors at factory to receive hardware specified in Section 08 7100.

2.5 FINISHES

A. Factory Finishing:
1. Factory finish doors in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 5.
2. Color: To be selected from manufacturer's full color range.
3. Sheen: Satin.

PART 3 EXECUTION

3.1 PREPARATION

A. Condition doors to average humidity that will be encountered after installation.

3.2 INSTALLATION

A. Install doors in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.

B. Install doors plumb and level.

C. Field Fitting to Frames:
1. Fire rated doors:
a. Width: Cut lock edge only; 3/16 inch maximum.
b. Height: Cut bottom edge only; Conform to NFPA 80.
2. Non-rated doors:
a. Width: Cut hinge and lock edges equally.
b. Height: Cut bottom edge only; maximum 3/4 inch.
3. Edge clearances:
a. Jambs and head: 1/8 inch maximum between door and frame.
b. Sills without thresholds: 1/8 inch maximum between door and top of finish floor.
c. Sills with thresholds: 1/4 inch maximum between door and top of threshold.
d. Meeting stiles of pairs: 1/8 inch maximum between doors.
4. Lock edge: Bevel 1/8 inch in 2 inches.
5. Do not cut doors down to opening sizes smaller than those for which they were manufactured.

D. Seal field cut surfaces.

E. Install door hardware in accordance with Section 08 7100.

F. Install glass per manufacturer.

G. Installation Tolerances:
1. Warp: Maximum 1/4 inch in any 3'-0" x 7'-0" portion of door, measured with taut string or straight edge on concave face of door.

END OF SECTION

SECTION 08 7100

DOOR HARDWARE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Hardware for steel doors.
   2. Weatherstripping and thresholds.
   3. Hardware for other sections referencing this section.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Section 08 1113 - Hollow Metal Doors and Frames

1.2 REFERENCES

A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):
   1. A156.1 - Butts and Hinges.
   2. A156.2 - Bored and Preassembled Locks and Latches.
   3. A156.3 - Exit Devices.
   4. A156.4 - Door Controls - Closers.
   5. A156.5 - Auxiliary Locks and Associated Products.
   6. A156.13 - Mortise Locks and Latches.
   7. A156.18 - Materials and Finishes.

B. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 1998.

C. National Fire Protection Association (NFPA):
   1. 80 - Standard for Fire Doors and Windows.
   2. 105 - Installation of Smoke Control Door Assemblies.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Schedule hardware by door type and location; show door size, hand, thickness, edge bevel, hardware components and quantities, keying, and finishes.
   2. Product Data: Manufacturer's descriptive data for each component.
   3. Samples: One sample of each hardware item, if requested. [Samples will be returned for installation on Project.]
   4. Warranty: Sample warranty form.

B. Closeout Submittals:
   1. Copy of approved hardware schedule.
   2. Keying list.
   3. Keys; tag with mark corresponding to keying schedule.

1.4 QUALITY ASSURANCE

A. Provide hardware labeled by recognized independent testing laboratory and meeting requirements of NFPA 80 for fire rated doors.

B. Conform to applicable accessibility code Texas Accessibility Standards 2012 for locating hardware and for door opening force requirements.

1.5 DELIVERY, STORAGE AND HANDLING

A. Pack hardware items separately, with fasteners, installation instructions, and templates.

1.6 WARRANTIES

A. Furnish manufacturer’s 5 year warranty for locksets and latchsets and door closers.

1.7 MAINTENANCE

A. Provide special wrenches and tools applicable to each different or special hardware component
B. Provide maintenance tools and accessories supplied by hardware component manufacturer

PART 2 PRODUCTS

2.1 SUPPLIERS

A. Per Contractor

2.2 MANUFACTURERS

A. As indicated in Hardware Schedule

B. Substitutions: Under provisions of Division 1

2.3 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS

A. Provide products that comply with the following:
   1. Applicable provisions of Federal, State, and local codes.
   2. ANSI/ICC A117.1, American National Standard for Accessible and Usable Buildings and Facilities
   3. Applicable provisions of NFPA 101, Life Safety Code
   4. Fire-Rated Doors: NFPA 80
   5. All Hardware on Fire-Rated Doors: Listed and classified by UL as suitable for the purpose specified and indicated.
   6. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.

2.4 KEYING

A. Door Locks: Grand Master keyed
   1. Include construction keying
B. Supply keys in the following quantities:
   1. 5 master keys
   2. 5 grand master keys
   3. 20 construction keys
   4. 2 change keys for each lock

2.5 Key Cabinet

A. Cabinet Construction: Sheet steel construction, piano hinged door with cylinder type lock master keyed to building system.
B. Cabinet Size: Size for project keys plus 10 percent growth
C. Horizontal metal strips for key hook labeling with clear plastic strip cover over labels
D. Finish: Baked enamel, color as selected from manufacturer's standard color line.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.

3.2 INSTALLATION

A. Install hardware in accordance with approved hardware schedule and manufacturer's instructions.

B. Use templates provided by hardware item manufacturer.

C. Install mortise items flush with adjacent surfaces.

D. Install locksets, closers, and trim after finish painting.

E. Set thresholds in mastic and secure.

F. Mount closers so that closers and closer arms are not visible on corridor or public side of doors or on exterior of building.

G. Mounting heights for hardware from finished floor to center line of hardware item: As listed in Schedule, unless otherwise noted:
   1. For steel doors and frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."

H. Set key cabinet in place, place keys in cabinets, label and index.

3.3 PROTECTION

A. Protect finished Work under provisions of Section 017 000
B. Do not permit adjacent work to damage hardware or finish.

3.4 ADJUSTING

A. Test and adjust hardware for quiet, smooth operation, free from binding and rattling.

B. Adjust doors to operate with maximum opening forces in accordance with applicable accessibility code.

3.5 SCHEDULE

Door 101A - 3'-0 x 7'-0" x 1 3/4" HM/HM

4	Hinges 5BB1 4.5 x 4.5 NRP 652	Ives
1	Storeroom Lock B581 Dane 626	Falcon
1	Double Cylinder Deadbolt D231	Falcon
1	Heavy Duty Dutch Door Bolt 4.25" 0345	Baldwin
1	Door Closer SC81AL	Falcon
1	Door Stop 1233 626	Trimco
1	Threshold 270A x 36"	Pemco
1	Set Weatherstrip 303APK x 17'	Pemco
1	Door Bottom 3452AV x 36"	Pemco
1	Rain Drip 346C x 40"	Pemco

Door 102 - 3'-0" x 7'-0" x 1 3/4" HM/HM

3	Hinges 5BB1 4.5 x 4.5 26D	Ives
1	Storeroom Lock B581 Dane 626	Falcon
1	Wall Stops W1270WVTB 630	Trimco
3	Door Silencers 1229A	Trimco

Door 103 - 3'-0 x 7'-0" x 1 3/4" HM/HM

3	Hinges 5BB1 4.5 x 4.5 NRP 652	Ives
1	Storeroom Lock B581 Dane 626	Falcon
1	Double Cylinder Deadbolt D231	Falcon
1	Door Closer SC81AL	Falcon

1	Door Stop 1233 626	Trimco
1	Threshold 270A x 36"	Pemco
1	Set Weatherstrip 303APK x 17'	Pemco
1	Door Bottom 3452AV x 36"	Pemco
1	Rain Drip 346C x 40"	Pemco

END OF SECTION

SECTION 09 2900

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal stud wall framing.

B. Metal channel ceiling framing.

C. Acoustic insulation.

D. Gypsum wallboard.

E. Joint treatment and accessories.

F. Textured finish system.

1.02 REFERENCES

A. ASTM C 36/C 36M - Standard Specification for Gypsum Wallboard; 1999.

B. ASTM C 475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 1994.

E. ASTM C 630/C 630M - Standard Specification for Water-Resistant Gypsum Backing Board; 1996a.

F. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members; 1999.

G. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 1998.

H. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 1999a.

I. ASTM C 840 - Standard Specification for Application and Finishing of Gypsum Board; 1999.

J. Application of Gypsum Panel Products or Metal Plaster Bases; 1998.

K. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 1999.

L. ASTM E 413 - Classification for Rating Sound Insulation; 1987 (Reapproved 1999).

M. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2000.

N. GA-600 - Fire Resistance Design Manual; Gypsum Association; 2000.

1.03 SYSTEM DESCRIPTION

A. Acoustic Attenuation for Interior Partitions Indicated as Acoustic: Thickness as indicated on the drawings.

1.04 SUBMITTALS

A. See Division 01 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on metal framing.

C. Samples: Submit two samples of gypsum board finished with proposed texture application, 12x12 inch in size, illustrating finish and texture.

1.05 QUALITY ASSURANCE

A. Perform in accordance with ASTM C 840. Comply with requirements of GA-600 for fire-rated assemblies.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gypsum Board:
1. G-P Gypsum Corporation: www.gp.com.
2. National Gypsum Company: www.nationalgypsum.com.
3. USG Corporation: www.usg.com.
4. Substitutions: See Section 01600 - Product Requirements.

2.03 GYPSUM BOARD MATERIALS (refer to partition schedules for exact locations)

A. Regular Gypsum Board: ASTM C1396; 48 inches wide x 5/8 inch thick, maximum practical length, tapered edge.

B. Fire Resistant Gypsum Board: ASTM C1396, Type X; 48 inches wide x 5/8 inch thick, maximum practical length, tapered edge; apply to fire rated assemblies.

C. Abuse Resistant Fiberglass-Mat Faced Gypsum Board:
1. DensArmor Plus Abuse-Resistant Interior Panel, Georgia-Pacific Gypsum
2. Thickness: 5/8 inch
3. Width: 4 feet
4. Surfacing: Abuse resistant coated fiberglass mat on face, back and long edges

D. Fiberglass-Mat Faced Gypsum Tile Backing Board: ASTM C1178, Type X:
1. 5/8 inch DensShield Fireguard Tile Backer, Georgia-Pacific Gypsum
2. Thickness: 5/8 inch
3. Width: 4 feet
4. Surfacing: Coated fiberglass mat on face, back and long edges

2.04 ACCESSORIES

A. Acoustic Insulation: ASTM C 665; preformed glass fiber, friction fit type, unfaced. Full thickness.

B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board.

C. Corner Beads: Galvanized steel.

D. Edge Trim: Bead type(s) as detailed.

E. Joint Materials: ASTM C 475 and as recommended by gypsum board manufacturer for project conditions.
1. Ready-mixed vinyl-based joint compound.

F. Textured Finish Materials: Latex-based compound; plain.

G. Screws: ASTM C 1002; self-drilling type; cadmium-plated for exterior locations.

H. Nails: ASTM C 514.

I. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

J. Adhesive for Attachment to Wood: ASTM C 557.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts , and rough-in boxes.

3.03 GYPSUM BOARD INSTALLATION

A. Comply with ASTM C 840 , and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board vertically, with ends and edges occurring over firm bearing.

C. Single-Layer Fire-Rated: Install gypsum board vertically, with edges and ends occurring over firm bearing.

D. Double-Layer Installation: Use gypsum backing board for first layer, placed perpendicular to framing or furring members. Use fire rated gypsum backing board for fire rated partitions and ceilings. Place second layer perpendicular to first layer. Offset joints of second layer from joints of first layer.

E. Installation on Metal Framing: Use screws for attachment of all gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

F. Moisture Protection: Install moisture resistant board in areas called for in 2.03B above, as indicated on the drawings. Treat cut edges and holes in moisture resistant gypsum board with sealant.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated. Verify locations with architect.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

3.05 JOINT TREATMENT

A. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile, and fixed cabinetry.

3.06 TEXTURE FINISH

A. Level 4 finish with light rolled on texture.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 5100

SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Suspended metal ceiling grid system.
2. Acoustical panels.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
1. A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
2. C635 - Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
3. C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
4. E1264 - Standard Classification of Acoustical Ceiling Products.

B. Ceiling and Interior Systems Construction Association (CISCA) - Ceiling Systems Handbook.

C. Underwriters Laboratories, Inc. (UL) - Fire Resistance Directory.

1.3 SUBMITTALS

A. Submittals for Review:
1. Manufacturer Product information for Acoustical Panels and Grid System

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years experience in work of this Section.

1.5 PROJECT CONDITIONS

A. Environmental Requirements: Install in approximately same conditions of temperature and humidity as will prevail after installation.

1.6 MAINTENANCE

A. Extra Materials: One unopened carton of each acoustical panel.

PART 2 PRODUCTS

2.1 MANUFACTURERS:

A. Acceptable Manufacturers - Acoustical Units:
1. Armstrong World Industries, Inc. (www.armstrong.com)
2. USG (www.usg.com)

B. Acceptable Manufacturers - Suspension System:
1. Armstrong World Industries, Inc. (www.armstrong.com)

2. Certainteed Corporation (www.certainteed.com)
3. USG (www.usg.com)

C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Suspension Grid System: "Prelude" by Armstrong
1. ASTM C635, die cut, interlocking ends.
2. Grid type: Exposed T.
3. Material: Extruded aluminum or Cold rolled aluminum.
4. Runners: 1-1/2 inches high, 15/16 inch exposed width, flush profile.
5. Perimeter molding: Angle shape.
6. Finish: Factory applied enamel paint, sprayed and baked, white color
7. Accessories: Stabilizer bars, clips, splices, and other as required.

B. Acoustical Panels: Optima Tegular by Armstrong
1. Size: 24 x 24 inches x 3/4 inch thick.
2. Edge configuration: Square Tegular
3. Finish: Provide “Wipe-able” panels in kitchens or breakrooms
4. Performance requirements: Tested in accordance with ASTM E1264. NRC .70; CAC 40.

2.3 ACCESSORIES

A. Support Channels:
1. Galvanized steel; size and type to suit application.

B. Hanger Wire:
1. ASTM A641, minimum 12 gage galvanized steel.

C. Hold Down Clips: Minimum 24 gage spring steel, manufacturer's standard profile.

D. Impact Clips: Minimum 24 gage spring steel, manufacturer's standard profile.

E. Touch-Up Paint: Color to match acoustical panels and suspension grid.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install ceilings in accordance with ASTM C636 and CISCA Handbook.

B. Minimize panels less than one half size.

C. Install molding around perimeters and abutting surfaces. Miter molding at exterior corners; cut flanges and bend web to form interior corners.

D. Space hanger wires maximum 48 inches on center. Install additional hangers where required to support light fixtures and ceiling supported equipment.

E. Do not suspend hangers directly from metal deck. Attach steel channel horizontally to adjacent framing members; place hanger at regular spacing.

F. Hang suspension system independent of walls, columns, ducts, pipes, and conduit.

G. Where ducts or other equipment prevent regular spacing of hangers:
1. Reinforce nearest related hangers to span extra distance, or:
2. Suspend steel channel horizontally beneath duct or equipment; place hanger at regular spacing.

H. Install main tees at maximum 48 inches on center.

I. Install cross tees to form 24 x 24 inch modules. Lock cross tees to main tees.

J. Support ends of tees on flange of perimeter molding.

K. Place acoustical panels with edges resting flat on suspension grid.

L. Cutting Acoustic Units:
   1. Cut to fit irregular grid and perimeter edge trim and around penetrations.
   2. Locate cuts to be concealed.
   3. Cut and field paint exposed edges of reveal edge units to match factory edge.

M. Place hold down clips over cross tees at mid point of each module.

N. Place impact clips over cross tees at mid point of each module.

O. Lighting Fixture Protection: Form trapezoidal, five sided box of acoustical panels cut to size over each light fixture; conform to UL requirements.

P. Installation Tolerances: Ceilings level to 1/8 inch in 12 feet measured in any direction.

3.2 ADJUSTING

A. Touch up minor scratches and abrasions to match factory finish.

END OF SECTION

SECTION 09 6513

RESILIENT BASE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Resilient wall base.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM) F1861 - Standard Specification for Resilient Wall Base.

B. Resilient Floor Covering Institute (RFCI) - FloorScore Certification Program.

1.3 MAINTENANCE

A. Extra Materials: One unopened carton of each profile and color.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Design Basis: Contract Documents are based on products by Armstrong (www.armstrong.com)

B. Equivalent products by following manufacturers are acceptable:
   1. Allstate Rubber Corp. (www.allstaterubber.com)
   2. Burke Flooring. (www.burkeflooring.com)
   3. Johnsonite, Inc. (www.johnsonite.com)
   4. Roppe Corp. (www.roppe.com)

C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Resilient Base:
   1. Type: ASTM F1861, thermoset vulcanized rubber.
   2. Thickness: 0.080
   3. Profile: Coved.
   4. Height: 6 inches.
   5. Length: Continuous rolls.
   6. Color: Refer to Finish Schedules at the front of the specifications manual.
   7. Finish: Satin.

2.3 ACCESSORIES

A. Adhesive:
   1. Water based, waterproof, recommended by base manufacturer.

PART 3 EXECUTION

3.1 PREPARATION

A. Prepare surfaces to receive base:
   1. Remove materials that could interfere with adhesion.

2. Fill low spots with patching compound; finish flush with adjacent surface.
3. Remove high spots, ridges and nibs.

3.2 INSTALLATION

A. Apply adhesive continuously to back of base.

B. Maintain top edge true to line and bottom edge in continuous contact with floor. Butt joints tight; butt base tight to adjacent construction.

C. Do not install pieces less than 6 inches long.

D. Miter and butt inside corners.

E. At outside corners ”V” cut back of base to 2/3 of its thickness and bend around corner.

F. At exposed ends, install premolded units.

G. Scribe to door frames and other interruptions.

END OF SECTION

SECTION 09 6519

RESILIENT TILE FLOORING

PART 1GENERAL

1.1 SUMMARY

A. Section Includes:
1. Resilient tile and plank flooring.
2. Reducers.
3. Grounding tape**.**

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
1. D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
2. E648 - Standard Test Method for Flooring Radiant Panel Test.
3. F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
4. F970 - Standard Test Method for Static Load Limit.
5. F1066 - Standard Specification for Vinyl Composition Tile.
6. F1344 - Standard Specification for Rubber Floor Tile.
7. F1700 - Standard Specification for Solid Vinyl Floor Tile.
8. F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
9. F2195 - Standard Specification for Linoleum Floor Tile.

B. Resilient Floor Covering Institute (RFCI) - FloorScore Certification Program.

1.3 SUBMITTALS

A. Submittals for Review:
1. Product Data: Provide data on specified products, describing physical and performance characteristics.

B. Quality Control Submittals:
1. Certificates of Compliance: Certification from an independent testing laboratory that flooring meets fire hazard classification requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 10 years experience in work of this Section.

B. Fire Hazard Classification: Class I rated, tested to ASTM E648.

C. Static Coefficient of Friction: Minimum 0.5, tested to ASTM D2047.

1.5 PROJECT CONDITIONS

A. Maintain temperature in spaces to receive flooring between 70 and 90degrees F for 24 hours before, during, and for minimum 48 hours after installation.

B. Maintain minimum temperature of 55 degrees F after flooring is installed, except as otherwise specified.

1.6 MAINTENANCE

A. Extra Materials: One unopened carton of each type.

PART 2 PRODUCTS

2.1 MANUFACTURERS/MATERIALS

A. Acceptable Manufacturers - Armstrong Commercial Flooring

2.2 ACCESSORIES

A. Reducer Strips: Solid vinyl or rubber composition, 1 inch wide by flooring thickness, tapered, color to be selected from manufacturer's full color range.

B. Leveling Compound: White, premixed, latex based.

C. Adhesive:
1. Water based, waterproof, recommended by flooring manufacturer.

D. Grounding Tape: 1/2 inch wide copper tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that concrete floors have cured a minimum 28 days and do not exhibit negative alkalinity, carbonization, or dusting.

3.2 PREPARATION

A. Clean substrate to ASTM F710.

B. Fill cracks, voids, and depressions in substrate with leveling compound.

C. Grind off high spots and projections in substrate; leave smooth and level to 1/4 inch in 10 feet.

D. Test substrate for moisture content to ASTM F1869; do not install flooring until moisture emission level is acceptable to flooring manufacturer.

3.3 INSTALLATION OF TILE

A. Install in accordance with manufacturer's instructions.

B. Mix materials from multiple containers to ensure shade variations are consistent when flooring is placed.

C. Spread only enough adhesive to permit installation of flooring before initial set.

D. Lay flooring with joints parallel to building lines to produce symmetrical pattern.

E. Install flooring to pattern indicated. Allow minimum half-size units at room or area perimeter.

F. Set flooring in place; press with heavy roller to attain full adhesion.

G. Scribe flooring to walls, columns, cabinets, and other appurtenances to produce tight joints. Ensure that base, trim, plates, or escutcheons will completely cover cut edges.

H. Extend flooring into recesses and under equipment.

I. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.

J. Install grounding tape at static-dissipating flooring in accordance with manufacturer’s instructions. Ground to building ground system.

3.4 INSTALLATION OF REDUCER STRIPS

A. Install where tile stops with edge exposed; set in adhesive.

B. Center strips under doors where flooring terminates at door openings.

C. Install in longest practical lengths; butt ends tight.

D. Scribe to abutting surfaces.

3.5 ADJUSTING

A. Correct tiles that are not seated; replace damaged tiles.

3.6 CLEANING

A. Clean flooring, wax tile (not plank) and machine buff in accordance with manufacturer's instructions.

3.7 PROTECTION

A. Do not allow traffic on flooring until adhesive has set.

B. Cover areas subject to traffic with protective covering.

END OF SECTION

SECTION 09 6813

TILE CARPETING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Tile carpeting.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. D2859 - Standard Test Method for Flammability of Finished Textile Floor Covering Materials.
   2. D4258 - Standard Practice for Surface Cleaning Concrete for Coating.
   3. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
   4. E648 - Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
   5. E662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
   6. F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

B. Carpet and Rug Institute (CRI):
   1. 104 - Standard for Installation Specification of Commercial Carpet.
   2. Indoor Air Quality Testing Program.

C. National Fire Protection Association (NFPA) 253 - Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Warranty: Sample warranty form.

B. Quality Control Submittals:
   1. Certificates of Compliance: Certification from an independent testing laboratory that carpet tiles meet fire hazard classification requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 10 years experience in work of this Section.

B. Fire Hazard Classification: Class I rated, tested to NFPA 253.

1.5 PROJECT CONDITIONS

A. Do not begin installation until painting and finishing work have been completed.

B. Environmental Requirements:
   1. Temperature of spaces and subfloor between 65 and 90 degrees F.
   2. Humidity in spaces to receive carpet tiles between 20 and 65 percent.

1.6 WARRANTIES

A. Furnish manufacturer’s warranty providing coverage against defective materials and workmanship.

1.7 MAINTENANCE

A. Extra Materials: One unopened carton of each tile.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Carpet Tiles as provided by Kiser Carpet:
1. Design Basis: See 2.2 below.

2.2 MATERIALS
A. (2) Offices & Corridor:
1. Field Carpet: 24”x24”, Color: TBD

2.1 ACCESSORIES

A. Adhesive:
1. Waterproof, latex based cement formulated specifically for installing carpet tiles; recommended by carpet tile manufacturer.

B. Edgings: Preformed rubber, or approved substitute, profile required to suit conditions, color to match carpet tiles.

C. Leveling Compound: Premixed, latex based.

PART 3 EXECUTION

3.2 EXAMINATION

A. Verify that concrete floors have cured a minimum 28 days and do not exhibit negative alkalinity, carbonization, or dusting.

3.3 PREPARATION

A. Clean substrate; remove loose and foreign matter that could impede adhesion or performance of flooring.

B. Fill cracks, voids, and depressions with leveling compound.

C. Grind ridges and high spots smooth.

D. Test substrate for moisture content to ASTM F1869; do not install carpet tiles until moisture emission level is acceptable to carpet tile manufacturer.

3.4 INSTALLATION OF CARPET TILES

A. Install in accordance with CRI 104.

B. Install carpet tile and adhesive in accordance with manufacturers' instructions.

C. Blend carpet tiles from different cartons to ensure minimal variation in color match.

D. Lay out each room or area to minimize tiles less than one half size.

E. Cut tile clean. Fit tiles tight to intersection with vertical surfaces without gaps.

F. Lay carpet tile to basket weave pattern, with tile direction alternating to next unit, set parallel to building lines.

G. Locate change of color or pattern between rooms under door centerline.

H. Fully adhere carpet tiles to substrate.

I. Bind cut edges where not concealed by edge strips.

3.5 INSTALLATION OF EDGINGS

A. Install strips where carpet tiles abut dissimilar flooring materials; secure to subfloor. Discuss with architect prior to installation!

B. Center strips under doors where carpet tiles terminate at door openings.

C. Install in longest practical lengths; butt ends tight.

D. Scribe to abutting surfaces.

3.6 CLEANING

A. Clean spots as recommended by carpet tile manufacturer.

B. Cut off loose threads flush with top surface.

C. Clean with commercial vacuum cleaner.

END OF SECTION

SECTION 099100

PAINTING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Interior Paints and Coatings
   a. Drywall: Gypsum board.
   b. Masonry: Concrete Masonry Units
2. Interior High Performance Paints and Coatings:
   a. Masonry: Concrete Masonry Units
   b. Metal Ferrous: Decks, structural steel, joists, trusses, beams, and similar items including dryfall coatings.
   c. Drywall: Gypsum board
3. Exterior Paints and Coatings
   a. Metal Ferrous: Structural steel, beams, trusses, steel doors and frames
4. Surface preparation and field application of paints.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. Green Seal, Inc. (GS) 11 - Standard for Paints and Coatings.

B. Master Painters Institute (MPI)- Architectural Painting Specification Manual.

C. Society for Protective Coatings (SSPC) - Painting Manual.

1.3 SUBMITTALS

A. Submittals for Review:
1. Product Data: Manufacturer's data on materials proposed for use including:
   a. Product designation and grade.
   b. Product analysis and performance characteristics.
   c. Standards compliance.
   d. Material content.
   e. Mixing and application procedures.
2. Paint Schedule: Indicate types and locations of each surface, paint materials, and number of coats to be applied.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Materials, Preparation, and Workmanship: Conform to MPI Painting Manual.

C. Mockup: Provide a mock-up for evaluation of surface preparation techniques and application workmanship
1. Finish surfaces for verification of products, colors and sheens
2. Finish area designated by Architect
3. Provide samples that designate primer and finish coats.

1.5 DELIVERY, STORAGE AND HANDLING

A. Container Labels: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage rates, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

B. Paint Materials: Store at ambient temperature from 45 to 90 degrees F in ventilated area, or as required by manufacturer's instructions.

1.6 PROJECT CONDITIONS

A. Do not apply materials when surface and ambient temperatures or relative humidity are outside ranges required by paint manufacturer.

B. Maintain ambient and substrate temperatures above manufacturer’s minimum requirements for 24 hours before, during. and after paint application.

C. Do not apply materials when relative humidity is above 85 percent or when dew point is less than 5 degrees F different than ambient or surface temperature.

D. Provide lighting level of 30 foot candles at substrate surface.

1.7 MAINTENANCE

A. Extra Materials: 1 gallon of each color and sheen.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Design Basis: Sherwin Williams (www.sherwin-williams.com)
   2. Kelly Moore (kellymoore.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Paints and Coatings:
   1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer’s instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer’s product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as “best” by manufacturer.

C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer’s specifications.

D. Color: Refer to Finish Schedule for paint colors, and as selected.

2.3 ACCESSORIES

A. Accessory Materials: Paint thinners and other materials required to achieve specified finishes; commercial quality.

B. Patching Materials: Latex filler.

C. Fastener Head Cover Materials: Latex filler.

D. Gypsum Board Texture

2.4 MIXES

A. Deliver paints pre-mixed and pre-tinted.

B. Uniformly mix to thoroughly disperse pigments.

C. Do not thin in excess of manufacturer's recommendations.

D. Re-mix paint during application; ensure complete dispersion of settled pigment and uniformity of color and gloss.

2.4 PAINT SYSTEMS

A. Drywall – Gypsum Board Walls
   1. Latex Systems
      a. Eg-Shel Finish
         1) 1st Coat: S-W Harmony Interior Latex Primer, B11 (4mils wet, 1.3 mils dry)
         2) 2nd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
         3) 3rd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series

B. Metal – Structural steel colums, joists, trusses, beams, steel doors and frames
   1. Alkyd Systems (Water based):
      a. Semi-Gloss Finish
         1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry)
         2) 2nd Coat: S-W Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series
         3) 2nd Coat: S-W Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series (4.0-5.0 mils wet, 1.4-1.7 mils dry per coat).
   2. Dryfall Waterborne Topcoat:
      a. Eg-Shel Finish
         1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry)
         2) 2nd Coat: S-W Pro Industrial Waterborne Acrylic Dryfall, B42-800 Series

PART 3 EXECUTION

3.1 EXAMINATION

A. Test shop applied primer for compatibility with subsequent coatings.

B. Measure moisture content of surfaces using electronic moisture meter. Do not apply coatings unless moisture content of surfaces are below following maximums:
   1. Gypsum board: 12 percent.
   2. Masonry and concrete: 12 percent.

3.2 PREPARATION

A. General:
   1. Protect adjacent and underlying surfaces.
   2. Remove electrical plates, hardware, light fixture trim, escutcheons, thermostats and fittings prior to preparing surfaces or finishing.
   3. Correct defects and clean surfaces capable of affecting work of this section.
   4. Seal marks that may bleed through surface finishes with waterborne stain blocker.

B. Gypsum Board:
   1. Fill minor defects with filler compound. Spot prime defects after repair.

2. Apply level 4 very smooth texture in accordance manufacturer's instructions.

C. Concrete Masonry Units:
1. Remove dirt, loose mortar, scale, salt and alkali powder, and other foreign matter. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners.
2. Concrete and mortar must be cured at least 30 days at 75 degrees F.
3. Remove oil and grease with solution of trisodium phosphate; rinse and allow to dry.
4. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

D. Uncoated Ferrous Metals: SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.

E. Shop Primed Ferrous Metals:
1. SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.
2. Feather edges to make patches inconspicuous.
3. Prime bare steel surfaces.

3.3 APPLICATION

A. Apply paints in accordance with manufacturer’s instructions.

B. Apply primer or first coat closely following surface preparation to prevent recontamination.

C. Do not apply finishes to surfaces that are not dry.

D. Apply coatings to minimum dry film thickness recommended by manufacturer.

E. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.

F. Apply coatings to uniform appearance without laps, sags, curtains, holidays, and brush marks.

G. Allow applied coats to dry before next coat is applied.

H. When required apply an additional finish coat to ensure color consistency.

I. Continue paint finishes behind wall-mounted accessories.

J. Sand between coats on interior metal surfaces.

K. Match final coat to approved color samples.

L. Mechanical and Electrical Components:
1. Paint factory primed equipment.
2. Remove unfinished and primed louvers, grilles, covers, and access panels; paint separately.
3. Paint exposed and insulated pipes, conduit, boxes, ducts, hangers, brackets, collars, and supports unless factory finished.
4. Do not paint name tags or identifying markings.
5. Paint exposed conduit and electrical equipment in finished areas.
6. Paint duct work behind louvers, grilles, and diffusers flat black to minimum of 18 inches or beyond sight line.

M. Do not Paint:
1. Surfaces indicated on Drawings or specified to be unpainted or unfinished.
2. Surfaces with factory applied finish coat or integral finish.
3. Architectural metals, including brass, bronze, stainless steel, and chrome plating.

3.4 ADJUSTING

A. Touch up or refinish disfigured surfaces.

3.5 CLEANING

A. Remove paint from adjacent surfaces.

END OF SECTION

SECTION 10 1423

INTERIOR PANEL SIGNS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Plastic interior panel signs.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. United States Department of Justice (USDOJ) - ADA Standards for Accessible Design (SAD).
B. 2012 Texas Accessibility Standards

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Include sign locations, sizes, mounting heights, and content.
   2. Samples:
      a. 3 x 3 inch sign samples showing available colors.
      b. After color selection, submit typical sign illustrating pictograms, characters, and Braille indications.

1.4 QUALITY ASSURANCE

A. Conform to 2012 Texas Accessibility Standards for sign design, construction, location, and mounting height.

B. Mockup:
   1. Size: One full-size sign.
   2. Locate where directed. For estimating purposes, assume one per each space with a door.l
   3. Approved mockup may remain as part of the Work.

PART 2 PRODUCTS

2.1 MATERIALS

A. Signs:
   1. Type: Melamine plastic laminate, non static, fire retardant, self extinguishing, matte finish.
   2. Thickness: 1/8 inch.
   3. Face and core colors: To be selected from manufacturer's full color range.

2.2 ACCESSORIES

A. Tape: Double sided, waterproof, pressure sensitive

2.3 FABRICATION

A. Fabricate signs by reverse engraving process to produce characters and graphics in contrasting color, raised 1/32 inch.

B. Characters:
   1. Height: 5/8 inch.
   2. Style: Sans serif style to be selected, upper case.

3. Stroke width, strike thickness, character spacing, and line spacing: In accordance with 2012 Texas Accessibility Standards.

C. Pictograms:
   1. Utilize standard international pictograms.
   2. Locate pictograms within 6 inch vertical void with text descriptors below pictogram.

D. Provide round Grade II Braille indications with contractions placed below each corresponding character.

E. Corners: Square.

F. Edges: Square.

PART 3 EXECUTION

3.1 PREPARATION

A. Clean surfaces of loose and foreign matter.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved Shop Drawings.

B. Locate signs on wall adjacent to scheduled doors in compliance with 2012 Texas Accessibility Standards.

END OF SECTION

SECTION 10 4413

FIRE EXTINGUISHERS AND CABINETS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Portable fire extinguishers.
   2. Cabinets

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM) E814 - Standard Test Method for Fire Tests of Through-Penetration Firestops.

B. National Fire Protection Association (NFPA) 10 - Portable Fire Extinguishers.

C. Underwriters Laboratories (UL):
   1. 154 - Carbon Dioxide Fire Extinguishers.
   2. 299 - Dry Chemical Fire Extinguishers.
   3. 626 - 2-1/2 Gallon Stored Pressure, Water Type Fire Extinguishers.
   4. 711 - Rating and Fire Testing of Fire Extinguishers.
   5. 2129 - Halocarbon Clean Agent Fire Extinguishers.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Product Data: Include data on extinguishers and cabinets, operational features, materials, finishes, and anchorage.

B. Closeout Submittals:
   1. Maintenance Data: Include test, refill, or recharge schedules and re-certification requirements.

1.4 QUALITY ASSURANCE

A. Provide fire extinguishers complying with UL 711 and applicable code.

B. Cabinets in Fire Rated Partitions: Tested in accordance with ASTM E814 with fire resistance rating equivalent to adjacent construction.

C. Conform to applicable accessibility code for locating extinguishers.

1.5 PROJECT CONDITIONS

A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Products by following manufacturers are acceptable:
   1. Larsen's Mfg. Co. (www.larsensmfg.com)

B. Substitutions: Under provisions of Section 01 6000.

2.2 COMPONENTS

A. Extinguishers:
   1. Dry Chemical Type: Cast steel tank, with pressure gage.
      1. Class A:B:C
      2. Size 10.
      3. Finish: Baked enamel, red color.

B. Cabinets:
   1. Semi-recessed, glass door; as manufactured by Larsen's Manufacturings Company.
   2. Fire Rated as required if located in a fire rated partition
   3. Clear aluminum color.

C. Brackets: Formed steel, sized to accommodate extinguisher.

2.3 ACCESSORIES

A. Mounting Hardware: Type best suited to application. Pre-drill for anchors.

2.4 FINISHES

A. Cabinet: Clear anodized.
B. Lettering: White, vertical

EXECUTION

2.5 INSTALLATION

A. Install cabinets in accordance with manufacturer's instructions.

B. Set plumb, level, and rigid.

C. Place an extinguisher in each cabinet.

END OF SECTION