PROJECT MANUAL

AN INTERIOR REMODEL AND PARTITION FOR

American Fork 21, 30, 32, 38

American Fork UT east Stake

270 NORTH 900 EAST
AMERICAN FORK, UTAH
PLAN SERIES: R&I
PROPERTY NUMBER: 522124221010101

MARCH 7, 2022

OWNER
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
UTAH AMERICAN FORK PROJECT MANAGEMENT OFFICE

ARCHITECT
ea architecture
EVANS & ASSOCIATES ARCHITECTURE
11576 SOUTH STATE STREET • STE 103B
DRAPER • UT 84020
801.553.8272

STRUCTURAL
CKR ENGINEERS
1295 North State Street
Orem, Utah

INTRODUCTORY INFORMATION

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BIDDING REQUIREMENTS

FIXED SUM PROJECT (U.S.)

INVITATION TO BID (U.S.)

1. GENERAL CONTRACTORS INVITED TO BID THE PROJECT:

See Bid Invitation and Information Form

2. PROJECT:

American Fork 21, 30, 32, 38
American Fork UT East Stake

3. LOCATION:

270 North 900 East
American Fork, Utah

4. OWNER:

The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole
c/o
American Fork Project Management Office
110 East Main Street
American Fork, Utah 84003

5. CONSULTANT:

Evans & Associates Architecture
11576 South State Street, Suite 103b
Draper, Utah 84020

6. DESCRIPTION OF PROJECT:

A. An interior remodel and folding partition.

B. Products or systems may be provided under a Value Managed Relationship (VMR) the Owner has negotiated with the supplier. VMR products and systems are indicated as such in the Specifications.

7. TYPE OF BID: Bids will be on a lump-sum basis. Segregated bids will not be accepted.

8. TIME OF SUBSTANTIAL COMPLETION: The time limit for substantial completion of this work will be 60 calendar days and will be as noted in the Agreement.

9. BID OPENING: Sealed bids will be received at (time and date at place) to be announced. Bids will be publicly opened at (time and date at place) to be announced.

10. BIDDING DOCUMENTS:

A. Bidding Documents may be examined at the following plan room locations:

1) Mountainlands Area Plan Room, 801-288-1188, mike@maprutah.com

11. BID BOND: Bid security in the amount of 5 percent (5%) of the bid will accompany each bid in accordance with the Instruction to Bidders.

12. BIDDER'S QUALIFICATIONS: Bidding by the General Contractors will be by invitation only.

13. OWNER'S RIGHT TO REJECT BIDS: The Owner reserves the right to reject any or all bids and to

waive any irregularity therein.

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS (U.S.)

1. DEFINITIONS:

A. The definitions set forth in Section 1 of the General Conditions are applicable to the documents included under Bidding Requirements.

B. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The proposed Contract Documents consist of the documents identified as Contract Documents in the Form of Agreement, except for Modifications. The Bidding Requirements are those documents identified as such in the proposed Project Manual.

C. Addenda are written or graphic documents issued by the Architect prior to execution of the Contract which modify or interpret the Bidding Documents. They become part of the Contract Documents as noted in the Form of Agreement upon execution of the Contract.

2. BIDDER'S REPRESENTATIONS:

A. By submitting a bid, the bidder represents that
   1) Bidder has carefully studied and compared the Bidding Documents with each other. Bidder understands the Bidding Documents and the bid is fully in accordance with the requirements of those documents,
   2) Bidder has thoroughly examined the site and any building located thereon, has become familiar with local conditions which might directly or indirectly affect the contract work, and has correlated its personal observations with the requirements of the proposed Contract Documents, and
   3) Bid is based on the materials, equipment, and systems required by the Bidding Documents without exception.

3. BIDDING DOCUMENTS:

A. Copies
   1) Bidding Documents may be obtained as set forth in the Invitation to Bid.
   2) Partial sets of Bidding Documents will not be issued.
   3) Bidders will use complete sets of Bidding Documents in preparing bids and make certain that those submitting sub-bids to them have access to all portions of the documents that pertain to the work covered by sub-bid, including General Conditions, Supplementary Conditions, and Division 01. Bidder assumes full responsibility for errors or misinterpretations resulting from use of partial sets of Bidding Documents by itself or any sub-bidder.

B. Interpretation or Correction of Bidding Documents
   1) Bidders will request interpretation or correction of any apparent errors, discrepancies and omissions in the Bidding Documents.
   2) Corrections or changes to Bidding Documents will be made by written addenda.

C. Substitutions and Equal Products
   1) Generally speaking, substitutions for specified products and systems, as defined in the Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
   2) The terms *'Acceptable Manufacturers', 'Approved Manufacturers 'Suppliers', Installers'* and *'VMR (Value Managed Relationship) Manufacturers / Suppliers / Installers'* are used throughout the Project Manual to differentiate among the options available to Contractor regarding specified products, manufacturers, and suppliers. See Section 016000 for options available regarding acceptance of equal products.
   3) Base bid only on materials, equipment, systems, suppliers or performance qualities specified in the Bidding Documents.
   4) Architect is only authorized to consider requests for approval of equal products to

replace specified products in Sections where the heading '*Acceptable Manufacturers*' is used and statement, *'Equal as approved by Architect before bidding. See Section 016000'* or *'Equal as approved by Architect before installation. See Section 016000,'* appears. In Sections where the afore-mentioned statements do not appear and a different heading is used, Architect is authorized as Owner's representative to decline consideration of requests for approval of equal products. Approvals of equal products in such Sections must be made by Owner and will generally be for subsequent Projects.

D. Addenda - Addenda will be sent to bidders and to locations where Bidding Documents are on file no later than one week prior to bid opening or by fax no later than 48 hours prior to bid opening.

4. BIDDING PROCEDURES:

A. Form and Style of Bids
   1) Invitation and Instructions will be sent via Conslog.

B. Bid Security
   1) Each bid will be accompanied by a bid bond naming Owner, as listed in the Agreement, as obligee. If Bidder refuses to enter into a Contract or fails to provide bonds and insurance required by the General Conditions, amount of bid security will be forfeited to Owner as liquidated damages, not as a penalty.
   2) Bid bond will be issued by a surety company meeting requirements of the General Conditions for surety companies providing bonds and will be submitted on AIA Document A310, Bid Bond or AIA authorized equivalent provided by surety company. The attorney-in-fact who executes the bond on behalf of the surety will affix to the bond a certified and current copy of the power of attorney.
   3) Owner may retain bid security of bidders to whom an award is being considered until -
      a. Contract has been executed and bonds have been furnished,
      b. Specified time has elapsed so bids may be withdrawn, or
      c. All bids have been rejected.

C. Submission of Bids
   1) Submit bid via Conslog.
   2) It is bidder's sole responsibility to see that its bid is received at specified time. Bids received after specified bid opening time will be returned to bidders unopened.
   3) No oral, facsimile transmitted, telegraphic, or telephonic bids, modifications, or cancellations will be considered.

D. Modification or Withdrawal of Bid
   1) Bidder guarantees there will be no revisions or withdrawal of bid amount for 45 days after bid opening.

5. CONSIDERATION OF BIDS:

A. Opening of Bids - See Invitation to Bid.

B. Rejection of Bids - Owner reserves right to reject any or all bids and to waive any irregularity therein.

C. Acceptance of Bid
   1) No bidder will consider itself under contract after opening and reading of bids until Agreement between Owner and Contractor is fully executed.
   2) Bidder's past performance, organization, subcontractor selection, equipment, and ability to perform and complete its contract in manner and within time specified, together with amount of bid, will be elements considered in award of contract.

6. POST-BID INFORMATION:

A. The conditionally accepted bidder submitting a bid involving subcontractors will submit its list of proposed subcontractors in a meeting to be held immediately after bid opening.

7. PERFORMANCE BOND AND PAYMENT BOND:

A. Bond Requirements - Performance Bond and Labor and Material Payment bond will be required for this Project as specified in the General Conditions.

B. Time of Delivery of Bonds - Bonds will be delivered to Owner with Agreement signed by bidder.

8. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR:

A. Agreement form will be “Agreement Between Owner and Contractor for a Fixed Sum (U.S.)” provided by Owner.

9. MISCELLANEOUS:

A. Pre-Bid Conference
   1) A pre-bid conference will be held at a time and place to be announced.

B. Liquidated Damages - Conditions governing liquidated damages are specified in the General Conditions and in the Supplementary Conditions.

C. Examination Schedule for Existing Building and Site
   1) The building will be available to the contractors during the pre-bid meeting.

D. Exemption from local taxes - See Supplementary Conditions

END OF DOCUMENT

INFORMATION AVAILABLE TO BIDDERS (U.S.)

1. ASBESTOS-CONTAINING MATERIAL (ACM)

A. The building upon which work is being performed has been examined for asbestos-containing material. The following have been identified as containing asbestos in the areas of the building being worked on as part of this Project:
1)

B. Refer to Section , Article for requirements to be followed.

END OF DOCUMENT

SUBCONTRACTORS AND MAJOR MATERIALS SUPPLIERS LIST

Project Name: _____ Date:_____

Stake: _____ Project No: _____

General Contractor: _____

General Contractor is to provide the names of the following subcontractors and suppliers to the Owner's Project Manager immediately following the bid opening:

VMR SUBCONTRACTORS

Doors, Frames & Hardware _____

Other _____

Other _____

SUBCONTRACTORS AND SUPPLIERS

Demolition _____

Structural Steel _____

Framing _____

Millwork _____

Drywall _____

Ceramic Tile _____

Acoustical Tile _____

Painting _____

Wall Coverings _____

Electrical _____

EQUAL PRODUCT APPROVAL REQUEST FORM (U.S.)

Project Name: _____ Request Number: _____

TO: _____

FROM: _____

BID DATE: _____

A proposed product is not legally approved and cannot legally be included in a bid or used in the Work until it appears in an Addendum or other Contract Modification as defined in the General Conditions. See Instructions To Bidders Paragraph 3.C, General Conditions, and Section 016000.

PROPOSED EQUAL PRODUCT:

Specification Section: _____

Specified Products: _____

Proposed Product: _____

The Undersigned certifies:

1. Proposed equal product has been fully investigated and determined to be equal or superior in all respects to specified products.
2. Same warranty will be furnished for proposed equal product as for specified products.
3. Same maintenance service and source of replacement parts, as applicable, is available.
4. Proposed equal product will have no adverse effect on other trades and will not affect or delay progress schedule.
5. Proposed equal product does not affect dimensions and functional clearances.

ATTACHMENTS:

Include the following attachments -

1. Copy of the Project Manual Section where the proposed equal product would be specified, rewritten or red-lined to include any changes necessary to correctly specify the proposed equal product. Identify completely changes necessary to the original Project Manual Section.
2. Copies of details, elevations, cross-sections, and other elements of the Project Drawings redone as necessary to show changes necessary to accommodate proposed equal product. Identify completely the changes from the original Drawings.
3. Complete product literature and technical data, installation and maintenance instructions, test results, and other information required to show complete conformance with requirements of the Contract Documents.

SIGNED: _____

Printed Name _____

Company _____

Address _____

City, State, Zip Code _____

Telephone _____ Fax _____

REVIEW COMMENTS:

_____ Accepted. See Addenda Number _____.

_____ Submission not in compliance with instructions. Respond to attached comments and resubmit.

_____ Proposed equal product not acceptable. Use specified products.

_____ Not Reviewed. Submission received too late. Use specified products.

ADDITIONAL COMMENTS:

BY: _____ **DATE:** _____

CONSTRUCTION MATERIAL ASBESTOS STATEMENT (U.S.)

PROJECTS FOR:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS,
a Utah corporation sole

Building Name: _____

Building Plan Type: _____

Building Address: _____

Building Owner: The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole.

Project Number: _____

Completion Date: _____

As PROJECT CONSULTANT and principal in charge; based on my best knowledge, information, inspection, and belief; I certify that on the above referenced Project, no asbestos-containing building materials were specified in the construction documents or given approval in shop drawings or submittals.

_____ _____
Project Consultant and Principal in Charge (signature) Date

_____
Company Name

As GENERAL CONTRACTOR in charge of construction; based on my best knowledge, information, inspection, and belief; I affirm that on the above-referenced Project, no asbestos-containing building materials were used in the construction.

_____ _____
General Contractor (signature) Date

_____
Company Name

AGREEMENT BETWEEN OWNER AND CONTRACTOR
FOR A FIXED SUM (U.S.)

The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole ("Owner") and _____ ("Contractor") hereby enter into this *Agreement Between Owner and Contractor for a Fixed Sum (U.S.)* ("Agreement") and agree as follows:

1. **Property/Project.**

   Property/Project Number:
   Property Address ("Project Site"):

   Project Type:
   Project Name ("Project"):

   Stake Name:

2. **Scope of the Work.** Contractor will furnish all labor, materials, equipment, construction, and services necessary to complete the Work in accordance with the Contract Documents.

3. **Contract Documents.**
   a. The Contract Documents consist of:
      1) This Agreement;
      2) The General Conditions for a Fixed Sum (U.S.), the Supplementary Conditions for a Fixed Sum (U.S.), and the Specifications (Divisions 01 through 49) contained in the Project Manual entitled _____, dated _____ and prepared by _____ ("Architect");
      3) The Drawings prepared by Architect entitled _____, sheet numbers _____, dated _____;
      4) Addendum No. _____ dated _____; and
      5) All Modifications to the Contract Documents.
   b. The Contract Documents are incorporated into this Agreement by reference as if fully set forth herein.
   c. The definitions set forth in the General Conditions for a Fixed Sum (U.S.) will apply to the Contract Documents.
   d. The Contract Documents contain the entire and integrated agreement between the parties hereto and supersede all prior negotiations, representations, or agreements, either written or oral.
   e. Modifications or other amendments to the Contract Documents must be in writing and as provided in the General Conditions for a Fixed Sum (U.S.).

4. **Time of Commencement and Substantial Completion.**
   a. Contractor will commence the Work on the date for commencement set forth in the Written Notice to proceed from Owner to Contractor.
   b. Contractor will achieve Substantial Completion and have the Work ready for Owner's inspection no later than _____ (_____) days from the date of commencement set forth in the Written Notice to proceed from Owner to Contractor, as adjusted in accordance with the Contract Documents.
   c. Time is of the essence.

5. **Contract Sum.**
   a. Owner will pay Contractor for performance of Contractor's obligations under the Contract Documents the Contract Sum in the amount of _____ Dollars ($_____), subject to additions and deductions as provided in the Contract Documents.
   b. Owner will make payments to Contractor in accordance with the Contract Documents.

6. **Independent Contractor Relationship.** Contractor is an independent contractor and is not the agent or employee of Owner.

7. **Assignment.** Neither party to this Agreement will assign any right or obligation hereunder without the prior written consent of the other, which consent may be granted or withheld in such party's absolute discretion.

Contractor will not assign moneys due or to become due to Contractor hereunder, nor will Contractor pledge the credit of Owner or bind Owner to any third party.

8. **Notice.** The parties designate the addresses, facsimile numbers, and email addresses as set forth in the signature blocks below to be used for sending Written Notice to the other party:

9. **Effective Date.** The effective date of this Agreement is the date indicated by the Owner's signature.

OWNER:	**CONTRACTOR:**
The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole	(company)
Signature:	Signature:
Print Name:	Print Name:
Title:	Title:
Address:	Address:
Telephone No:	Telephone No:
Facsimile No:	Facsimile No:
Email:	Email:
Effective Date:	Fed. I.D. or SSN:
	License No:
Reviewed By:	Date Signed:

GENERAL CONDITIONS
For a Fixed Sum (U.S.)

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SECTION 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

A. Adverse Weather: weather conditions that are seasonally abnormal and could not have been reasonably anticipated.

B. Agreement: the document entitled "Agreement Between Owner and Contractor for a Fixed Sum (U.S.), executed by Owner and Contractor for performance of the Work.

C. Architect: the entity identified as such in the Agreement.

D. Change In The Work: a modification to the requirements of the Contract Documents or a delay in Substantial Completion resulting from an instruction from Owner or Architect to Contractor or from another event or circumstance.

E. Change Order: a written instrument prepared by Architect and signed by Owner, Contractor, and Architect stating their agreement upon the following: (1) the occurrence of a Change in the Work; (2) the amount of the adjustment, if any, in the Contract Sum as a result of the Change in the Work; and (3) the extent of the adjustment, if any, in the Contract Time as a result of the Change in the Work.

F. Construction Change Directive: a written order prepared by Architect and signed by Architect and Owner which: (1) orders a Change in the Work if the terms of a Change Order cannot be agreed upon prior to performance of a Change in the Work described in Section 7.1 or after occurrence of an event or circumstance described in Section 7.2; and (2) states a proposed basis for adjustment, if any, in the Contract Sum, the Contract Time, or both, resulting from the Change in the Work.

G. Contract Documents: the documents identified as such in the Agreement.

H. Contract Sum: the total amount set forth in the Agreement payable by Owner to Contractor for performance of the Work.

I. Contract Time: the period of time set forth in the Agreement for the Substantial Completion of the Work.

J. Contractor: the entity identified as such in the Agreement.

K. Day: calendar day unless otherwise specifically defined.

L. Direct Costs: actual costs for labor, materials, equipment, insurance, bonds, subcontract costs and onsite supervision relating to the Project. They do not include labor costs for project managers or other off-site administration.

M. Drawings: the documents identified as such in the Agreement.

N. Field Change: a written order prepared by Architect and signed by Architect and Contractor for a minor Change in the Work consistent with the general intent of the Contract Documents costing $1,000 or less, resulting in no time extension, and which is necessary to avoid delaying the Work.

O. Modification: a written amendment to the Contract Documents in the form of a:
1. Change Order;
2. Construction Change Directive; or
3. Field Change.

P. Owner: the entity identified as such in the Agreement.

Q. Project: the total construction designed by Architect of which the Work performed under the Contract Documents may be the whole or a part.

R. Product Data: standard illustrations, schedules, performance charts, instructions, brochures, diagrams, and other information furnished by Contractor to illustrate details regarding materials or equipment to be used in the Work, or the manner of installation, operation, or maintenance of such materials or equipment.

S. Project Manual: the document identified as such in the Agreement.

T. Samples And Mock-ups: physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

U. Shop Drawings: drawings, diagrams, illustrations, schedules, performance charts, fabrication and installation drawings, setting diagrams, patterns, templates, and other data which illustrate some portion of the Work and confirm dimensions and conformance to the Contract Documents specially prepared by Contractor or any Subcontractor, manufacturer, supplier, or distributor.

V. Specifications: the documents identified as such in the Agreement.

W. Subcontractor: any entity supplying labor, materials, equipment, construction or services for the Work under separate contract with Contractor or any other Subcontractor.

X, Submittals: Shop Drawings, Product Data, Samples and Mock-ups and any other documents or items furnished by Contractor or its Subcontractors to Owner or Architect to demonstrate how any portion of the Work will be accomplished or the type of materials or products that will be used in the Work.

Y. Substantial Completion: Completion of the Work to a point where Owner can use the Work for its intended purposes. The date of Substantial Completion is the date certified as such by Architect in accordance with the Contract Documents.

Z. Work: all labor, materials, equipment, construction, and services required by the Contract Documents.

AA. Written Notice: notice in writing given from one party to the other at the addresses or facsimile numbers listed in the Agreement, or at such other addresses or facsimile numbers as the parties will designate from time to time by Written Notice, and will be effective at the earliest of:
1. The date of personal delivery to the other party with signed acknowledgment of receipt; or
2. The date sent by facsimile transmission to the other party provided receipt of the facsimile is verified by an electronic confirmation report by the party sending the facsimile transmission and further provided that a confirmation copy is sent to the other party by courier or by registered or certified mail within twenty-four (24) hours after the time and date of the facsimile transmission; or
3. The date of receipt by the other party as stated on the return receipt if sent by registered or certified mail, or by courier.

1.2 CORRELATION AND INTENT OF CONTRACT DOCUMENTS

A. The intent of the Contract Documents is to require Contractor to provide all labor, materials, equipment, construction, and services necessary for the proper execution and completion of the Work. The Contract Documents are complementary and what is required by any one will be as binding as if required by all. Contractor will perform the Work in accordance with the requirements expressly set forth in or reasonably inferable from the Contract Documents.

B. The organization of the Contract Documents is not intended to control Contractor in dividing the Work among Subcontractors or to establish the extent of the Work to be performed by any trade.

C. Words used in the Contract Documents that have well known technical or trade meanings are used therein in accordance with such recognized meanings.

D. In the interest of brevity, the Contract Documents may omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.3 OWNERSHIP AND USE OF CONTRACT DOCUMENTS

The Drawings, the Project Manual, and copies thereof are the property of Owner. Contractor will not use these documents on any other project. Contractor may retain one copy of the Drawings and the Project Manual as a contract record set and will return or destroy all remaining copies following final completion of the Work.

1.4 PUBLIC STATEMENTS REGARDING PROJECT

Contractor will not make any statements or provide any information to the media about the Project without the prior written consent of Owner. If Contractor receives any requests for information from media, Contractor will refer such requests to Owner.

1.5 OWNERSHIP AND USE OF RENDERINGS AND PHOTOGRAPHS

Renderings representing the Work are the property of Owner. All photographs of the Work, whether taken during performance of the

Work or at completion, are the property of the Owner. The Owner reserves all rights including copyrights to renderings and photographs of the Work. No renderings or photographs shall be used or distributed without written consent of the Owner

1.6 NO COMMERCIAL USE OF TRANSACTION OR RELATIONSHIP

Without the prior written consent of Owner, which Owner may grant or withhold in its sole discretion, neither Contractor nor Contractor's affiliates, officers, directors, agents, representatives, shareholders, members, Subcontractors, Sub-subcontractors or employees shall make any private commercial use of their relationship to Owner or the Project, including, without limitation:

A. By referring to this Agreement, Owner, or the Project verbally or in any sales, marketing or other literature, letters, client lists, press releases, brochures or other written materials except as may be necessary for Contractor to perform Contractor's obligations under the terms of this Agreement;

B. By using or allowing the use of any photographs of the Project or any part thereof, or of any service marks, trademarks or trade names or other intellectual property now or which may hereafter be associated with, owned by or licensed by Owner in connection with any service or product; or

C. By contracting with or receiving money or anything of value from any person or commercial entity to facilitate such person or entity obtaining any type of commercial identification, advertising or visibility in connection with the Project.

Notwithstanding the foregoing, Contractor may include a reference to Owner and the services and equipment provided under this Agreement in a professional résumé or other similar listing of Contractor's references without seeking Owner's written consent in each instance; provided, that such reference to Owner, the services and equipment is included with at least several other similar references and is given no more prominence than such other references.

1.7 CONFIDENTIALITY / PROPERTY RIGHTS

A. Owner will retain ownership and intellectual property rights in all plans, designs, drawings, documents, concepts, and materials provided by or on behalf of Owner to Contractor and to all work products of Contractor for or relative to Work performed under this Agreement, such products, services, and Work of Contractor constituting works made for hire. Contractor will not reuse any portions of such items provided by Owner or developed by Contractor for Owner pursuant to this Agreement, or disclose any such items to any third party without the prior written consent of Owner. Owner may withhold its consent in its' absolute discretion.

B. In addition, Contractor shall ensure that Contractor, Subcontractors, and the employees, agents and representatives of Contractor and its Subcontractors maintain in strict confidence, and shall use and disclose only as authorized by Owner all Confidential Information of Owner that Contractor receives in connection with the performance of this Agreement. Notwithstanding the foregoing, Contractor may use and disclose any information to the extent required by an order of any court or governmental authority, but only after it has notified Owner and Owner has had an opportunity to obtain reasonable protection for such information in connection with such disclosure. For purposes of this Agreement, "Confidential Information" means:
   1. The name or address of any affiliate, customer or contractor of Owner or any information concerning the transactions of any such person with Owner;
   2. Any information relating to contracts, agreements, business plans, budgets or other financial information of Owner to the extent such information has not been made available to the public by the Owner; and
   3. Any other information that is marked or noted as confidential by the Owner at the time of its disclosure.

1.8 COMPLY WITH INTELLECTUAL PROPERTY RIGHTS OF OTHERS

Contractor represents and warrants that no Work (with its means, methods, goods, and services attendant thereto), provided to Owner will infringe or violate any right of any third party and that Owner may use and exploit such Work, means, methods, goods, and services without liability or obligation to any person or entity (specifically and without limitation, such Work, means, methods, goods, and services will not violate rights under any patent, copyright, trademark, or other intellectual property right or application for the same).

SECTION 2 - OWNER

2.1 OWNER'S DESIGNATED REPRESENTATIVE

Owner will designate in writing a representative who will have express authority to bind Owner with respect to all matters requiring Owner's approval or authorization.

2.2 INFORMATION AND SERVICES REQUIRED OF OWNER

A. Owner will be responsible for establishment of property lines and benchmarks for grading.

B. Owner will furnish to Contractor any information or services it is required to furnish under the Contract Documents with reasonable promptness to avoid delay in the orderly progress of the Work.

C. Owner will furnish to Contractor a reasonable number of copies of the Drawings, the Project Manual, and the Addenda.

2.3 OWNER'S RIGHT TO INSPECT THE WORK

Owner and its representatives will have the right to inspect any portion of the Work wherever located at any time.

2.4 OWNER'S RIGHT TO STOP THE WORK

If Contractor fails to carry out the Work in accordance with the Contract Documents or fails to correct Work which is not in accordance with the Contract Documents in a timely manner, Owner may order Contractor in writing to stop the Work, or any portion thereof, until the cause for that order has been eliminated.

SECTION 3 - CONTRACTOR

3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

A. By executing the Agreement, Contractor represents that it has visited the Project site, familiarized itself with the local conditions under which the Work is to be performed, and correlated its own observations with the requirements of the Contract Documents.

B. Contractor will carefully review and compare the Contract Documents and any other available information relating to the Project prior to commencing and during performance of each portion of the Work and will immediately report to Architect any errors, inconsistencies, and omissions it discovers.

C. Should Contractor or any of its Subcontractors become aware of any question regarding the meaning or intent of any part of the Contract Documents prior to commencing that portion of the Work about which there is a question, Contractor will request an interpretation or clarification from Architect before proceeding. Contractor proceeds at its own risk if it proceeds with the Work without first making such a request and receiving an interpretation or clarification from Architect. If neither Contractor nor its Subcontractors become aware of the question until after work on the relevant portion of the Work has commenced, then the following precedence will govern for purposes of determining whether resolution of the question constitutes a Change in the Work:
   1. The Agreement takes precedence over all other Contract Documents.
   2. The Supplementary Conditions take precedence over the General Conditions.
   3. The General Conditions and Supplementary Conditions take precedence over the Drawings and the Specifications.
   4. An Addendum or a Modification takes precedence over the document(s) modified by the Addendum or Modification.
   5. The Specifications take precedence over the Drawings.
   6. Within the Drawings, larger scale drawings take precedence over smaller scale drawings, figured dimensions over scaled dimensions, and noted materials over graphic indications.

D. Contractor will give Architect notice of any additional drawings, specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work, sufficiently in advance of the need for information so as not to delay the Work.

E. It is not Contractor's responsibility to ascertain that the Contract Documents are in accordance with requirements of applicable laws, statutes, ordinances, building codes, rules and regulations. However, if Contractor observes that portions of the Contract Documents are at variance with those requirements, Contractor will immediately notify Architect in writing. Contractor will not proceed unless Owner and/or Architect effects Modifications to the Contract Documents required for compliance with such requirements. Contractor will be fully responsible for any work knowingly performed contrary to such requirements and will fully indemnify Owner against loss and bear all costs and penalties arising therefrom.

F. Contractor will take field measurements and verify field conditions and will compare such field measurements and conditions and other information known to Contractor with the Contract Documents before ordering any materials or commencing construction activities. Contractor will immediately report errors, inconsistencies, and omissions that it discovers to Architect. If Contractor orders materials or commences construction activities before taking field measurements and verifying field conditions, Contractor will not be entitled to any compensation for additional costs to Contractor resulting from field measurements or conditions different from those anticipated by Contractor which would have been avoided had Contractor taken field measurements and verified field conditions prior to ordering the materials or commencing construction activities.

G. If site conditions indicated in the Contract Documents or other information provided by Owner or Architect to Contractor differ materially from those Contractor encounters in performance of the Work, Contractor will immediately notify Architect in writing of such differing site conditions.

H. Where the Contract Documents require the Contractor to provide professional services for architecture or engineering, the Contractor shall cause such services to be performed by appropriately licensed professionals.

3.2 SUPERVISION OF CONSTRUCTION PROCEDURES

A. Contractor will supervise and direct the Work. Contractor will be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work. All loss, damage, liability, or cost of correcting defective work arising from the use of any construction means, methods, techniques, sequences or procedures will be borne by Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents, unless Contractor has given timely notice to Owner and Architect in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and Owner has then instructed Contractor in writing to proceed at Owner’s risk.

B. Contractor will utilize its best skill, efforts, and judgment to provide efficient business administration and supervision, to furnish at all times an adequate supply of workers and materials, and to perform the Work in an expeditious and economical manner consistent with the interests of Owner.

C. Contractor will be responsible for:
   1. The proper observance of property lines and set back requirements as shown in the Contract Documents;
   2. The location and layout of the Work as shown in the Contract Documents with respect to the position of the Work on the property and the elevation of the Work in relation to grade; and
   3. Setting and maintaining construction stakes.

D. Contractor will be responsible to Owner for the acts and omissions of its employees and Subcontractors as well as persons either directly or indirectly employed by Subcontractors.

E. Contractor will not be relieved of its obligation to perform the Work in accordance with the Contract Documents as a result of any tests, inspections, or approvals by Owner, Architect or their consultants.

F. Contractor will be responsible for inspection of portions of the Work already completed to determine that such portions are in proper condition to receive subsequent portions of the Work.

G. Contractor recognizes that the Project site and the surrounding area is frequently visited by the public and is important to Owner's image and function and will maintain the premises free from debris and waste materials resulting from Construction. At the completion of Construction, Contractor shall promptly remove construction equipment, tools, surplus materials, waste materials and debris.

3.3 LABOR AND MATERIALS

A. Unless otherwise provided in the Contract Documents, Contractor will provide and pay for all labor, materials, equipment, tools, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.

B. Contractor will at all times enforce strict discipline and good order among those performing the Work and will not permit employment of any unfit person or anyone not skilled in the tasks assigned to them.

C. Contractor is fully responsible for the Project and all materials and work connected therewith until Owner has accepted the Work in writing. Contractor will replace or repair at its own expense any materials or work damaged or stolen, regardless of whether it has received payment for such work or materials from the Owner.

D. Contractor will remedy all damage or loss to any property caused in whole or in part by Contractor, any Subcontractor, or by anyone for whose acts any of them may be liable.

E. Contractor will be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. Architect may require Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of Architect, would lead to a reasonable certainty that any material used, or proposed to be used, in the work meets the requirements of the Contract Documents. All such data will be furnished at Contractor's expense. This provision will not require Contractor to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at Contractor's expense.

F. Contractor will coordinate and supervise the work performed by Subcontractors so that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. Contractor and all Subcontractors will at all times afford each trade, any separate contractor, or Owner, reasonable opportunity for the installation of Work and the storage of materials.

G. Contractor warrants to Owner that the materials and equipment furnished for the Work will be new unless otherwise specified by the Contract Documents, and that the Work will be free from defects, and will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective in the discretion of Owner. If required by Architect, Contractor will furnish satisfactory evidence as to the kind and quality of the materials and equipment used in performing the Work.

H. Owner may elect to purchase materials required for the Work. In that event, Contractor will comply with the procedures set forth in the Contract Documents relating to such materials.

3.4 COMPLIANCE WITH LAWS

Contractor will comply with all applicable laws, ordinances, rules, regulations, and orders of any public authorities relating to performance of the Work.

3.5 TAXES

A. Contractor will pay all sales, use, consumer, payroll, workers compensation, unemployment, old age pension, surtax, and similar taxes assessed in connection with the performance of the Work.

B. Owner will pay all taxes and assessments on the real property comprising the Project site.

3.6 PERMITS AND FEES

A. Owner will obtain and pay for all zoning and use permits and permanent easements necessary for completion of the Work.

B. Contractor will obtain and pay for the building permit, and all other permits, governmental fees, licenses and inspections necessary for the proper execution and completion of the Work.

C. Contractor will secure any certificates of inspection and of occupancy required by authorities having jurisdiction over the Work. Contractor will deliver these certificates to Architect prior to issuance of the Certificate of Substantial Completion by Architect.

3.7 CONTRACTOR'S ON-SITE REPRESENTATIVE

Contractor will employ a competent representative acceptable to Owner to supervise the performance of the Work. This representative will be designated in writing by Contractor prior to commencement of work and will not be changed prior to final inspection of the Work without prior written consent of Owner. This representative will represent Contractor for all purposes, including communication with Owner.

3.8 CONTRACTOR'S CONSTRUCTION SCHEDULES

A. Contractor will prepare and submit for Owner's and Architect's information Contractor's construction schedule for the Work in accordance with the requirements of the Contract Documents.

B. Contractor will prepare and maintain a Submittal schedule which is coordinated with Contractor's construction schedule and sets forth specified times for Architect to review Submittals.

3.9 DOCUMENTS AND SUBMITTALS AT THE SITE

Contractor will keep at the Project site for use by Owner, Architect, or their representatives, a record copy of the Project Manual, the Drawings, all Addenda, and all Modifications. These documents will be maintained in good order and currently marked to record changes and selections made during construction. In addition, Contractor will keep at the Project site one copy of all Submittals.

3.10 SUBMITTALS

A. Submittals are not Contract Documents and do not alter the requirements of the Contract Documents unless incorporated into the Contract Documents by a Modification.

B. Contractor will review, approve, and submit to Architect Submittals in accordance with the Contract Documents. By approving Submittals, Contractor represents that it has determined and verified field measurements, field construction criteria, materials, catalog numbers, and similar data, and that it has checked and coordinated each Submittal with the requirements of the Work and of the Contract Documents or will make such determination, verification, check, and coordination prior to commencing the relevant portion of the Work. In reviewing Submittals Architect will be entitled to rely upon Contractor’s representation that such information is correct and accurate.

C. Contractor will inform Architect in writing at the time of submission of any Submittal or portion thereof which deviates from the requirements of the Contract Documents. Contractor will provide Architect with documentation demonstrating to Architect that the Submittal is equal to or better than the specified product or work. Contractor will not be relieved of responsibility for deviations from the requirements of the Contract Documents by Architect’s acceptance of a Submittal unless Contractor has informed Architect in writing of the deviation and Architect has incorporated the deviation into the Contract Documents by a Modification.

D. Contractor will not perform any portions of the Work requiring Submittals until the respective Submittal has been reviewed and accepted in writing by Architect.

E. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, Owner will be entitled to rely upon such certifications, and neither Owner nor Architect will be expected to make any independent examination with respect thereto.

F. Submittals not required by the Contract Documents may be returned to Contractor without action.

3.11 CUTTING AND PATCHING

Contractor will be responsible for any cutting, fitting, and patching that may be required to complete the Work and make its parts fit together properly.

3.12 ACCESS TO WORK

Contractor will permit Owner, Architect, their representatives and consultants, access to the Work wherever located at any time.

3.13 ROYALTIES AND PATENTS

Contractor will pay all royalties and license fees required by the Work or by Contractor's chosen method of performing the Work. Contractor will defend and hold Owner harmless from all suits or claims for infringement of any patent, license or other intellectual property rights or any loss on account thereof.

3.14 INDEMNIFICATION

A. Contractor will indemnify and hold harmless Owner and Owner's representatives, employees, agents, architects, and consultants from and against any and all claims, damages, liability, demands, costs, judgments, awards, settlements, causes of action, losses and expenses (collectively “Claims” or “Claim”), including but not limited to attorney fees, consultant fees, expert fees, copy costs, and other expenses, arising out of or resulting from performance of the Work, attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property, including loss of use resulting therefrom, except to the extent that such liability arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity includes, without limitation, indemnification of Owner from all losses or injury to Owner’s property, except to the extent that such loss or injury arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity applies, without limitation, to include Claims occurring both during performance of the Work and/or subsequent to completion of the Work. In the event that any Claim is caused in part by a party indemnified hereunder, that party will bear the cost of such Claim to the extent it was the cause thereof. In the event that a claimant asserts a Claim for recovery against any party indemnified hereunder, the party indemnified hereunder may tender the defense of such Claim to Contractor. If Contractor rejects such tender of defense and it is later determined that the negligence of the party indemnified hereunder did not cause all of the Claim, Contractor will reimburse the party indemnified hereunder for all costs and expenses incurred by that party in defending against the Claim. Contractor will not be liable hereunder to indemnify any party for damages resulting from the sole negligence of that party.

B. In addition to the foregoing, Contractor will be liable to defend Owner in any lawsuit filed by any Subcontractor relating to the Project. Where liens have been filed against Owner's property, Contractor (and/or its bonding company which has issued bonds for the Project) will obtain lien releases and record them in the appropriate county and/or local jurisdiction and provide Owner with a title free and clear from any liens of Subcontractors. In the event that Contractor and/or its bonding company are unable to obtain a lien release, Owner in its absolute discretion may require Contractor to provide a bond around the lien or a bond to discharge the lien, at Contractor's sole expense.

C. In addition to the foregoing, Contractor will indemnify and hold Owner harmless from any claim of any other contractor resulting from the performance, nonperformance or delay in performance of the Work by Contractor.

D. The indemnification obligation herein will not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or a Subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.

3.15 PROJECT MEETINGS

Contractor will attend and participate in meetings as required by the Contract Documents.

SECTION 4 - ADMINISTRATION OF THE CONTRACT

4.1 ARCHITECT

In the event that Owner terminates its contractual relationship with Architect, Owner will appoint in writing another architect, whose status under the Contract Documents will be that of the former Architect in all respects.

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

A. Architect will make periodic visits to the site to familiarize itself generally with the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. Although Architect is required to make periodic inspections, it is not required to make exhaustive or continuous onsite inspections. On the basis of its observations while at the site, Architect will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defects and deficiencies in the Work. Architect’s failure to observe a defect or deficiency in the Work will not relieve Contractor of its duty to perform the Work in accordance with the Contract Documents.

B. Architect will review Contractor's payment requests and determine the amounts due Contractor in accordance with Section 9.

C. Communications between Contractor and Owner relating to the Work will be through Architect. Communications between Owner or Contractor with Architect’s consultants relating to the Work will be through Architect. Communications between Owner or Architect and subcontractors relating to the Work will be through Contractor. Communications between Contractor and any separate contractor will be through Architect, except as otherwise specified in the Contract Documents.

D. Owner and/or Architect will have the right to reject and require removal of the following at Contractor's expense:
   1. Any portion of the Work that does not meet the requirements of the Contract Documents.
   2. Any portion of the Work damaged or rendered unsuitable during installation or resulting from failure to exercise proper protection.

E. Architect will have authority to suspend the Work, with concurrence of Owner, whenever such suspension may be necessary in its reasonable opinion to insure the proper performance of the Work.

F. Architect will review Contractor’s Submittals and will accept or take other appropriate action regarding the Submittals. Architect's review of the Submittals will be for the limited purpose of checking for general conformance with the Contract Documents and will not be conducted for the purpose of determining the accuracy and completeness of details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which

remain the responsibility of Contractor. Architect's review of Submittals will not relieve Contractor of its obligations under the Contract Documents. Architect's review of Submittals will not constitute acceptance of safety precautions or construction means, methods, techniques, sequences or procedures. Architect's acceptance of a specific item will not indicate acceptance of an assembly of which the item is a component.

G. Architect has authority to order Construction Change Directives and Field Changes in accordance with Section 7.

H. Architect will conduct inspections to determine the dates of Substantial Completion and final completion, will receive and review written guarantees and related documents required by the Contract and assembled by Contractor, and will review and certify or reject Contractor's final payment request.

I. Architect will be the interpreter of the performance and requirements of the Contract Documents. Architect's interpretations will be in writing or in the form of drawings.

J. Architect's decisions in matters relating to aesthetic effect will be final if consistent with the Contract Documents and approved by Owner.

SECTION 5 - SUBCONTRACTORS

5.1 AWARD OF SUBCONTRACTS FOR PORTIONS OF THE WORK

A. Contractor will enter into contracts with Subcontractors to perform all portions of the Work that Contractor does not customarily perform with its own employees.

B. Contractor will not contract with any Subcontractor who has been rejected by Owner. Contractor will not be required to contract with any Subcontractor against whom it has a reasonable objection.

C. If Owner rejects any Subcontractor proposed by Contractor, Contractor will propose an acceptable substitute to whom Owner has no reasonable objection.

D. Contractor will not make any substitution for any Subcontractor that has been accepted by Owner and Architect without the prior written approval of Owner and Architect.

5.2 SUBCONTRACTUAL RELATIONS

A. Contractor's responsibility for the Work includes the labor and materials of all Subcontractors, including those recommended or approved by Owner. Contractor will be responsible to Owner for proper completion and guarantee of all workmanship and materials under any subcontracts. Any warranties required for such work will be obtained by Contractor in favor of Owner and delivered to Architect. It is expressly understood and agreed that there is no contractual relationship between Owner and any Subcontractor, and under no circumstances will Owner be responsible for the non-performance or financial failure of any Subcontractor or any effects therefrom.

B. Contractor agrees to pay the Subcontractors promptly upon receipt of payment from Owner for that portion of the funds received which represents the Subcontractor's portion of the Work completed to Contractor's satisfaction for which Owner has made payment.

C. Contractor will require each Subcontractor to:
1. Be licensed by the state in which the Project is located where such licensing is required by the governing authority;
2. Be bound by the terms of the Contract Documents as far as they are applicable to the Subcontractor's work;
3. Assume toward Contractor the same obligations Contractor has assumed toward Owner, including the prompt payment of its Subcontractors;
4. Submit its applications for payment to Contractor in time to permit Contractor to make timely application to Owner;
5. Execute claim or lien releases or lien waivers for payments made by Contractor; and
6. Make all claims for Changes in the Work to Contractor in the same manner as Contractor is required to make such claims to Owner.

SECTION 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK OR AWARD SEPARATE CONTRACTS

A. Owner reserves the right to perform work itself or to award separate contracts in connection with the Project.

B. When separate contracts are awarded, "Contractor" in the Contract Documents in each case will mean the contractor who signs each separate contract.

6.2 MUTUAL RESPONSIBILITY

A. Contractor will afford other contractors reasonable opportunity to place and store their materials and equipment on site and to perform their work and will properly connect and coordinate its Work with theirs where applicable.

B. If any part of Contractor's Work depends upon the work of any separate contractor for proper performance or results, Contractor will inspect and promptly report to Architect any apparent discrepancies or defects in such work that render it unsuitable for proper performance and results. Failure of Contractor to so inspect and report will constitute an acceptance of the work of the separate contractor as fit and proper to receive Contractor's Work, except as to defects not then reasonably discoverable.

C. Contractor will promptly remedy damage caused by Contractor or any Subcontractor to the completed or partially completed work of other contractors or to the property of Owner or other contractors.

6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among Contractor and separate contractors as to the responsibility under their separate contracts for maintaining the Project free from waste materials and rubbish, Owner may clean the Project, allocate the cost among those responsible as Owner and Architect determine to be just, and withhold such cost from any amounts due or to become due to Contractor.

SECTION 7 - CHANGES IN THE WORK

7.1 CHANGES IN THE WORK RESULTING FROM AN INSTRUCTION BY OWNER OR ARCHITECT TO CONTRACTOR

A. If Owner or Architect gives Contractor an instruction that modifies the requirements of the Contract Documents or delays Substantial Completion, Contractor may be entitled to an adjustment in the Contract Sum and/or the Contract Time. If compliance with the instruction affects the cost to Contractor to perform the Work, the Contract Sum will be adjusted to reflect the reasonable increase or decrease in cost subject to the conditions set forth in Section 7.1, Paragraphs B through G. If compliance with the instruction delays Substantial Completion, the Contract Time will be extended for a period of time commensurate with such delay subject to the conditions set forth in Section 7.1, Paragraphs B through G and Section 7.3, Paragraph A and Contractor will be paid liquidated damages for the delay as set forth in Section 7.3, Paragraph B.

B. If Contractor receives an instruction from Owner or Architect that Contractor considers to be a Change in the Work, Contractor, before complying with the instruction, will notify Architect in writing that Contractor considers such instruction to constitute a Change in the Work. If Architect agrees that compliance with the instruction will constitute a Change in the Work, Contractor will furnish a proposal for a Modification in accordance with Section 7.1, Paragraphs C. and D. within ten (10) days.

C. If Contractor claims that it is entitled to an adjustment in the Contract Sum (including without limitation costs related to a time extension) as a result of an instruction by Owner or Architect, Contractor will furnish a proposal for a Change Order containing a price breakdown itemized as required by Owner. The breakdown will be in sufficient detail to allow Owner to determine any increase or decrease in Direct Costs as a result of compliance with the instruction. Any amount claimed for subcontracts will be supported by a similar price breakdown and will itemize the Subcontractor's profit and overhead charges. Profit and overhead will be subject to the following limitations:
   1. The Subcontractor's profit and overhead will not exceed ten (10) percent of its Direct Costs on work performed. Subcontractor's profit and overhead will not exceed five (5) percent on work performed by its sub-subcontractors.
   2. Contractor's profit and overhead on work performed by its own crews will not exceed ten (10) percent of its Direct Costs.
   3. Contractor's profit and overhead mark up on work performed by its Subcontractors will not exceed five (5) percent of the Subcontractors' charges for such work.
   4. Amounts due Owner as a result of a credit change will be the actual net savings to Contractor from the Change in the Work as confirmed by Architect. On credit changes, profit and overhead on the originally estimated work will not be credited back to Owner. If both additions and credits are involved in a single Change in the Work, overhead and profit will be figured on the basis of net increase, if any, related to that Change in the Work.

D. If Contractor claims that it is entitled to an adjustment in the Contract Time as a result of an instruction from Owner or Architect, Contractor will include in its proposal justification to support Contractor's claim that compliance with the instruction will delay Substantial Completion.

E. Upon receipt of Contractor's proposal for Modification, Architect and Owner will determine whether to proceed with the Change in the Work. If Architect and Owner determine to proceed with the Change in the Work, they will issue a Change Order, a Construction Change Directive or a Field Change as appropriate.

F. Contractor agrees that if it complies with an instruction from Owner or Architect without first giving written notice to Architect as provided in Section 7.1., Paragraph B, and receiving a Change Order, Construction Change Directive or Field Change, Contractor will not be entitled to any adjustment in the Contract Sum or the Contract Time as a result of the instruction and waives any claim therefor.

G. If Contractor is instructed to perform work which it claims constitutes a Change in the Work but which Owner and Architect do not agree constitutes a Change in the Work, Contractor will comply with the instruction. Contractor may submit its claim for adjustment to the Contract Sum, the Contract Time, or both as a dispute pursuant to Section 13 within thirty (30) days after compliance with the instruction. Contractor agrees that if it fails to submit its claim for resolution pursuant to Section 13 within thirty (30) days after compliance with the instruction, then Contractor will not be entitled to any adjustment in the Contract Sum or the Contract Time as a result of the instruction and waives any claim therefor.

H. Contractor agrees that it is responsible for submitting accurate cost and pricing data to support its Change Order Proposals. Owner will have the right to examine the Contractor's records to verify the accuracy and appropriateness of the pricing data used to price change order proposals.

7.2 CHANGE IN THE WORK RESULTING FROM AN EVENT OR CIRCUMSTANCE

A. If an event or circumstance other than an instruction from Owner or Architect affects the cost to Contractor of performing the Work or delays Substantial Completion, Contractor may be entitled to an adjustment in the Contract Sum and/or the Contract Time. If the circumstance or event affects the cost to Contractor to perform the Work and is caused by a willful or negligent act or omission of Owner or Architect, the Contract Sum will be adjusted to reflect the reasonable increase or decrease in Contractor's cost to perform the Work resulting from the event or circumstance, subject to the conditions set forth in Section 7.2, Paragraphs B through F. If the event or circumstance delays Substantial Completion and is described in Section 7.3, Paragraph A, the Contract Time will be extended for a period of time commensurate with such delay subject to the conditions set forth in such section. If the circumstance or event delays Substantial Completion and is caused by a willful or negligent act or omission of Owner or Architect, then Contractor will be compensated for costs incident to the delay in accordance with Section 7.3, Paragraph B. Contractor will not be entitled to any adjustment to the Contract Sum or other damages from Owner as a result of any event or circumstance unless the event or circumstance results from a willful or negligent act or omission of Owner or Architect.

B. If a Change in the Work results from any event or circumstance caused by the willful or negligent act or omission of Owner or Architect, Contractor will give Owner Written Notice of such event or circumstance within twenty-four (24) hours after commencement of the event or circumstance so that Owner can take such action as is necessary to mitigate the effect of the event or circumstance. Contractor will not be entitled to any adjustment in either the Contract Time or the Contract Sum based on any damages or delays resulting from such event or circumstance during a period more than twenty-four (24) hours prior to Contractor giving such Written Notice to Owner.

C. Contractor will submit in writing any claims for an adjustment in the Contract Time and/or the Contract Sum resulting from an event or circumstance within the time limits set forth below. In the event that Contractor fails to submit its claim in writing within the time limits set forth below, then Contractor agrees it will not be entitled to any adjustment in the Contract Time or the Contract Sum or to any other damages from Owner due to the circumstance or event and waives any claim therefor.
   1. Claims for an adjustment in the Contract Time due to Adverse Weather will be made by the tenth (10th) of the month following the month in which the delay occurred.
   2. Claims for an adjustment in the Contract Time and/or the Contract Sum due to any other circumstance or event will be submitted within seven (7) days after the occurrence of the circumstance or event.

D. If Contractor claims that it is entitled to an adjustment in the Contract Sum (including without limitation costs related to a time extension) because of an event or circumstance resulting from the willful or negligent act or omission of Owner or Architect, Contractor will furnish a proposal for a Change Order containing a price breakdown as described in Section 7.1, Paragraph C. Any amount claimed for increased labor costs as a result of the event or circumstance must be supported by a certified payroll. Any claim for rented equipment or additional material costs must be supported by invoices.

E. If Contractor claims that it is entitled to an adjustment in the Contract Time as a result of an event or circumstance, Contractor will include with its claim copies of daily logs, letters, shipping orders, delivery tickets, Project schedules, and other supporting information necessary to justify Contractor's claim that the event or circumstance delayed Substantial Completion. If Contractor is entitled to an adjustment in the Contract Time as a result of an event or circumstance caused by the wilful or negligent act or omission of Owner or Architect, Contractor will be compensated for all costs related to the delay in accordance with Section 7.3, Paragraph B.

F. Within thirty (30) days after receipt of Contractor's claim, Architect will either deny the claim or recommend approval to Owner. If Owner approves the claim, the adjustment in the Contract Time and/or Contract Sum will be reflected in a Change Order pursuant to Section 7.5 or a Construction Change Directive pursuant to Section 7.6. If Owner or Architect denies Contractor's claim, Contractor may submit its claim as a dispute pursuant to Section 13 within thirty (30) days of receipt of the denial of the claim. If Contractor fails to submit its claim for resolution pursuant to Section 13 within the thirty (30) day time period, then Contractor agrees it is not entitled to any adjustment in the Contract Time and/ or Contract Sum or any other damages as a result of the event or circumstance and waives any claim therefor.

7.3 EXTENSIONS OF TIME

A. If Substantial Completion of the Project is delayed because of any of the following causes, then the Contract Time will be extended by Change Order for a period of time equal to such delay:
   1. Labor strikes or lock-outs;
   2. Adverse weather;
   3. Unusual delay in transportation;
   4. Unforeseen governmental requests or requirements;
   5. A Change in the Work resulting from an instruction by Owner or Architect to Contractor subject to the conditions set forth in Section 7.1; or
   6. Any other event or circumstance caused by the willful or negligent act or omission of Owner or Architect.

B. Contractor will not be entitled to any compensation for delay described in Section 7.3, Paragraph A, subparagraphs 1, 2, 3 and 4. For each day of delay in Substantial Completion described in Section 7.3, Paragraph A, subparagraphs 5 and 6, Contractor will be paid liquidated damages in the amount per day set forth in the Supplementary Conditions to compensate Contractor for all damages resulting from any delay including but not limited to damages for general conditions costs, additional job site costs, additional home office overhead costs, disruption costs, acceleration costs, increase in labor costs, increase in subcontract costs, increase in materials costs, and any other costs incident to the delay. Contractor will be entitled to no other compensation relating to the delay.

C. In no event will any time extension or cost adjustment be given on account of delay which reasonably should have been anticipated by the Contractor or in circumstances where performance of the Work is, was, or would have been, delayed by any other cause for which the Contractor is not entitled to an extension.

7.4 DOCUMENTATION OF CHANGES IN THE WORK

Every Change in the Work will be documented by a Change Order, a Construction Change Directive or a Field Change. If Owner, Architect and Contractor reach agreement regarding the adjustment in the Contract Sum, if any, and the adjustment in the Contract Time, if any, resulting from a Change in the Work, then the parties will execute a Change Order pursuant to Section 7.5. If Owner, Architect and Contractor cannot reach agreement regarding the adjustment in Contract Sum or the adjustment in Contract Time resulting from a Change in the Work, then Owner and Architect will issue a Construction Change Directive pursuant to Section 7.6. Field Changes require the agreement of Architect and Contractor only.

7.5 CHANGE ORDERS

Contractor's signature upon a Change Order is Contractor's acknowledgment that it is not entitled to any additional adjustment in the Contract Sum or the Contract Time or any other damages or compensation as a result of the Change in the Work other than that provided for in the Change Order, irrespective of whether a subsequent claim for additional compensation or time extensions relating to the Change in the Work is described as a change in the requirements of the Contract Documents, a delay, a disruption of the Work, an acceleration of the Work, an impact on the efficiency of performance of the Work, an equitable adjustment, or other claim and irrespective of whether the impact of the Change in the Work is considered singly or in conjunction with the impact of other Changes in the Work.

7.6 CONSTRUCTION CHANGE DIRECTIVES

A. Contractor will promptly comply with all Construction Change Directives.

B. Pending final resolution of any adjustment in the Contract Sum or Contract Time relating to a Construction Change Directive, the amounts proposed by Owner in the Construction Change Directive may be included in Contractor's payment requests once the work relating thereto is completed.

C. If after the work described in the Construction Change Directive is completed, Owner, Architect, and Contractor reach agreement on adjustments in the Contract Sum, Contract Time, or both, such agreement will be reflected in an appropriate Change Order.

D. If the parties do not reach agreement regarding an adjustment to the Contract Sum, Contract Time, or both relating to the Construction Change Directive within thirty (30) days of the completion of the work described therein, then Contractor may submit its claim for an adjustment pursuant to Section 13 within thirty (30) days of the completion of such work. Contractor agrees that if it fails to submit its claim for resolution pursuant to Section 13 within thirty (30) days of completion of the work described in the Construction Change Directive, then it will not be entitled to an adjustment in Contract Sum or Contract Time resulting from such work except as set forth in the Construction Change Directive and waives any claim therefor.

7.7 FIELD CHANGES

Architect and Contractor will sign a Field Change order listing the Change In The Work and the Contract Sum including markups before Contractor proceeds with the Field Change.

7.8 WAIVER OF CLAIMS

Except as set forth in Section 7, Contractor will not be entitled to any adjustment in the Contract Sum or the Contract Time or for any damages of any kind whatsoever resulting from an instruction from Owner or Architect, any event or circumstance, or any act or omission of Owner or Architect and Contractor expressly waives any and all claims therefor.

SECTION 8 - TIME

8.1 TIME IS OF THE ESSENCE

All time limits stated in the Contract Documents are of the essence. By executing the Agreement, Contractor confirms that the Contract Time is a reasonable period for performing the Work. Contractor will proceed expeditiously with adequate resources and will achieve Substantial Completion within the Contract Time.

8.2 COMMENCEMENT OF THE WORK

Contractor will not commence work on the Project site until the date set forth in the Written Notice to proceed. However, Contractor may enter into subcontracts and secure material for the Project after receipt of the Agreement with Owner's authorized signature. Owner will issue the Written Notice to proceed within forty-five (45) days after Owner receives acceptable bonds and evidence of insurance pursuant to Section 11 unless Owner earlier terminates the Agreement pursuant to Section 14.

8.3 DELAY IN COMPLETION OF THE WORK

A. For each day after the expiration of the Contract Time that Contractor has not achieved Substantial Completion, Contractor will pay Owner the amount set forth in the Supplementary Conditions as liquidated damages for Owner's loss of use of the Project

and the added administrative expense to Owner to administer the Project during the period of delay. In addition, Contractor will reimburse Owner for any additional Architect's fees, attorney fees, expert fees, consultant fees, copy costs, and other expenses incurred by Owner as a result of the delay. Owner may deduct any liquidated damages or reimbursable expenses from any money due or to become due to Contractor. If the amount of liquidated damages and reimbursable expenses exceeds any amounts due to Contractor, Contractor will pay the difference to Owner within ten (10) days after receipt of a written request from Owner for payment.

B. At the time Architect certifies that Contractor has achieved Substantial Completion, Architect will identify the remaining items to be completed for final completion of the Work and will establish with Contractor a reasonable time for completion of those items. Architect will set forth the items to be completed and the time established for their completion in a Certificate of Substantial Completion. For each day that Contractor exceeds the time allowed for completion of the items set forth in the Certificate of Substantial Completion, Contractor will pay to Owner as liquidated damages for additional administrative expenses the amount set forth in the Supplementary Conditions. In addition, Contractor will reimburse Owner for any additional Architect's fees, attorney fees, expert fees, consultant fees, copy costs, and other expenses incurred by Owner as a result of the delay in completing such items.

SECTION 9 - PAYMENTS AND COMPLETION

9.1 SCHEDULE OF VALUES

Contractor will submit to Architect a schedule of values which allocates the Contract Sum to various portions of the Work. The schedule of values will be supported by such data to substantiate its accuracy as required by Architect. This schedule, when accepted by Owner and Architect, will be used as a basis for reviewing Contractor's payment requests.

9.2 PAYMENT REQUESTS

A. Not more than once a month, Contractor will submit a payment request to Architect for Work completed, materials stored on the site, and for materials stored offsite as of the date of the payment request. The amount of the payment request will be based upon the schedule of values and will be equal to the value of the Work completed:
   1. Less retention;
   2. Less all prior amounts paid by Owner to Contractor as part of the Contract Sum; and
   3. Less allowable offsets.

   The payment request may include Changes in the Work that have been performed by Contractor and authorized by Owner and/or Architect pursuant to Section 7. If a payment request includes materials stored offsite, Contractor will include with the payment request a list of the materials, the location where they are stored and the written request of Contractor and its performance bond surety that payment be made for such materials.

B. Contractor warrants and guarantees that upon the receipt of payment for materials and equipment, whether incorporated in the Project or not, title to such materials and equipment will pass to Owner free and clear of all liens, claims, security interests, or encumbrances. Notwithstanding this payment and passage of title, Contractor will remain responsible for all such materials and equipment until actual delivery to the project site, incorporation into the Work, and final acceptance by Owner. Contractor further warrants that no material or equipment covered by a payment request is subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or any other person or entity.

9.3 PAYMENT REQUEST CERTIFICATION

A. Architect will, within seven (7) days after receipt of Contractor's payment request, forward to Owner the payment request certified for such amount as Architect determines is properly due. If Architect certifies less than the full amount of the payment request, Architect will notify Contractor and Owner of Architect's reasons for withholding certification of the full amount requested.

B. The certification of the payment request will constitute a representation by Architect to Owner based upon Architect's observations at the site and the data comprising the payment request, that the Work has progressed to the point indicated and that, to the best of Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion, and to specific qualifications expressed by Architect. However, the certification of the payment request will not constitute a representation that Architect has:
   1. Conducted exhaustive or continuous on-site inspections to check the quantity or quality of the Work;
   2. Reviewed construction means, methods, techniques, sequences, or procedures;
   3. Reviewed copies of requisitions received from Subcontractors or other data requested by Owner to substantiate Contractor's right to payment; or
   4. Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

C. In taking action on Contractor’s payment request, Owner will be entitled to rely on the accuracy and completeness of the information furnished by Contractor.

9.4 DECISIONS TO WITHHOLD CERTIFICATION AND PAYMENT

A. Architect may withhold certification of a payment request in whole or in part to the extent reasonably necessary to protect Owner if, in the opinion of Architect, the representations to Owner required by Section 9.3, Paragraph B cannot be accurately made. If

Architect is unable to certify payment in the amount of the payment request, Architect will notify Contractor and Owner as provided in Section 9.3, Paragraph A. If Contractor and Architect cannot agree on a revised amount, Architect will promptly certify a payment request for the amount for which Architect is able to make such representations to Owner. Architect may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a payment request previously certified, to such extent as may be necessary in Architect's opinion to protect Owner from loss because of:

1. Defective work not remedied;
2. Third-party claims filed or reasonable evidence indicating probable filing of such claims;
3. Failure of Contractor to make payments properly to Subcontractors for labor, materials, equipment, construction or services;
4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
5. Damage to Owner or another contractor for which Contractor is responsible;
6. Reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance will not be adequate to cover the cost of completing the Work and damages for the anticipated delay; or
7. Contractor's persistent failure to carry out the Work in accordance with the Contract Documents.

B. Owner reserves the right to withhold payments to Contractor, subsequent to Architect's certification of any payment request, in order to protect Owner from loss due to any condition described in Section 9.4, Paragraph A, Subparagraphs 1 through 7. Upon satisfactory resolution of any such conditions, payments so withheld will be made.

9.5 PROGRESS PAYMENTS

A. Owner will pay Contractor progress payments within the parameters of Section 9.2 within fifteen (15) days after Owner receives the certified payment request from Architect.

B. Owner will make payments to Contractor by either placing the payments in the mail addressed to Contractor or by electronic transfer at Owner’s discretion.

C. Upon receipt of any payment from Owner, Contractor will pay to each Subcontractor the amount paid to Contractor on account of such Subcontractor's portion of the Work.

D. Contractor will maintain a copy of each payment request at the Project site for review by the Subcontractors.

E. No payment made under the Contract Documents, either in whole or in part, will be construed to be an acceptance of defective or improper materials or workmanship.

F. In addition and notwithstanding the foregoing, Owner will also withhold and retain 10% of payments made to Contractor.

G. Owner will pay any unpaid retention less any amounts withheld pursuant to Section 9.4 within forty-five (45) days after Contractor achieves Substantial Completion, submits its payment request for retained funds, delivers to the Architect Owner’s form entitled “Contractor’s Substantial Completion Affidavit and Consent of Surety” fully executed by Contractor and its surety, obtains Waiver and Release documents executed by all subcontractors and suppliers having claim against the retained funds, and Owner receives a certificate of occupancy.

9.6 FINAL PAYMENT

A. Owner will make full and final payment of the Contract Sum within thirty (30) days of the completion of all of the following requirements:

1. Contractor has submitted its final payment request;
2. Architect has declared to Owner in writing that the Work is complete;
3. Contractor has obtained waiver and release upon final payment documents executed by all of the subcontractors performing work and/or providing materials covered by the Contractor’s final payment request; and
4. Contractor has collected and provided to Owner all manufacturers’ and other guaranties and warranties, properly signed and endorsed to Owner, that are required by the Contract Documents that extend for a period beyond one year after substantial completion. (Delivery of such guaranties and warranties will not relieve Contractor for any obligation assumed under any other provision of the Contract Documents.).

B. Acceptance of final payment by Contractor or any Subcontractor will constitute a waiver of claims by the payee except for those claims previously made in writing pursuant to Section 7 and identified by Contractor in its affidavit as still pending.

C. If the aggregate of previous payments made by Owner exceeds the amount due Contractor, Contractor will reimburse the difference to Owner.

SECTION 10 - PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

Contractor will be responsible to Owner for initiating and supervising all safety programs in connection with the performance of the Work.

10.2 SAFETY OF PERSONS AND PROPERTY

A. Contractor will take reasonable precautions to prevent damage, injury, or loss to:

1. All persons on the site;
2. The Work and materials and equipment to be incorporated into the Work; and
3. Other property at the site or adjacent to it.

B. Contractor will give notices and comply with applicable laws, ordinances, rules, regulations, and other lawful requirements of public authorities bearing on the safety or protection of persons and property. No work will be performed that may pose an undue safety hazard to Contractor, Contractor's employees, or any other person.

C. Contractor will designate a responsible member of its organization at the site whose duty will be the prevention of accidents. This person will be Contractor's onsite representative unless otherwise designated in writing by Contractor to Owner and Architect.

10.3 EMERGENCIES

In case of an emergency endangering life or threatening the safety of any person or property, Contractor may, without waiting for specific authorization from Architect or Owner, act at its own discretion to safeguard persons or property. Contractor will immediately notify Architect of such emergency action and make a full written report to Architect within five (5) days after the event.

10.4 HAZARDOUS MATERIALS

In the event the Contractor encounters on the site material reasonably believed to be hazardous materials which have not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Architect in writing. The Work in the affected area shall be resumed in the absence of hazardous materials, or when it has been rendered harmless, by written agreement of the Owner and Contractor.

SECTION 11 - INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

A. Contractor will obtain the following insurance and provide evidence thereof as described below prior to commencement of the Work or within ten (10) days after signing the Agreement, whichever is earlier:
   1. Workers Compensation Insurance.
   2. Employers Liability Insurance with minimum limits of the greater of $500,000 E.L. each accident, $500,000 E. L. disease-each employee, $500,000 E.L. disease-policy limit or as required by the law of the state in which the Project is located.

   3. Commercial General Liability Insurance – ISO Form CG 00 01 (12/07) or equivalent Occurrence policy which will provide primary coverage to the additional insureds (the Owner and the Architect) in the event of any Occurrence, Claim, or Suit with:
      a. Limits of the greater of Contractor's actual coverage amounts or the following:
         1) $2,000,000 General Aggregate;
         2) $2,000,000 Products - Comp/Ops Aggregate:
         3) $1,000,000 Personal and Advertising Liability:
         4) $1,000,000 Each Occurrence;
         5) $50,000 Fire Damage to Rented Premises (Each Occurrence).
      b. Endorsements attached to the General Liability policy including the following or their equivalent:
         1) ISO Form CG 25 03 (05/09), Amendment of Limits of Insurance (Designated Project or Premises), describing the Agreement and specifying limits as shown above.
         2) ISO Form CG 20 10 (07/04), Additional Insured -- Owners, Lessees, Or Contractors (Form B), naming Owner and Architect as additional insureds.
   4. Automobile Liability Insurance, with:
      a. Combined Single Limit each accident in the amount of $1,000,000 or Contractor's actual coverage, whichever is greater; and
      b. Coverage applying to "Any Auto."

B. Contractor will provide evidence of such insurance to Owner as follows:
   1. Deliver to Owner a Certificate of Liability Insurance, on ACORD 25 (2010/05) Form, or equivalent:
      a. Listing Owner and its consultants as the Certificate Holders and Additional Insured on the general liability and any excess liability policies;
      b. Attaching the ISO or equivalent endorsements set forth above to the Certificate of Liability Insurance;
      c. Identifying the Project;
      d. Listing the insurance companies providing coverage (All companies listed must be rated in A.M. Best Company Key Rating Guide-Property-Casualty and each company must have a rating of B+ Class VII or better. Companies which are not rated are not acceptable); and
      e. Bearing the name, address and telephone number of the producer and signed by an authorized representative of the producer. The signature may be original, stamped, or electronic.

C. Contractor will maintain, from commencement of the Work, Insurance coverage required herein as follows:
   1. Commercial General Liability Insurance through expiration of warranty period specified in Section 12.2, Paragraph B. including completion of any warranty repairs; and
   2. All other insurance through Final Payment.

D. Owner reserves the right to reject any insurance company, policy, endorsement, or certificate of insurance with or without cause.

E. Owner may, in writing and at its sole discretion, modify the insurance requirements.

F. The cost of insurance as required above will be the obligation of Contractor. Contractor will be responsible for payment of all deductible amounts under all insurance.

G. Owner will provide builders risk insurance for the cost of the Project. The policy will be written on an all risk basis with coverage for perils of wind, flood, earthquake, and terrorism, with exclusions standard for the insurance industry. The policy will be subject to a $5,000 deductible per occurrence which will be the responsibility of Contractor and will not be a reimbursable expense. Owner will provide a copy of the terms and conditions of the builders risk policy to Contractor upon Contractor's request. Contractor will comply with terms, conditions, and deadlines of the builders risk policy. The terms, conditions, and deadlines of the builders risk policy shall govern coverage. In addition, when there is a loss which may be covered by the builders risk insurance policy, Contractor will comply with the following:
   1. Contractor will report the loss immediately to builders risk commercial insurer by calling 1-866-537-7475 and shall make such further written submissions as required and otherwise comply with all requirements of the builders risk policy.
   2. Contractor will report the loss immediately to the Owner.
   3. Contractor will immediately notify its general liability insurance carrier of the loss.
   4. Contractor will take all necessary and appropriate actions to protect the property and individuals from further loss, harm, and injury. In the event there are damages resulting from fire or water, restoration shall be performed only by a certified restoration contractor.
   5. To the extent possible, Contractor will preserve and not disturb the evidence of the loss until after the builders risk commercial insurer and all interested parties and their insurance carriers have had the opportunity to view and investigate the site and loss.
   6. Contractor will cooperate with Owner and the builders risk commercial insurer in the investigation, documentation, and settlement of loss claims, including without limitation promptly responding to all requests for information and documentation from the builders risk commercial insurer and/or Owner.

11.2 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

A. Prior to commencement of the Work or within ten (10) days after signing the Agreement, whichever is earlier, Contractor will furnish to Owner a performance bond and a labor and material payment bond each in an amount equal to one hundred percent (100%) of the Contract Sum as security for all obligations arising under the Contract Documents. Such bonds will:
   1. Be written on Form AIA Document A312 (1984).
   2. Be issued by a surety company or companies licensed in the state in which the Project is located and holding valid certificates of authority under Sections 9304 to 9308, Title 31, of the United States Code as acceptable sureties or reinsurance companies on federal bonds.
   3. Have a penal sum obligation not exceeding the authorization shown in the current revision of Circular #570 as issued by the United States Treasury Department, i.e. "Treasury List".
   4. Be accompanied by a certified copy of the power of attorney stating the authority of the attorney-in-fact executing the bonds on behalf of the surety.

B. Owner reserves the right to reject any surety company, performance bond, or labor and material payment bond with or without cause.

C. The cost of the bonds as required above will be the obligation of Contractor.

SECTION 12 - UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

Contractor will notify Architect at least twenty-four (24) hours in advance of performing work that would cover up work or otherwise make it difficult to perform inspections required by the Specifications or by applicable governing authorities. Should any such work be covered without proper notification having been given to Architect, Contractor will uncover that work for inspection at its own expense.

12.2 CORRECTION OF WORK

A. Contractor will promptly correct any portion of the Work that is rejected by Architect or which fails to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed, or completed. Contractor will bear the cost of correcting such rejected Work, including additional testing and inspection costs, compensation for Architect's services, and any other expenses made necessary thereby.

B. Contractor will remedy any defects due to faulty materials, equipment, or workmanship which appear within a period of one (1) year from the date of Substantial Completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents. Contractor will pay all costs of correcting faulty work, including without limitation additional Architect's fees, attorney fees, expert fees, consultant fees, copy costs, and other expenses when incurred.

C. Nothing in the Contract Documents will be construed to establish a period of limitation within which Owner may enforce the obligation of Contractor to comply with the Contract Documents. The one-year period specified above has no relationship to the time within which compliance with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to Contractor's obligations.

12.3 ACCEPTANCE OF NONCONFORMING WORK

A. If Owner prefers to accept any portion of the Work not in conformance with the Contract Documents, Owner may do so instead of requiring removal and correction of the nonconforming Work. In that event, the Contract Sum will be reduced by an amount agreed upon by the parties that reflects the difference in value to Owner between the Work as specified and the nonconforming Work. Such adjustment may consider increased maintenance costs, early replacement costs, increased inefficiency of use, and the like and will be effective whether or not final payment has been made. Such adjustment will be reflected in a Change Order pursuant to Section 7.5.

B. Temporary or trial usage by Owner or Architect of mechanical devices, machinery, apparatus, equipment, or other work or materials supplied under the Contract Documents prior to written acceptance by Architect, will not constitute Owner's acceptance.

SECTION 13 - RESOLUTION OF DISPUTES

13.1 SUBMITTAL OF DISPUTE

In the event there is any dispute arising under this Agreement which cannot be resolved by agreement between the parties, either party may submit the dispute with all documentation upon which it relies to the Director of Architecture, Engineering, and Construction, Meetinghouse Facilities Department, 50 East North Temple, Salt Lake City, Utah 84150, who will convene a dispute resolution conference within thirty (30) days. The dispute resolution conference will constitute settlement negotiations and any settlement proposal made pursuant to the conference will not be admissible as evidence of liability. In the event that the parties do not resolve their dispute pursuant to the dispute resolution conference, either party may commence legal action to resolve the dispute. Any such action must be commenced within six (6) months from the first day of the dispute resolution conference or be time barred. Submission of the dispute to the Director as outlined above is a condition precedent to the right to commence legal action to resolve any dispute. In the event that either party commences legal action to adjudicate any dispute without first submitting the dispute to the Director, the other party will be entitled to obtain an order dismissing the litigation without prejudice and awarding such other party any costs and attorney fees incurred by that party in obtaining the dismissal, including without limitation copy costs, and expert and consultant fees and expenses.

13.2 CONTRACTOR TO PROCEED WITH DILIGENCE

Pending final resolution of a dispute hereunder, Contractor will proceed diligently with the performance of its obligations under this Agreement.

SECTION 14 - TERMINATION

14.1 TERMINATION BY CONTRACTOR

In the event Owner materially breaches any term of the Contract Documents, Contractor will promptly give Written Notice of the breach to Owner. If Owner fails to cure the breach within ten (10) days of the Written Notice, Contractor may terminate the Agreement by giving Written Notice to Owner and recover from Owner the percentage of the Contract Sum represented by the Work completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation or damages as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor’s indemnities and obligations under section 3.14 as well as all warranties in the specifications relative to Work provided through the date of termination survive a termination hereunder.

14.2 TERMINATION BY OWNER FOR CAUSE

Should Contractor fail to provide Owner with the bonds and certificates of insurance required by Section 11 within the time specified therein, make a general assignment for the benefit of its creditors, fail to apply enough properly skilled workmen or specified materials to properly prosecute the Work in accordance with Contractor’s schedule, or otherwise materially breach any provision of the Contract Documents, then Owner may, without any prejudice to any other right or remedy, give Contractor Written Notice thereof. If Contractor fails to cure its default within ten (10) days, Owner may terminate the Agreement by giving Written Notice to Contractor. In such case, Owner may, in Owner’s sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor and/or take possession of the premises and all materials, tools, equipment, and appliances thereon, and finish the Work by whatever method Owner deems expedient. Contractor will not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Sum exceeds the expense of finishing the Work, including compensation for additional administrative, architectural, consultant, and legal services (including without limitation attorney fees, expert fees, copy costs, and other expenses), such excess will be paid to Contractor. If such expense exceeds the unpaid balance, Contractor will pay the difference to Owner. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor’s indemnities and obligations under section 3.14 as well as all warranties in the specifications relative to Work provided through the date of termination survive a termination hereunder.

14.3 TERMINATION BY OWNER FOR CONVENIENCE

Notwithstanding any other provision contained in the Contract Documents, Owner may, without cause and in its absolute discretion, terminate the Agreement at any time. In the event of such termination, Contractor will be entitled to recover from Owner the

percentage of the Contract Sum equal to the percentage of the Work which Architect determines has been completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Owner may, in Owner's sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor. Without limitation, Contractor's indemnities and obligations under section 3.14 as well as all warranties in the specifications relative to Work provided through the date of termination survive a termination hereunder.

SECTION 15 - MISCELLANEOUS PROVISIONS

15.1 GOVERNING LAW

The parties acknowledge that the Contract Documents have substantial connections to the State of Utah. The Contract Documents will be deemed to have been made, executed, and delivered in Salt Lake City, Utah. To the maximum extent permitted by law, (i) the Contract Documents and all matters related to their creation and performance will be governed by and enforced in accordance with the laws of the State of Utah, excluding conflicts of law rules; and (ii) all disputes arising from or related to the Contract Documents will be decided only in a state or federal court located in Salt Lake City, Utah and not in any other court or state. Toward that end, the parties hereby consent to the jurisdiction of the state and federal courts located in Salt Lake City, Utah and waive any other venue to which they might be entitled by virtue of domicile, habitual residence, place of business, or otherwise.

15.2 NO WAIVER

No action or failure to act by Owner, Architect, or Contractor will constitute a waiver of a right or duty afforded them under the Contract Documents, nor will such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

15.3 RULE OF CONSTRUCTION

Owner and Contractor agree that the Contract Documents will be deemed to have been drafted by both Owner and Contractor and will not be construed against either Owner or Contractor because of authorship.

15.4 ENFORCEMENT

In the event either party commences legal action to enforce or rescind any provision of the Contract Documents, the prevailing party will be entitled to recover its attorney fees and costs, including without limitation all copy costs and expert and consultant fees and expenses, incurred in that action and on all appeals, from the other party.

15.5 TESTS AND INSPECTIONS

A. Owner and Architect have the right to have tests made when they deem it necessary. Tests conducted by Owner or Architect will be paid for by Owner. Should a test reveal a failure of the Work to meet Contract Document requirements, the cost of the test as well as subsequent tests related to the failure necessary to determine compliance with the Contract Documents will be paid for by Owner, with the cost thereof deducted from the Contract Sum by Modification.

B. Tests will be made in accordance with recognized standards by a competent, independent testing laboratory. Materials found defective or not in conformity with Contract Document requirements will be promptly replaced or repaired at the expense of Contractor.

C. Owner and Architect have the right to obtain samples of materials to be used in the Work and to test samples for determining whether they meet Contract Document requirements. Samples required for testing will be furnished by Contractor and selected as directed by Architect. Samples may be required from the sample's source, point of manufacture, point of delivery, or point of installation at Architect's discretion. Samples not required as a Submittal in the Specifications will be paid for by Owner. Should tests reveal a failure of the Sample to meet the Contract Document requirements, Contractor will provide other Samples that comply with the requirements of the Contract Documents.

END OF DOCUMENT

SUPPLEMENTARY CONDITIONS
FIXED SUM (U.S.)

ITEM 1 - GENERAL

1. Conditions of the Agreement and General Conditions apply to each Division of the Specifications.
2. Provisions contained in Division 01 apply to all Divisions of the Specifications.

ITEM 2 - LIQUIDATED DAMAGE AMOUNTS:

1. The amount of liquidated damages to the benefit of the Contractor for delays under General Conditions Section 7.3, Paragraph B is $200.00 per day.
2. The amount of liquidated damages to be paid to the Owner for delays in Substantial Completion under General Conditions Section 8.3, Paragraph A is $200.00 per day.
3. The amount of liquidated damages to be paid to the Owner for delays in completing work itemized on the Substantial Completion Certificate under General Conditions Section 8.3, Paragraph B is $100.00 per day.

ITEM 3 - PERMITS

1. Delete Section 3.6, Paragraph B of the General Conditions and replace with the following:

   B. Contractor will obtain and pay for the building permit, and all other permits, governmental fees, licenses and inspections necessary for the proper execution and completion of the Work. The Owner will reimburse the Contractor for these expenses upon receipt of all documentation of payment.

ITEM 4 - STATE SPECIFIC SUPPLEMENTARY CONDITIONS

RETENTION APPLIED TO CONTRACTOR PAYMENTS FOR PROJECTS IN UTAH:

Replace section 9.5.F of the General Conditions with the following:

F. In addition and notwithstanding the foregoing, Owner may also withhold and retain 5% of payments made to Contractor. These retention funds will be held in an interest bearing account.

PAYMENT OF RETAINED FUNDS IN UTAH:

Replace section 9.5 G of the General Conditions with the following:

G. After Contractor achieves Substantial Completion and submits its payment request for retained funds and delivers to the Architect Owner's form entitled "Contractor's Substantial Completion Affidavit and Consent of Surety" fully executed by Contractor and its surety, if any, and provides statutory Conditional Waiver and Release documents executed by all subcontractors and suppliers having claim against the retained funds, Owner will pay any unpaid retention less any amounts withheld pursuant to Section 9.4 within forty-five (45) days from the later of (a) the date Owner received Contractor's

payment request for retained funds and fully executed Contractor's Substantial Completion Affidavit and Consent of Surety, (b) the date a certificate of occupancy is issued; (c) the date that a building inspector having authority to issue its own certificate of occupancy does not issue that certificate but permits occupancy.

UTAH STATE SALES TAX:

Add the following to the General Conditions:

1. Contractors should be exempt on purchases of material installed or converted into real property to be used by the Owner. The Contractor will furnish each vendor with a completed Exemption Certificate Form TC-721. The certificate will be prepared by the Contractor for each vendor in order to obtain the exemption.
2. The Owner's tax exempt number is 11871701-002-STC.

UTAH NOTICE OF INTENT TO OBTAIN FINAL COMPLETION:

Add the following to the General Conditions:

A. Contractor will file with the State Construction Registry, on its own behalf and/or on behalf of Owner, a notice of intent to obtain final completion at least 45 days before the day on which the Owner or Contractor files or could file a notice of completion under Utah Code Ann. Section 38-1a-506 if:

1. The completion of performance time under the original contract for construction work is greater than 120 days;
2. The total original construction contract price exceeds $500,000; and
3. The original contractor or owner has not obtained a payment bond in accordance with Utah Code Ann. Section 14-2-1.

UTAH NOTICE OF COMPLETION:

Add the following to the General Conditions:

A. Within five (5) calendar days of final completion of the Project and in compliance with Section 38-1a-507 Utah Code Annotated, Contractor will file with the State Construction Registry, and copy to Owner, a notice of completion which will include, without limitation, the following:

1. The name, address, telephone number, and email address of the person filing the notice of completion;
2. The name of the county in which the Project and/or Project site is located;
3. The date on which final completion is alleged to have occurred;
4. The method used to determine final completion; and
5. One of the following:
    a. The tax parcel identification number of each parcel included in the Project and/or Project site;

b. The entry number of a preliminary notice on the same project that includes the tax parcel identification number of each parcel included in the Project and/or Project site; or

c. The entry number of the building permit issued for the Project.

B. Notwithstanding any other provision of the Contract Documents to the contrary, Contractor and Owner agree that any breach or failure to comply with this Section by the Contractor will constitute a breach of contract and the Contractor will be liable for any direct, indirect, or consequential damages to the Owner flowing from this breach.

UTAH PROGRESS PAYMENTS AND FINAL PAYMENT:

Replace Section 9.5.A of the General Conditions with the following:

9.5 PROGRESS PAYMENTS

A. Owner will pay Contractor progress payments within the parameters of Section 9.2 within fifteen (15) days after:

1. Contractor has submitted a progress payment request;
2. Contractor has obtained Conditional Waiver and Release Upon Progress Payment documents (in content complying with Utah Code § 38-1a-802) executed by each of the subcontractors performing work and/or providing materials covered by the Contractor's progress payment request; and
3. Owner receives the certified payment request from Architect.

Replace Section 9.6.A.3 of the General Conditions with the following:

9.6 FINAL PAYMENT

3. Contractor has obtained Waiver and Release Upon Final Payment documents (in content complying with Utah Code § 38-1a-802) executed by each of the subcontractors performing work and/or providing materials covered by the Contractor's final payment request;

END OF DOCUMENT

4884-7961-0114

SECTION 01 1100

SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements Summary of Work requirements.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provisions contained in Division 01 apply to Sections of Divisions 02 through 49 of Specifications. Instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, obligations set forth in Contract Documents are obligations of Contractor.

B. Contractor shall furnish total labor, materials, equipment, and services necessary to perform The Work in accordance with Contract Documents.

1.3 WORK BY OWNER

A. Owner will furnish and install some portions of The Work with its own forces. Contractor will be provided with schedule of when these items are to be performed.
   1. General:
      a. Complete work necessary to accommodate work to be performed by Owner before scheduled date for performance of such work. Contractor will be back charged for actual expenses incurred by Owner for failure to timely complete such work.
      b. Store and protect completed work provided by Owner until date of Substantial Completion.
   2. Work furnished and installed by Owner include, but are not limited to, following:
      a. Carpet and Carpet Base.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 1200

MULTIPLE CONTRACT SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Multiple Contracts.

1.2 SUMMARY OF CONTRACTS

A. Owner may issue separate contracts for operations scheduled to precede and be substantially completed before beginning of The Work under this Contract.
   1. Contractor will be given written notice from such contractors of any revisions to scheduled completion of their work at least 30 days in advance. Owner will reimburse Contractor for expenses incurred by Contractor by failure to be properly notified.

B. Owner has issued or will issue separate contracts for operations scheduled to be completed between Notice to Proceed and Substantial Completion.
   1. General:
      a. Schedule performance of work covered by such separate contracts in Contractor's Construction Schedule so as to avoid delays in Substantial Completion. Give written notice to such contractors and to Owner of any revisions to scheduled delivery and work dates at least 90 days in advance.
      b. Complete work necessary to accommodate items provided under such separate contracts before scheduled date for performance of such work. Contractor will be back charged for actual expenses incurred by Owner for failure to timely complete such work including, but not limited to, cost of crews during downtime or for call backs and costs to correct substrate deficiencies.
      c. Store and protect completed work provided under separate contracts until date of Substantial Completion.
   2. Accordion Folding Partitions. See Section 10 2233.
   3. Sheet Carpeting. See Section 09 6816.

C. Owner has issued or will issue separate contracts for operations normally scheduled to follow Substantial Completion.
   1. General:
      a. Give written notice to such contractors and to Owner of any revisions of scheduled date of Substantial Completion at least 90 days in advance. Contractor will be back charged for actual expenses incurred by Owner for failure to accurately report date of Substantial Completion.
      b. Complete work necessary to accommodate items provided under such separate contracts before Substantial Completion. Contractor will be back charged for actual expenses incurred by Owner for failure to complete such work before Substantial Completion.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 1400

WORK RESTRICTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Work Restrictions.

1.2 PROJECT CONDITIONS

A. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and their employees comply with following requirements:
   1. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
   2. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project site.
   3. Do not allow use of tobacco in any form on Project Site.
   4. Do not allow pornographic or other indecent materials on site.
   5. Do not allow work on Project site on Sundays except for emergency work.
   6. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.
   7. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
   8. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
   9. Do not build fires on Project Site.
   10. Do not allow weapons on Project Site, except those carried by law enforcement officers or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.

B. Existing Facilities:
   1. Reasonably accommodate use of existing facilities by Owner.

C. Do not load or permit any part of the structure to be loaded with a weight that will endanger its safety. Questions of structural loading as part of construction means and methods shall be addressed by a licensed structural engineer engaged by Contractor, subject to the review by Architect.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements to prepare and process Applications for Payments.

1.2 PAYMENT REQUESTS

A. Use Payment Request forms provided by Owner.

B. Each Payment Request will be consistent with previous requests and payments certified by Architect and paid for by Owner.

C. Request Preparation:
   1. Complete every entry on Payment Request form.
   2. Entries will match data on approved schedule of values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
   3. Submit signed Payment Request to Architect with current Construction Schedule.

D. Provide following submittals before or with submittal of Initial Payment Request:
   1. List of Subcontractors.
   2. Initial progress report.
   3. Contractor's Construction Schedule.
   4. Submittal Schedule.

E. Provide Affidavit of Contractor and Consent of Surety with Payment Request following Substantial Completion.

1.3 SCHEDULE OF VALUES

A. Submit schedule of values on Owner's standard form to Architect 20 days minimum before submission of Initial Payment Request as a necessary condition before payment will be processed. Coordinate preparation of schedule of values with preparation of Contractor's Construction Schedule. Correlate line items in Schedule of Values with other required administrative schedules and forms, including:
   1. Contractor's Construction Schedule.
   2. Payment Request form.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Project Management and Coordination on Projects.

1.2 PROJECT COORDINATION

A. This Project designation will be included on documents generated for Project by Contractor and Subcontractors, or be present on a cover letter accompanying such documents.

B. Project designation for this Project is LDS 504983021010101.

C. This Project designation will be included on documents generated for Project by Contractor and Subcontractors, or be present on a cover letter accompanying such documents.

1.3 MULTIPLE CONTRACT COORDINATION

A. Contractor shall be responsible for accurately maintaining and reporting schedule of The Work from Notice to Proceed to date of Substantial Completion.

B. Contractor shall be responsible for providing Temporary Facilities And Controls for those who perform work on Project from Notice to Proceed to date of Substantial Completion.

C. Contractor shall be responsible for providing Construction Waste Management And Disposal services for those who perform work on Project from Notice to Proceed to date of Substantial Completion.

D. Contractor shall be responsible for Final Cleaning for entire Project.

1.4 PROJECT MEETINGS AND CONFERENCES

A. Preconstruction Conference:
   1. Attend preconstruction conference and organizational meeting scheduled by Architect at Project site or other convenient location.
   2. Be prepared to discuss items of significance that could affect progress, including such topics as:
      a. Construction schedule.
      b. Critical Work sequencing.
      c. Current problems.
      d. Designation of responsible personnel.
      e. Distribution of Contract Documents.
      f. Equipment deliveries and priorities.
      g. General schedule of inspections by Architect and its consultants.
      h. General inspection of tests.
      i. Office, work, and storage areas.
      j. Preparation of record documents and O & M manuals.
      k. Procedures for processing interpretations and Modifications.
      l. Procedures for processing Payment Requests.
      m. Project cleanup.

n. Security.
o. Status of permits.
p. Submittal of Product Data, Shop Drawings, Samples, Quality Assurance / Control submittals.
q. Use of the premises.
r. Work restrictions.
s. Working hours.

3. Architect will record minutes of meetings and distribute copies to Owner and Contractor within three (3) working days.

B. Progress Meetings:
1. Attend progress meetings at Project site at regularly scheduled intervals determined by Architect, at least once a month.
2. Progress meetings will be open to Owner, Architect, Subcontractors, and anyone invited by Owner, Architect, and Contractor.
3. Be prepared to discuss items of significance that could affect progress, including following:
a. Progress since last meeting.
b. Whether Contractor is on schedule.
c. Activities required to complete Project within Contract Time.
d. Labor and materials provided under separate contracts.
e. Off-site fabrication problems.
f. Access.
g. Site use.
h. Temporary facilities and services.
i. Hours of work.
j. Hazards and risks.
k. Project cleanup.
l. Quality and Work standards.
m. Status of pending modifications.
n. Documentation of information for Payment Requests.
o. Maintenance of Project records.
4. Architect will prepare minutes of progress meetings and distribute copies of minutes to Owner and Contractor within three (3) working days.

C. Pre-Installation Conferences:
1. Attend pre-installation conferences specified in Contract Document.
a. If possible, schedule these conferences on same day as regularly scheduled Progress Meetings. If this is not possible, coordinate scheduling with Architect.
b. Request input from attendees in preparing agenda.
2. Be prepared to discuss following items:
a. Requirements of Contract Documents.
b. Completed work necessary for installation of items or systems.
c. Conditions not in compliance with installation requirements.
d. Installation and inspection schedule.
e. Coordination between trades.
f. Space and access limitations.
g. Testing.
3. Architect will prepare meeting minutes and distribute minutes to Owner and Contractor within three (3) working days.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for documenting the progress of construction during performance of the Work.

1.2 SCHEDULING OF WORK

A. Bar Chart Schedule:
   1. Submit horizontal bar chart schedule before Preconstruction Conference. Provide separate time bar for each construction activity listed on Owner's payment request form. Within each time bar, show estimated completion percentage. Provide continuous vertical line to identify first working day of each week. Show each activity in chronological sequence. Show graphically sequences necessary for completion of related portions of The Work. As The Work progresses, place contrasting mark in each bar to indicate actual completion.
   2. Provide copies of schedule for Architect and Owner and post copy in field office.
   3. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.
   4. Project Management Software Programs:
      a. Any software project management program capable of Bar Chart Scheduling for projects of equal size and complexity is approved by Contractor and approved by Owner's Project Manager.

B. Daily Construction Reports:
   1. Prepare daily reports of operations at Project including at least following information:
      a. List of Subcontractors at site.
      b. Approximate count of personnel at site by trade.
      c. High and low temperatures, general weather conditions.
      d. Major items of equipment on site.
      e. Materials, equipment, or Owner-furnished items arriving at or leaving site.
      f. Accidents and unusual events.
      g. Site or structure damage by water, frost, wind, or other causes.
      h. Meetings, conferences, and significant decisions.
      i. Visitors to the job including meeting attendees.
      j. Stoppages, delays, shortages, losses.
      k. Any tests made and their result if known.
      l. Meter readings and similar recordings.
      m. Emergency procedures.
      n. Orders and requests of governing authorities.
      o. Modifications received, carried out.
      p. Services connected, disconnected.
      q. Equipment or system tests and start-ups.
      r. Brief summary of work accomplished that day.
      s. Signature of person preparing report.
   2. Submit daily reports to Architect at least weekly.
   3. Maintain copies of daily reports at field office.

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 But is Not Limited To:
   1. Administrative and procedural requirements for Submittal Procedures.

B. Related Requirements:
   1. Section 01 7800: 'Closeout Submittals' for administrative and procedural requirements for closeout submittals.

1.2 SUBMITTAL SCHEDULE

A. Furnish submittal schedule within 20 days after receipt of Notice to Proceed, listing items specified to be furnished for review to Architect including product data, shop drawings, samples, and Informational submittals.
   1. Coordinate submittal schedule with Contractor's construction schedule.
   2. Enclose the following information for each item:
      a. Scheduled date for first submittal.
      b. Related Section number.
      c. Submittal category.
      d. Name of Subcontractor.
      e. Description of part of the Work covered.
      f. Scheduled date for resubmittal.
      g. Scheduled date for Architect's final release or approval.

B. Print and distribute copies to Architect and Owner and post copy in field office. When revisions are made, distribute to same parties and post in same location.

C. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.

1.3 SUBMITTAL PROCEDURES

A. Coordination:
   1. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
      a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
      b. Coordinate transmittal of different types of submittals required for related elements of The Work so processing will not be delayed by need to review submittals concurrently for coordination. Architect reserves right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
   2. Processing Time:
      a. Allow sufficient review time so installation will not be delayed by time required to process submittals, including time for resubmittals.
         1) Allow 21 days for initial review. Allow additional time if processing must be delayed allowing coordination with subsequent submittals. Architect will promptly advise Contractor when submittal being processed must be delayed for coordination.

2) If an intermediate submittal is necessary, process same as initial submittal.
3) Allow 10 days for reprocessing each submittal.
4) No extension of Contract Time will be authorized because of failure to transmit submittals to Architect in sufficient time before work is to be performed to allow processing.

3. Identification:
   a. Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
      1) Provide space approximately 4 by 5 inches on label or beside title block on Shop Drawings to record Contractor's review and approval markings and action taken.
      2) Include following information on label for processing and recording action taken:
         a) Project name.
         b) Date.
         c) Name and address of Architect.
         d) Name and address of Contractor.
         e) Name and address of Subcontractor.
         f) Name and address of supplier.
         g) Name of manufacturer.
         h) Number and title of appropriate Specification Section.
         i) Drawing number and detail references, as appropriate.
4. Transmittal:
   a. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using transmittal letter. On transmittal, record relevant information and requests for data. Include Contractor's certification that information complies with Contract Document requirements, or, on form or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations.
   b. Submittals received from sources other than Contractor or not marked with Contractor's approval will be returned without action.

1.4 ACTION SUBMITTALS

A. Product Data:
1. Submit Product Data, as required by individual Sections of Specifications.
2. Mark each copy of each set of submittals to show choices and options used on Project. Where printed Product Data includes information on products that are not required for Project, mark copies to indicate information relating to Project.
3. Certify that proposed product complies with requirements of Contract Documents. List any deviations from those requirements on form or separate sheet.
4. Submit electronic files PDF: Architect will return a PDF copy marked with action taken and with corrections or modifications required.

B. Shop Drawings:
1. Submit newly prepared graphic data to accurate scale. Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 36 by 48 inches (915 by 1 200 mm). Highlight, encircle, or otherwise show deviations from Contract Documents. Include following information as a minimum:
   a. Dimensions.
   b. Identification of products and materials included.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
2. Do not reproduce Contract Documents or copy standard information as basis of Shop Drawings. Standard printed information prepared without specific reference to Project is not acceptable as Shop Drawings.
3. Submit electronic files PDF: Architect will return a PDF copy marked with action taken and with corrections or modifications required.

C. Samples:

1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
    a. Mount, display, or package Samples to ease review of qualities specified. Prepare Samples to match samples provided by Architect, if applicable. Include following:
        1) Generic description of Sample.
        2) Sample source.
        3) Product name or name of manufacturer.
        4) Compliance with recognized standards.
        5) Availability and delivery time.
2. Submit Samples for review of kind, color, pattern, and texture, for final check of these characteristics with other elements, and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    a. Where variations in color, pattern, texture or other characteristics are inherent in material or product represented, submit set of three samples minimum that show approximate limits of variations.
    b. Refer to other specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
    c. Refer to other Sections for Samples to be returned to Contractor for incorporation into The Work. Such Samples shall be undamaged at time of use. On transmittal, indicate special requests regarding disposition of Sample submittals.
3. Where Samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit full set of choices for material or product. Preliminary submittals will be reviewed and returned with Architect's mark indicating selection and other action.
4. Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit three sets. One will be returned marked with action taken.
5. Samples, as accepted and returned by Architect, will be used for quality comparisons throughout course of construction.
    a. Unless noncompliance with Contract Documents is observed, submittal may serve as final submittal.
    b. Sample sets may be used to obtain final acceptance of construction associated with each set.

1.5 INFORMATIONAL SUBMITTALS

A. Informational submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports, and other documentary data affirming quality of products and installations. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required. [or] Submit electronic files: PDF. Architect will return a PDF copy marked with action taken and with corrections or modifications required.
    1. Certificates: Describe certificates intended to document affirmations by Contractor or others that the work is in accordance with the Contract Documents, but do not repeat provisions of Parts 2 or 3.
    2. Delegated Design Submittals / Design Data: Describe submittals intended to demonstrate design work prepared by Contractor’s licensed professionals.
    3. Test And Evaluation Reports: Describe submittal of test reports or evaluation service reports intended to document required tests.
    4. Manufacturer Instructions: Describe submittals intended to document manufacturer instructions.
    5. Source Quality Control Submittals: Describe submittal of source quality control documentation.
    6. Field Quality Control Submittals: Describe submittal of field quality control documentation.
    7. Manufacturer Reports: Describe submittal of Manufacturer reports as documentation of manufacturer activities.
    8. Special Procedure Submittals: Describe submittals intended to document special procedures. An example would be construction staging or phasing for remodeling an existing facility while

keeping it in operation. While the Contractor would normally be responsible for managing this, submittal of his plan as documentation could be specified.

9. Qualification Statements: Describe submittals intended to document qualifications of entities employed by Contractor.

1.6 CLOSEOUT SUBMITTALS

A. This title groups submittals that occur during project closeout. Coordinate with section 01 7800 Closeout Submittals.
   1. As Built Record Drawings as defined in the Agreement.
   2. Project Manual: Complete Project Manual including Addenda and Modifications as defined in General Conditions.
   3. Maintenance Contracts: Describe submittal of the maintenance contract specific to the Section.
   4. Operations & Maintenance Data: Describe submittal of operation and maintenance data necessary for products of the Section.
   5. Warranty Documentation: Describe submittal of final executed warranty document specific to the Section.
   6. Record Documentation: Describe submittal of record documentation specific to the Section.
   7. Software: Describe submittal system software and programming software specific to the Section.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. This title groups maintenance material required submittals specific to the Section. Items may be provided at completion of Work or submitted with section 01 7800 Closeout Submittals:
   1. Spare Parts: Describe spare parts necessary for Owner's use in facility operation and maintenance. 'Parts' are generally understood to be items such as filters, motor drive belts, lamps, and other similar manufactured items that require only simple replacement.
   2. Extra Stock Materials: Describe extra stock materials to be provided for Owner's use in facility operation and maintenance. Extra stock materials are generally understood to be items such as ceiling tiles, flooring, paint etc.
   3. Tools:
      a. Describe tools to be provided for Owner's use in facility operation and maintenance. Tools are generally understood to be wrenches, gauges, circuit setters, etc, required for proper operation or maintenance of a system.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3500

SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Special Procedures.

1.2 REFERENCES

A. Association Publications:
   1. U.S. Department of Labor, Occupational Safety and Health Administration:
      a. 29 CFR 1926 OSHA, 'Construction Industry Regulations' (January 2014 or latest version).
         1) 29 CFR 1926.20, 'General Safety And Health Provisions'.
         2) 29 CFR 1926.64, 'Hot Work Permit'.
         3) 29 CFR 1926.352, 'Fire Prevention'.
         4) 29 CFR 1926.500, 'Fall Protection'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Acceleration of Work:
   1. Complete The Work in accordance with Construction Schedule. If Contractor falls behind schedule, take such actions as are necessary, at no additional expense to Owner, to bring progress of The Work back in accordance with schedule.
   2. Owner may request proposal for completion of The Work at date earlier than expiration of Contract Time:
      a. Promptly provide requested proposal showing cost of such acceleration of The Work. Consult with Owner and Architect regarding possible options to decrease cost of such acceleration.
      b. If Owner determines to order acceleration of The Work, change in Contract Sum and Contract Time resulting from acceleration will be included in a Change Order.

1.4 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
   1. Meet regulations of 29 CFR 1926 OSHA, 'Construction Industry Regulations'.
   2. Owner's Safety Requirements:
      a. Personal Protection:
         1) Contractor shall ensure:
            a) Positive means of fall protection, such as guardrails system, safety net system, personal fall arrest system, etc, is provided to employees whenever exposed to a fall 6 feet (1.80 m) or more above a lower level.
            b) Personnel working on Project shall wear hard hats and safety glasses as required by regulation and hazard.
            c) Personnel working on Project shall wear long or short sleeve shirts, long pants, and hard-toed boots or other sturdy shoes appropriate to type and phase of work being performed.
      b. Contractor Tools And Equipment:
         1) Contractor shall ensure:

a) Tools and equipment are in good working condition, well maintained, and have necessary guards in place.
b) Ground Fault Circuit Interrupters (GFCI) is utilized on power cords and tools.
c) Scaffolding and man lifts are in good working condition, erected and maintained as required by governmental regulations.
d) Ladders are in good condition, well maintained, used as specified by Manufacturer, and secured as required.

c. Miscellaneous:
1) Contractor shall ensure:
a) Protection is provided on protruding rebar and other similar objects.
b) General Contractor Superintendent has completed the OSHA 10-hour construction outreach training course or equivalent.
c) Implementation and administration of safety program on Project.
d) Material Safety Data Sheets (MSDS) are provided for substances or materials for which an MSDS is required by governmental regulations before bringing on site.
e) Consistent safety training is provided to employees on Project.
f) Implement and coordinate Lockout / Tagout procedures with Owner's Representative as required.
2) Report accidents involving injury to employees on Project that require off-site medical treatment to Owner's designated representative.

d. Hot Work Permit:
1) Permit shall document that fire prevention and protection requirements in 29 CFR 1926.352, 'Fire Prevention' have been implemented prior to beginning hot work operations.
2) Required for doing hot work involving open flames or producing heat or sparks such as:
a) Brazing.
b) Cutting.
c) Grinding.
d) Soldering.
e) Thawing pipe.
f) Torch applied roofing.
g) Welding.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Related Requirements:
1. Section 01 3100: ‘Project Management and Coordination’ for Pre-Installation Conferences for testing and inspection.
2. Section 01 3200: ‘Construction Progress Documentation’ for developing a schedule of required tests and inspections.
3. Section 01 3300: ‘Submittal Procedures’.
4. Section 01 4301: ‘Quality Assurance – Qualifications’ establishes minimum qualification levels required.
5. Section 01 4523: ‘Testing and Inspecting Services’ for testing and inspection, and testing laboratory services for materials, products, and construction methods.
6. Section 01 7300: ‘Executions’ for cutting and patching for repair and restoration of construction disturbed by testing and inspecting activities.
7. Divisions 01 thru 49 establish responsibility for providing specific testing and inspections.

1.3 REFERENCES

A. Definitions:
1. Accreditation: Process in which certification of competency, authority, or credibility is presented. Verify that laboratories have an appropriate quality management system and can properly perform certain test methods (e.g., ANSI, ASTM, and ISO test methods) and calibration parameters according to their scopes of accreditation.
2. Approved: To authorize, endorse, validate, confirm, or agree to.
3. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with requirements indicated; and having complied with requirements of authorities having jurisdiction.
4. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a construction operation, including installation, erection, application, and similar operations.
    a. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of corresponding generic name.
5. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish standard by which the Work will be judged.

6. Observation: Visual observation of building / site elements or structural system by registered design professional for general conformance to approved construction documents at significant construction stages and at completion. Observation does not include or waive responsibility for performing inspections or special inspections.
7. Preconstruction Testing: Tests and inspections that are performed specifically for Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
8. Product Testing: Tests and inspections that are performed by testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
9. Service Provider: Agency or firm qualified to perform required tests and inspections.
10. Source Quality Control Testing: Tests and inspections that are performed at source, i.e., plant, mill, factory, or shop.
11. Testing Agency: Entity engaged to perform specific tests, inspections, or both.
12. Testing Agency Laboratory: Agency or firm qualified to perform field and laboratory tests to determine characteristics and quality of materials and workmanship.
13. Verification: Act of reviewing, inspecting, testing, etc. to establish and document that product, service, or system meets regulatory, standard, or specification requirements.

B. Reference Standards:
   1. International Code Council (IBC) (2015 or most recent edition adopted by AHJ):
      a. IBC Chapter 17, ‘Structural Tests and Special Inspections’.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Conflicting Requirements:
   1. General:
      a. If compliance with two or more standards is specified and standards establish different or conflicting requirements for minimum quantities or quality levels, comply with most stringent requirement.
      b. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
   2. Minimum Quantity or Quality Levels:
      a. Quantity or quality level shown or specified shall be minimum provided or performed.
      b. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits.
      c. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for context of requirements.
      d. Refer uncertainties to Architect for decision before proceeding.

B. Coordination:
   1. Coordinate sequence of activities to accommodate required quality assurance and quality control services with minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

C. Scheduling:
   1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.5 QUALITY ASSURANCE

A. Testing and inspecting services are used to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
   1. Specific quality assurance and quality control requirements for individual construction activities are specified in Sections that specify those activities and Section 01 4523. Requirements in those Sections may also cover production of standard products.

2. Specified tests, inspections, and related actions do not limit Contractor's other quality control procedures that facilitate compliance with Contract Document requirements.
3. Requirements for Contractor to provide quality assurance and quality control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

B. Quality Assurance Services:
1. Activities, actions, and procedures performed before and during execution of the Work to verify compliance and guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
2. Owner or Owner’s designated representative(s) will perform quality assurance to verify compliance with Contract Documents.

C. Activities performed by Owner’s Quality Assurance Testing Agency include, but are not limited to following:
1. Individual Sections in Division 01 through Division 49:
a. Pre-Installation Conference agenda review items for:
1) Schedule requirements.
2) Testing and inspection requirements:
3) Requirements and frequency of testing and inspections.
4) Mock-up or sample requirements.
5) Submittals requirements.
b. Quality Assurance personal qualifications.
1) Qualification documentation including certificates if required.
c. Non-Conforming Work:
1) Prepare non-compliance log to track non-compliant testing or inspections.
2. Weekly Activities:
a. Summarize and track any non-compliance issues.
b. Provide summary report of previous week’s performed Work.
c. Visit contractors periodically to find out if they have any concerns with Quality Assurance inspectors and check on any schedule changes.
d. Visit Owner’s Representatives periodically to find out if they have any concerns with how project is progressing.

1.6 QUALITY CONTROL

A. Quality Control Services:
1. Quality Control will be sole responsibility of Contractor.
a. Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements performed by Contractor:
1) They do not include inspections, tests or related actions performed by Architect, Owner, governing authorities or independent agencies hired by Owner or Architect.
2) Quality assurance performed by Owner will be used to validate Quality Control performed by Contractor.
b. Where services are indicated as Contractor's responsibility, engage a qualified Testing Agency to perform these quality control services.
1) Contractor shall not employ same testing entity engaged by Owner, without Owner’s written approval.

B. Manufacturer's Field Services: Where indicated, engage factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 3300: 'Submittal Procedures'.

C. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality control services, and provide reasonable auxiliary services as requested. Notify Testing Agency sufficiently in advance of operations to permit assignment of personnel. Provide following:
1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist Testing Agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require quality control by Testing Agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections:
1. Civil And Structural Testing:
   a. Civil and structural field tests, laboratory testing, and inspections are provided by Owner's independent Testing Agency as specified in Section 01 4523 'Testing And Inspection Services'. Quality Control is sole responsibility of Contractor:
      1) Owner's employment of an independent Testing Agency does not relieve Contractor of Contractor's obligation to perform testing and inspection as part of his Quality Control:
         a) Testing and inspections, if performed by Contractor, will be responsibility of Contractor to be performed by an independent entity.
      2) Contractor bears full responsible for compliance with all contract requirements and quality control on project and will be responsible for quality of asphalt mixture and asphalt installation.
   b. Weekly Activities:
      1) Ensure that non-compliance log is current.
      2) Provide summary reports of performed Work.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
2. Comply with Contract Document requirements for Section 01 7300 'Execution' for cutting and patching.

B. Protect construction exposed by or for Quality Assurance and Quality Control activities.

C. Repair and protection are Contractor's responsibility, regardless of assignment of responsibility for Quality Assurance and Quality Control Services.

END OF SECTION

SECTION 01 4200

REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Reference standards, definitions, specification format, and industry standards.

1.2 REFERENCES

A. Definitions:
   1. Approved: The term "approved," when used to convey Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
   2. Directed: The term "directed" is a command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," and "permitted" have the same meaning as "directed."
   3. Experienced: The term "experienced," when used with an entity, means having successfully completed a minimum often previous projects similar in size and scope to this Project; being familiar with the special requirements indicated, and having complied with requirements of authority having jurisdiction.
   4. Furnish: The term "furnish" means supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
   5. General: Basic Contract definitions are included in the Conditions of the Contract.
   6. Indicated: The term "indicated" refers to requirements expressed by graphic representations, or in written form on Drawings, in Specifications, and in other Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
   7. Install: The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
   8. Installer: An "Installer" is the Contractor, or another entity engaged by the Contractor, as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
   9. Project Site: The term "Project site" means the space available for performing construction activities. The extent of the Project site is shown on the Drawings and mayor may not be identical with the description of the land on which the Project is to be built.
   10. Provide: The term "provide" means to furnish and install, complete and ready for the intended use.
   11. Regulations: The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
   12. Submitted: The terms "submitted," "reported," "satisfactory" and similar words and phrases means submitted to Architect, reported to Architect and similar phrases.
   13. Testing Agencies: A "testing agency" is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, or to report on and, if required, to interpret results of those inspections or tests.
   14. Trades: Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

B. References Standards:

1. Specification Format: Specifications will follow MasterFormat™ 2004 for organizing numbers and titles. (The Construction Specifications Institute, Project Resource Manual/CSI Manual of Practice, 5th *Edition*. New York, McGraw-Hill, 2005).
   a. Specification Identifications:
      1) The Specifications use section numbers and titles to help cross referencing in the Contract Documents.
      2) Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.
   b. Specification Language:
      1) Specifications should be prepared, with concern and respect for their legal status. Specifications should be Clear, Concise, Correct and Complete.
      2) Streamlining: Streamlining is used to list products, materials, reference standards, and other itemized specifications. This technique places the subject first and provides keywords for quick reference
   c. Sentence Structure:
      1) Specifications to be written in the “Imperative Mood”.
         a) The verb that clearly defines the action becomes the first word in the sentence.
         b) The imperative sentence is concise and readily understandable.
      2) Streamlining is used to list products, materials, reference standards, and other itemized specifications. This technique places the subject first and provides keywords for quick reference.
   d. Abbreviated Language:
      1) Abbreviations should be used only on drawings and schedules where space is limited.
      2) Abbreviations with multiple meanings should be avoided, unless used in different disciplines where their meaning is clear from the context in which they are used.
      3) Abbreviations should be limited to five or fewer letters
         a) The verb that clearly defines the action becomes the first word in the sentence.
   e. Symbols:
      1) Caution should apply to symbols substituted for words or terms.
   f. Numbers:
      1) The use of Arabic numerals rather that words for numbers is recommended.

C. Industry Standards:
   1. Except where Contract Documents specify otherwise, construction industry standards will apply and are made a part of Contract Documents by reference.
   2. Where compliance with two or more standards is specified and standards apparently establish different or conflicting requirements for minimum quantities or quality levels, refer to Architect for decision before proceeding. Quantity or quality level shown or specified will be minimum provided or performed. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for context of requirements. Refer uncertainties to Architect for decision before proceeding.
   3. Each entity engaged in construction on Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with Contract Documents. Where copies of standards are needed for performance of a required construction activity, Contractor will obtain copies directly from publication source.
   4. Trade Association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in Contract Documents, are defined to mean association names. Names and addresses are subject to change and are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.

AABC	Associated Air Balance Council	Washington	DC	(202) 737-0202	www.aabchq.com
AAMA	American Architectural Manufacturers Association	Schaumburg	IL	(847) 303-5664	www.aamanet.org
AASHTO	American Association of State Highway & Transportation Officials	Washington	DC	(202) 624-5800	www.aashto.org

AAMA	American Architectural Manufacturers Association	Schamumburg	IL	(847) 303-5774	www.aamanet.org
AASHTO	American association of State Highways and Transportation Officials	Washington	DC		www.transportation.org www.aashto.org
ACI	American Concrete Institute International	Farmington Hills	MI	(248) 848-3700	www.aci-int.org
AGA	American Gas Association	Washington	DC	(202) 824-7000	www.aga.org
AHRI	Air Conditioning Heating & Refrigeration Institute	Arlington	VA	(703) 524-8800	www.ari.org
AIA	American Institution of Architects	Washington	DC	(202) 626-7300	www.aia.org
AISC	American Institute of Steel Construction	Chicago	IL	(312) 670-2400	www.aisc.org
AISI	American Iron & Steel Institute	Washington	DC	(202) 452-7100	www.steel.org
AITC	American Institution of Timber Construction	Englewood	CO	(303) 792-9559	www.aitc-glulam.org
AMCA	Air Movement & Control Association International	Arlington Heights	IL	(847) 394-0150	www.amca.org
ANSI	American National Standards Institute	New York	NY	(212) 642-4900	www.ansi.org
APA	APA-Engineered Wood Association	Tacoma	WA	(253) 565-6600	www.apawood.org
API	American Petroleum Institute	Washington	DC	(202) 682-8000	www.api.org
AQMD	South Coast Air Quality Management District	Diamond Bar	CA	(909) 396-2000	www.aqmd.gov
ASHRAE	American Society of Heating, Refrigerating, & Air-Conditioning Engineers	Atlanta	GA	(404) 636-8400	www.ashrae.org
ASME	American Society of Mechanical Engineers International	New York	NY	(800) 843-2763	www.asme.org
ASTM	ASTM International	West Conshohocken	PA	(610) 832-9500	www.astm.org
AWI	Architectural Woodwork Institute	Potomac Falls	VA	(571) 323-3636	www.awinet.org
AWPA	American Wood Protection Association	Birmingham	AL	(205) 733-4077	www.awpa.com
AWS	American Welding Society	Miami	FL	(800) 443-9353	www.aws.org
AWWA	American Water Works Assoc	Denver	CO	(303) 794-7711	www.awwa.org
BHMA	Builders Hardware Manufacturers Association	New York	NY	(212) 297-2122	www.buildershardware.com
BIA	Brick Industry Association	Reston	VA	(703) 620-0010	www.bia.org
CFI	International Certified Floorcovering Installers, Inc.	Kansas City	MO	(816) 231-4646	www.cfi-installers.org
CRI	Carpet & Rug Institution	Dalton	GA	(706) 278-3176	www.carpet-rug.com
CRSI	Concrete Reinforcing Steel Institute	Schaumburg	IL	(847) 517-1200	www.crsi.org
CISPI	Cast Iron Soil Pipe Institute	Chattanooga	TN	(423) 892-0137	www.cispi.org
DHI	Door & Hardware Institute	Chantilly	VA	(703) 222-2010	www.dhi.org
DIPRA	Ductile Iron Pipe Research Association.	Birmingham	AL	(205) 402-8700	www.dipra.org
EIMA	EIFS Industry Members Association	Morrow	GA	(800) 294-3462	www.eima.com
FM	FM Global	Johnston	RI	(401) 275-3000	www.fmglobal.com

FSC	Forest Stewardship Council	Bonn, Germany		+49 (0) 228 367 66 0	www.fsc.org
GA	Gypsum Association	Hyattsville	MD	(301) 277-8686	www.gypsum.org
GS	Green Seal	Washington	DC	(202) 872-6400	www.greenseal.org
HPVA	Hardwood Plywood & Veneer Association	Reston	VA	(703) 435-2900	www.hpva.org
ICC	International Code Council	Washington	DC	(888) 422-7233	www.iccsafe.org
ICC-ES	ICC Evaluation Service	Whittier	CA	(562) 699-0543	www.icc-es.org
ICBO	International Conference of Building Officials				(See ICC)
ISO	International Organization for Standardization	Geneva, Switzerland			www.iso.org
ISSA	International Slurry Surfacing Association	Annapolis	MD	(410) 267-0023	www.slurry.org
KCMA	Kitchen Cabinet Manufactures Association	Reston	VA	(703) 264-1690	www.kcma.org
LPI	Lightning Protection Institute	Maryville	MO	(800) 488-6864	www.lightning.org
MFMA	Maple Flooring Manufacturers' Association	Deerfield	IL	(888) 480-9138	www.maplefloor.org
MSS	Manufacturer's Standardization Society of The Valve and Fittings Industry	Vienna	VA	(703) 281-6613	www.mss-hq.com
NAAMM	National Association of Architectural Metal Manufacturers	Glen Ellyn	IL	(630) 942-6591	www.naamm.org
NEC	National Electric Code	(from NFPA).			
NEMA	National Electrical Manufacturer's Association	Rosslyn	VA	(703) 841-3200	www.nema.org
NFPA	National Fire Protection Association	Quincy	MA	(800) 344-3555	www.nfpa.org
NFRC	National Fenestration Rating Council	Greenbelt	MD	(301) 589-1776	www.nfrc.org
NSF	NSF International	Ann Arbor	MI	(734) 769-8010	www.nsf.org
PCA	Portland Cement Association	Skokie	IL	(847) 966-6200	www.cement.org
PCI	Precast / Prestressed Concrete Institute	Chicago	IL	(312) 786-0300	www.pci.org
PEI	Porcelain Enamel Institute	Norcross	GA	(770) 676-9366	www.porcelainenamel.com
RFCI	Resilient Floor Covering Institute	LaGrange	GA	(706) 882-3833	www.rfci.com
SCTE	Society of Cable Telecommunications Engineers	Exton	PA	(800) 542-5040	www.scte.org
SDI	Steel Deck Institute	Fox River Grove	IL	(847) 458-4647	www.sdi.org
SDI	Steel Door Institute	Westlake	OH	(440) 899-0010	www.steeldoor.org
SIGMA	Sealed Insulating Glass Manufacturer's Association	Chicago	IL	(312) 644-6610	www.arcat.com
SJI	Steel Joist Institute	Myrtle Beach	SC	(843) 293-1995	www.steeljoist.org
SMACNA	Sheet Metal & Air Conditioning Contractors National Association	Chantilly	VA	(703) 803-2980	www.smacna.org
SPIB	Southern Pine Inspection Bureau	Pensacola	FL	(850) 434-2611	www.spib.org
SSMA	Steel Stud Manufacturer's Association	Glen Ellyn	IL	(630) 942-6592	www.ssma.com
TCNA	Tile Council of North America	Anderson	SC	(864) 646-8453	www.tileusa.com
TPI	Truss Plate Institute	Alexandria	VA	(703) 683-1010	www.tpinst.org

TPI	Turfgrass Producers International (formally American Sod Producers Association)	East Dundee	IL	(847) 649-5555	www.turfgrasssod.org
UL	Underwriters Laboratories	Camas	WA	(877) 854-3577	www.ul.com
WDMA	Window and Door Manufacturer's Association	Chicago	IL	(312) 321-6802	www.nwwda.org
WWPA	Western Wood Products Association	Portland	OR	(503) 224-3930	www.wwpa.org

D. Federal Government Agencies:
1. Names and titles of federal government standard or specification producing agencies are often abbreviated. Following acronyms or abbreviations referenced in Contract Documents represent names of standard or specification producing agencies of federal government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.

CS	Commercial Standard (U S Department of Commerce)	Washington	DC	(202) 512-0000	www.doc.gov
EPA	Environmental Protection Agency	Washington	DC	(202) 272-0167	www.epa.gov
FCC	Federal Communications Commission	Washington	DC	(888) 225-5322	www.fcc.gov
FS	Federal Specifications Unit (Available from GSA)	Washington	DC	(202) 619-8925	www.gsa.gov
MIL	Military Standardization Documents (U S Department of Defense)	Philadelphia	PA	(215) 697-2179	www.dod.gov
NIST	National Institute of Standards and Technology, technology Administration (US Department of Commerce)	Gaithersburg	MD	(301) 975-4500	www.ts.nist.gov
OSHA	Occupational Safety & Health Administration (U S Department of Labor)	Washington	DC	202) 219-8148	www.osha.gov
PS	Product Standard of NBS (U S Department of Commerce)	Washington	DC	(202) 512-1800	www.doc.gov

E. Governing Regulations / Authorities:
1. Contact authorities having jurisdiction directly for information and decisions having a bearing on the Work.
2. Obtain copies of regulations required to be retained at Project Site, available for reference by parties who have a reasonable need for such reference.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 4301

QUALITY ASSURANCE - QUALIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Related Documents:
   1. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

B. Related Requirements:
   1. Section 01 4000: 'Quality Requirements' includes administrative and procedural requirements for quality assurance and quality control.
   2. Section 01 4523: 'Testing and Inspecting Services' for testing and inspection, and testing laboratory services for materials, products, and construction methods.

1.2 REFERENCES

A. Definitions:
   1. Accreditation: Process in which certification of competency, authority, or credibility is presented. Verify that laboratories have an appropriate quality management system and can properly perform certain test methods (e.g., ANSI, ASTM, and ISO test methods) and calibration parameters according to their scopes of accreditation.
   2. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
   3. Testing Agency: Entity engaged to perform specific tests, inspections, or both.
   4. Testing Agency Laboratory: Agency or firm qualified to perform field and laboratory tests to determine characteristics and quality of materials and workmanship.

B. Reference Standards:
   1. ASTM International:
      a. ASTM E329-18, 'Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.'

1.3 QUALIFICATIONS

A. Qualifications: Qualifications paragraphs in this Article establish minimum qualification levels required; individual Specification Sections specify additional requirements:
   1. Manufacturers / Distributors / Fabricator / Suppliers / Installers Qualifications: Firm experienced in producing products similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units.
      a. Owner established Relationships:
         1) Where heading 'Category One, Two, or Three Approved' *Manufacturers / Suppliers / Distributors / Installers*' is used to identify list Owner established Relationships, Owner has established relationships that extend beyond requirements of this Project.
         2) No other *Manufacturers / Suppliers / Distributors / Installers* will be acceptable.
         3) Follow specified procedures to preserve relationships between Owner and specified *Manufacturers / Suppliers / Distributors / Installers* and advantages that accrue to Owner from those relationships.
         4) Following areas of the Work have restrictions on sub-bids by Contractor:

a) Architectural Woodwork, Section 06 4001: Category Three Approved, no other Fabricator accepted except approved Alternate Fabricator.
b) Common Finish Hardware Requirements, Section 08 7101: Category Three Approved, no other Supplier accepted:
(1) Accessories, Section 08 7109.
(2) Hanging Devices, Section 08 7102.
(3) Securing Devices, Section 08 7103.
(4) Stops and Holders, Section 08 7108.
c) Flush Wood Doors: Factory Finished, Clear, Section 08 1429: Category Three Approved, no other Supplier accepted.
d) Sheet Carpeting, Section 09 6816: Category One Approved, no other Manufacturer / Installers accepted.

b. Approved:
1) Where heading '*Approved Suppliers / Distributors / Installers / Applicators / Fabricators*' is used to identify list of specified suppliers / distributors / installers / applicators / fabricators, use only listed suppliers / installers / fabricators.
2) No substitutions will be allowed.
3) Following areas of the Work have restrictions on sub-bids by which may be accepted by Contractor:
a) Architectural Woodwork, Sections 06 4001: Alternate Fabricator approved by Architect before bidding.
b) Rough Carpentry, Sections 06 1100, 06 1636, 06 1712, 06 1733, and 06 1800: Alternate Supplier approved by Architect before bidding.

2. Factory-Authorized Service Representative Qualifications:
a. Authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
3. Installer Qualifications:
a. Firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
4. Manufacturer Qualifications:
a. Firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
5. Manufacturer's Field Services Qualifications:
a. Experienced authorized representative of manufacturer to inspect field-assembled components and equipment installation, including service connections.
6. Professional Engineer Qualifications:
a. Professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
7. Specialists:
a. Certain sections of Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations.
b. Specialists shall satisfy qualification requirements indicated and shall be engaged for activities indicated.
c. Requirement for specialists shall not supersede building codes and regulations governing the Work.
8. Testing Agency Qualifications:
a. Independent Testing Agency with experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1) Testing Laboratory:
a) AASHTO Materials Reference Laboratory (AMRL) Accreditation Program.
b) Cement and Concrete Reference Laboratory (CCRL).
c) Nationally Recognized Testing Laboratory (NRTL): Nationally recognized testing laboratory according to 29 CFR 1910.7.

d) National Voluntary Laboratory (NVLAP): Testing Agency accredited according to National Institute of Standards and Technology (NIST) Technology Administration, U. S. Department of Commerce Accreditation Program.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6100

COMMON PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Common Product Requirements.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Provide products that comply with Contract Documents, that are undamaged, and, unless otherwise indicated, new and unused at time of installation. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.

B. Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on surfaces of products that will be exposed to view in occupied spaces or on building exterior.
   1. Locate required product labels and stamps on concealed surface or, where required for observation after installation, on accessible surface that is not conspicuous.
   2. Provide permanent nameplates on items of service-connected or power-operated equipment. Locate on easily accessible surface that is inconspicuous in occupied spaces. Nameplate will contain following information and other essential operating data:
      a. Name of product and manufacturer.
      b. Model and serial number.
      c. Capacity.
      d. Speed.
      e. Ratings.

C. Where specifications describe a product or assembly by specifying exact characteristics required, with or without use of brand or trade name, provide product or assembly that provides specified characteristics and otherwise complies with Contract requirements.

D. Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by manufacturer for application described. General overall performance of product is implied where product is specified for specific application. Manufacturer's recommendations may be contained in published product literature, or by manufacturer's certification of performance.

E. Where specifications only require compliance with an imposed code, standard, or regulation, select product that complies with standards, codes or regulations specified.

F. Where Specifications require matching an established Sample, Architect's decision will be final on whether proposed product matches satisfactorily. Where no product available within specified category matches satisfactorily nor complies with other specified requirements, refer to Architect.

G. Where specified product requirements include phrase ` . . . *as selected from manufacturer's standard colors, patterns, textures* . . . ' or similar phrase, select product and manufacturer that comply with other specified requirements. Architect will select color, pattern, and texture from product line selected.

H. Remove and replace products and materials not specified in Contract Documents but installed in the Work with specified products and materials at no additional cost to Owner and for no increase in Contract time.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6200

PRODUCT OPTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Product Options.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Product Selection:
   1. When option of selecting between two or more products is given, product selected will be compatible with products previously selected, even if previously selected products were also options.
      a. Regional materials.

B. Non-Conforming Work:
   1. Non-conforming work as covered in Article 12.3 of General Conditions applies, but is not limited, to use of non-specified products or manufacturers.

C. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include:
   1. Substitutions And Equal Products:
      a. Generally speaking, substitutions for specified products and systems, as defined in the Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
      b. Approved Products / Manufacturers / Suppliers / Distributors / Fabricators / Installers:
         1) Category One:
            a) Owner has established ‘Relationships’ that extend beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
            b) Specification Sections specify Owner Furnished and Owner Installed Manufacturers or Products.
            c) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
         2) Category Two:
            a) Owner has established ‘Relationships' that contain provisions extending beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
            b) Specification Sections specify Owner Furnished and Contractor Installed Manufacturers, Suppliers, Distributors or Products.
            c) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
         3) Category Three:
            a) Owner has established ‘Relationships' that contain provisions extending beyond requirements of this Project. Use these products to preserve advantages that accrue to Owner from those programs. No substitutions or equal products will be allowed on this Project.
            b) Specification Sections specify Contractor Furnished and Contractor Installed Manufacturers, Suppliers, Distributors, Fabricators or Products.
         4) Category Four:

a) Provide only specified products available from manufacturers listed. No substitutions, private-labeled, or equal products, or mixing of manufacturers' products is allowed on this Project.
b) In Sections where lists recapitulating Manufacturers previously mentioned in Section are included under heading '*Manufacturers*' or '*Approved Manufacturers*', this is intended as a convenience to Contractor as a listing of contact information only. It is not intended that all manufacturers in list may provide products where specific products and manufacturers are listed elsewhere in Section.

c. Acceptable Products / Manufacturers / Suppliers / Installers:
1) Type One: Use specified products / manufacturers unless approval to use other products / manufacturers has been obtained from Architect by Addendum.
2) Type Two: Use specified products / manufacturers unless approval to use other products and manufacturers has been obtained from Architect in writing before installing or applying unlisted or private-labeled products.
3) Use 'Equal Product Approval Request Form' to request approval of equal products, manufacturers, or suppliers before bidding or before installation, as noted in individual Sections.

d. Quality / Performance Standard Products / Manufacturers:
1) Class One: Use specified product / manufacturer or equal product from specified manufacturers only.
2) Class Two: Use specified product / manufacturer or equal product from any manufacturer.
3) Products / manufacturers used shall conform to Contract Document requirements.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6400

OWNER - FURNISHED PRODUCTS

PART 1 - GENERAL

1.1 SUMMARY

A. Administrative and procedural requirements for Owner-Furnished Products. Install items furnished by Owner or receive and store in safe condition items purchased directly by Owner according to requirements of Contract Documents:
   1. Fixed Chalkboards. See Section 10 1113.

1.2 ADMINISTRATIVE REQUIREMENTS

A. General:
   1. Review 'Contractor Notice of Owner Furnished Materials' notice listing Owner-furnished products to be delivered for Project:
      a. Review due (delivery) dates and vendor lead times for each item and coordinate with construction schedule. Immediately report recommended changes to Owner's Purchasing Coordinator listed in 'Contractor Notice of Owner Furnished Materials'. Contact vendors directly if changes to delivery dates become necessary during construction.
      b. Report problems in coordinating due (delivery) dates with construction schedule to Architect and Owner's Purchasing Coordinator.
   2. Receive unload, store and protect Owner-furnished materials and products.
      a. Provide labor and equipment necessary to receive, unload, and store materials and products.
      b. Count number of pieces received and note any discrepancies on Delivery Receipt before driver leaves:
         1) Compare ' Contractor Notice of Owner Furnished Materials' notice' with packing slips.
         2) Note discrepancies in number, size, color, model numbers, etc. on Delivery Receipt.
      c. Include Project Name and Project Number on Delivery Receipt.
      d. Check for visible evidence of damage such as holes, tears, or crushed portions of cartons and note on Delivery Receipt before driver leaves:
         1) Include Project Name and Project Number on Delivery Receipt.
         2) If you are unsure if carton is damaged, take photo of cartons and share it with Owner's Purchasing Coordinator.
      e. Properly store and protect all deliveries of Owner Furnished materials and Products.
   3. Within forty-eight (48) hours of delivery:
      a. Open and inspect each piece of freight delivered. Take picture of any concealed damage not reported at time of delivery and report it to Owner's Purchasing Coordinator.
      b. Compare 'Contractor Notice of Owner Furnished Materials' with packing slips. Note discrepancies in number, size, color, model numbers, etc.
      c. Deliver copy of Delivery Receipt (bill of lading) on which you have noted any loss or damage to Owner's Purchasing Coordinator. Include in your submission any report of concealed damage, discrepancies or photos.
   4. Failure to strictly follow above procedures will result in your assumption of all financial responsibility for this shipment. All replacement and reorders must be made through Owner's Purchasing Coordinator and must allow Owner's vendor sufficient lead time to produce and ship new product.
   5. When above procedures are strictly followed, shortages and damaged items will be replaced by Owner at Owner's cost.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6600

PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Product Delivery, Storage, and Handling Requirements.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1.3 DELIVERY AND ACCEPTANCE REQUIREMENTS

A. Schedule delivery to reduce long-term storage at site and to prevent overcrowding of construction spaces.

B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

C. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

D. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.

1.4 STORAGE AND HANDLING REQUIREMENTS

A. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.

B. Store heavy materials away from Project structure so supporting construction will not be endangered.

C. Store products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 7300

EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for governing Execution of the Work.

1.2 COMMON INSTALLATION PROVISIONS

A. Manufacturer's Instructions: Comply with Manufacturer's installation instructions and recommendations to extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents. Notify Architect of conflicts between Manufacturer's installation instructions and Contract Document requirements.

B. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line and level. Anchor each product securely in place, accurately located, and aligned with other Work. Allow for expansion and building movement.

C. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain best visual effect. Refer questionable choices to Architect for final decision.

D. Install each component during weather conditions and Project status that will ensure best possible results. Isolate each part of completed construction from incompatible material as necessary to prevent deterioration.

E. Coordinate temporary enclosures with required inspections and tests, to reduce necessity of uncovering completed construction for that purpose.

F. Mounting Heights: Where mounting heights are not shown, install individual components at standard mounting heights recognized within the industry or local codes for that application. Refer questionable mounting height decisions to Architect for final decision.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 7400

CLEANING AND WASTE MANAGEMENT

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Administrative and procedural requirements for Cleaning and Waste Management as described in Contract Documents.

B. Related Requirements:
   1. Section 01 1200: Coordination of responsibilities for waste management.
   2. Section 01 6400: Waste removal of Owner furnished products.
   3. In addition to standards described in this section, comply with all requirements for cleaning-up as described in various other Sections of these Specifications.

1.2 REFERENCES

A. Definitions:
   1. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
   2. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
   3. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
   4. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
   5. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
   6. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
   7. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.

B. Keep premises broom clean during progress of the Work.

C. Keep site and adjoining streets reasonably clean. If necessary, sprinkle rubbish and debris with water to suppress dust.

D. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.

E. Clean and maintain completed construction as frequently as necessary throughout construction period. Adjust and lubricate operable components to ensure ability to operate without damaging effects.

F. Supervise construction activities to ensure that no part of construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

G. Before and during application of painting materials, clear area where such work is in progress of debris, rubbish, and building materials that may cause dust. Sweep floors and vacuum as required and take all possible steps to keep area dust free.

H. Clean exposed surfaces and protect as necessary to avoid damage and deterioration.

I. Place extra materials of value remaining after completion of associated work have become Owner's property as directed by Owner or Architect.

J. Construction Waste Management And Disposal:
   1. Remove waste materials and rubbish caused by employees, Subcontractors, and contractors under separate contract with Owner and dispose of legally. Remove unsuitable or damaged materials and debris from building and from property.
      a. Provide adequate waste receptacles and dispose of materials when full.
      b. Properly store volatile waste and remove daily.
      c. Do not deposit waste into storm drains, sanitary sewers, streams, or waterways. Do not discharge volatile, harmful, or dangerous materials into drainage systems.
   2. Do not burn waste materials or build fires on site. Do not bury debris or excess materials on Owner's property.

3.2 FINAL CLEANING

A. Immediately before Substantial Completion, thoroughly clean building and area where The Work was performed. Remove all rubbish from under and about building, landscaped areas and parking lot and leave building and Project Site ready for occupancy by Owner.

B. Comply with individual manufacturer's cleaning instructions.

C. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program, including but not limited to:
   1. Interior Cleaning:
      a. Clean inside glazing, exercising care not to scratch glass.
      b. Remove marks, stains, fingerprints and dirt.
      c. Clean and polish woodwork and finish hardware.
      d. Remove labels that are not permanent labels.
      e. Clean plumbing fixtures and tile work. Remove spots, soil or paint.
      f. Clean surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures and lamps.
      g. Clean other fixtures and equipment and remove stains, paint, dirt, and dust.
      h. Remove temporary floor protection and clean floors.

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Closeout Procedures.

1.2 GENERAL

A. Closeout process consists of three specific project closeout inspections. Contractor shall plan sufficient time in construction schedule to allow for required inspections before expiration of Contract Time.

B. Contractor shall conduct his own inspections of The Work and shall not request closeout inspections until The Work of the contract is reasonably complete and correction of obvious defects or omissions are complete or imminent.

C. Date of Substantial Completion shall not occur until completion of construction work, unless agreed to by Architect and included on Certificate of Substantial Completion.

1.3 PRELIMINARY CLOSEOUT REVIEW

A. When Architect, Owner and Contractor agree that project is ready for closeout, Pre-Substantial Inspection shall be scheduled. Preparation of floor substrate to receive carpeting and any work which could conceivably damage or stain carpet must be completed, as carpet installation will be scheduled immediately following this inspection.

B. Prior to this inspection, completed test and evaluation reports for HVAC system and font, where one occurs, are to be provided to Project Manager, Architect, and applicable consultants.

C. Architect and his appropriate consultants, together with Contractor and mechanical, plumbing, fire protection, and electrical sub-contractors shall conduct a space by space and exterior inspection to review materials and workmanship and to demonstrate that systems and equipment are operational.
   1. Punch list of items requiring completion and correction will be created.
   2. Time frame for completion of punch list items will be established, and date for Substantial Completion Inspection shall be set.

1.4 SUBSTANTIAL COMPLETION INSPECTION

A. When Architect, Owner and Contractor agree that project is ready for Substantial Completion, an inspection is held. Punch list created at Pre-Substantial Inspection is to be substantially complete.

B. Prior to this inspection, Contractor shall discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.

C. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
   1. Date of Substantial Completion.
   2. Punch List Work not yet completed, including seasonal and long lead items.

3. Amount to be withheld for completion of Punch List Work.
4. Time period for completion of Punch List Work.
5. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List Work within time set forth in Certificate.

D. Contractor shall present Closeout Submittals to Architect and place tools, spare parts, extra stock, and similar items required by Contract Documents in locations as directed by Facilities Manager.

1.5 FINAL ACCEPTANCE MEETING

A. When punch list items except for any seasonal items or long lead items which will not prohibit occupancy are completed, Final Acceptance Meeting is held.

B. Owner, Architect and Contractor execute Owner's Project Closeout - Final Acceptance form, and verify:
1. All seasonal and long lead items not prohibiting occupancy, if any, are identified, with committed to completion date and amount to be withheld until completion.
2. Owner's maintenance personnel have been instructed on all system operation and maintenance as required by the Contract Documents.
3. Final cleaning requirements have been completed.

C. If applicable, once any seasonal and long lead items are completed, Closeout Inspection is held where Owner and Architect verify that The Work has been satisfactorily completed, and Owner, Architect and Contractor execute Closeout portion of the Project Closeout - Final Acceptance form.

D. When Owner and Architect confirm that The Work is satisfactorily completed, Architect will authorize final payment.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 7800

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Closeout Submittals.

B. Related Requirements:
   1. Section 01 3300: 'Submittal Procedures' for administrative and procedural requirements for submittal procedures.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Project Record Documents:
   1. Do not use record documents for construction purposes:
      a. Protect from deterioration and loss in secure, fire-resistive location.
      b. Provide access to record documents for Architect's reference during normal working hours.
   2. Maintain clean, undamaged set of Drawings:
      a. Mark set to show actual installation where installation varies from the Work as originally shown.
      b. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
      c. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
      d. Mark new information that is important to Owner, but was not shown on Drawings.
      e. Note related Change Order numbers where applicable.

1.3 CLOSEOUT SUBMITTALS

A. Operations And Maintenance Manual:
   1. General:
      a. Include closeout submittal documentation as required by Contract Documentation.
      b. Include workmanship bonds, final certifications, equipment check-out sheets, and similar documents.
      c. Releases enabling Owner unrestricted use of The Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
      d. Include Project photographs, damage or settlement survey, and similar record information required by Contract Documents.
      e. Submittal Format:
         1) Digital copies unless otherwise noted, required for each individual specification section that include 'Closeout Submittals'.
         2) Include only closeout submittals as defined in individual specification section as required in Contract Documents.
   2. Project Manual:
      a. Copy of complete Project Manual including Addenda, Modifications as defined in General Conditions, and other interpretations issued during construction:
         1) Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications.
         2) Show substitutions, selection of options, and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.

3. Maintenance Contracts:
   a. Digital format only.
4. Operations and Maintenance Data:
   a. Digital format only:
      1) Cleaning instructions.
      2) Maintenance instructions.
      3) Operations instructions.
      4) Equipment list.
      5) Parts list.
5. Warranty Documentation:
   a. Digital format of final, executed warranties.
6. Record Documentation:
   a. Digital format only.
      1) Certifications.
      2) Color and pattern selections.
      3) Design Data.
      4) Manufacture Reports.
      5) Manufacturer's literature or cut sheets.
      6) Shop Drawings.
      7) Source Quality Control.
      8) Special Procedures.
      9) Testing and Inspection Agency Reports.
      10) Testing and Inspection Reports.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Submit item(s) required by Section 01 3300 ‘Submittal Procedures’ and as defined in individual specification section if required in Contract Documents. Items may be provided at completion of Work or with Closeout Submittals.

1.5 WARRANTIES

A. When written guarantees beyond one (1) year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manual(s) specified above.

B. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 02 4119

SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Demolition and removal of selected portions of building or structure.
   2. Salvage of existing items to be reused or recycled.

B. Related Requirements:
   1. Section 26 0501: 'Common Electrical Requirements' for salvage of existing electrical items to be reused or recycled removed by Owner.

1.2 REFERENCES

A. Reference Standards:
   1. National Fire Protection Association / American National Standards Institute:
      a. NFPA 241, 'Standard for Safeguarding Construction, Alteration, and Demolition Operations', 2013 Edition.
   2. American Society of Safety Engineers:
      a. ASSE A10.6-2006, 'Safety Requirements for Demolition Operations'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Storage or sale of removed items or materials will not be permitted on-site.

B. Pre-Installation Conference:
   1. Before beginning Selective Demolition work, in addition to requirements of Section 01 3100, meet on site to confirm work to be demolished, items to be salvaged or reused, and coordination with Owner.

C. Scheduling:
   1. Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, on Schedule specified in Section 01 3200.

1.4 SUBMITTALS

A. Informational Submittals:
   1. Special Procedure Submittals:
      a. Inventory:
         1) After selective demolition is complete, submit list of items that have been removed and salvaged.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:

1. Comply with governing EPA notification regulations before beginning selective demolition.
2. Comply with hauling and disposal regulations of authorities having jurisdiction.
3. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 FIELD CONDITIONS

A. Existing Conditions:
   1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
   1. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
      a. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

B. Evaluation And Assessment:
   1. Hazardous Materials:
      a. It is not expected that hazardous materials will be encountered in the Work. Identified hazardous materials will be removed by Owner before start of the Work.
      b. If materials suspected of containing hazardous materials are encountered, do not disturb and immediately notify Architect.
   2. Inventory and record condition of items to be removed and reinstalled and items to be removed and salvaged.
   3. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure nature and extent of conflict. Promptly submit written report to Architect.
   4. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
   5. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 PREPARATION

A. Temporary Facilities:
   1. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   2. Maintain fire-protection facilities in service during selective demolition operations.

B. Temporary Shoring:
   1. Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
   2. Strengthen or add new supports when required during progress of selective demolition.

C. Utility Services:

1. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
2. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
    a. Arrange to shut off indicated utilities with utility companies.
    b. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 SELECTIVE DEMOLITION

A. General:
1. Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
2. Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
    a. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
    b. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
    c. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
    d. Maintain adequate ventilation when using cutting torches.
    e. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
    f. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
    g. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
    h. Dispose of demolished items and materials promptly.

B. Selective Demolition Procedures For Specific Materials:
1. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.
2. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
3. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

C. Removed and Salvaged Items:
1. Relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
    a. Clean salvaged items as directed by Owner.
    b. Pack or crate items after cleaning. Identify contents of containers.
    c. Store items in a secure area until delivery to Owner.
    d. Transport items to Owner's storage area designated by Owner.
    e. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.

3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain:
1. Protect construction indicated to remain against damage and soiling during selective demolition.
2. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.4 CLEANING

A. General:
1. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations.
2. Return adjacent areas to condition existing before selective demolition operations began.

B. Waste Management:
1. Disposal of Demolished Materials:
a. Remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill. Do not burn demolished materials.
1) Do not allow demolished materials to accumulate on-site.
2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3) Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

END OF SECTION

SECTION 06 1011

WOOD FASTENINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Quality of wood fastening methods and materials used for Rough Carpentry unless specified otherwise.

B. Related Requirements:
   1. Section 03 1511: 'Concrete Anchors and Inserts' for Quality of Anchors and Inserts.
   2. Section 05 0523: 'Metal Fastenings' for Quality of bolts used for Rough Carpentry.
   3. Furnishing and installing of other fasteners are specified in individual Sections where installed.

1.2 REFERENCES

A. Reference Standards;
   1. ASTM International:
      a. ASTM A153/A153M-16a, ‘Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware’.
      b. ASTM D3498-18, ‘Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems’.
      c. ASTM F1667-18a, ‘Standard Specification for Driven Fasteners: Nails, Spikes, and Staples’.

1.3 SUBMITTALS

A. Action Submittals:
   1. Product Data:
      a. Manufacturer's literature on framing anchors and powder actuated fasteners.
   2. Shop Drawings:
      a. Submit diameter and lengths of fasteners proposed for use on Project. If length or diameter of proposed fasteners differ from specified fasteners, also include technical and engineering data for proposed fasteners including, but not limited to:
         1) Adjusted fastener spacing where using proposed fasteners and,
         2) Adjusted number of fasteners necessary to provide connection capacity equivalent to specified fasteners.
      b. Submit on powder-actuated fasteners other than those specified in Contract Documents showing design criteria equivalents at each application.
      c. Show type, quantity, and installation location of framing anchors. Where necessary, reference Drawing details, etc, for installation locations.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Description:
   1. Nail Terminology:
      a. When following nail terms are used in relation to this Project, following lengths and diameters will be understood. Refer to nails of other dimensions by actual length and diameter, not by one of listed terms:

Nail Term	Length	Diameter	Length	Diameter
8d Box	2-1/2 inches	0.113 inch	63.5 mm	2.827 mm
8d Common	2-1/2 inches	0.131 inch	63.5 mm	3.389 mm
10d Box	3 inches	0.128 inch	76.2 mm	3.251 mm
10d Common	3 inches	0.148 inch	76.2 mm	3.759 mm
16d Box	3-1/2 inches	0.135 inch	88.9 mm	3.411 mm
16d Sinker	3-1/4 inches	0.148 inch	82.6 mm	3.759 mm
16d Common	3-1/2 inches	0.162 inch	88.9 mm	4.115 mm

B. Materials:
1. Wood fastener list:
   a. Provide VMR Suppliers with wood fastener list.
2. Fasteners:
   a. General:
      1) Fasteners for preservative treated and fire-retardant-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronzed, or copper. Coating weights for zinc-coated fasteners shall be in accordance with ASTM A153/A153M.
   b. Nails:
      1) Meet requirements of ASTM F1667.
      2) Unless noted otherwise, nails listed on Drawings or in Specifications shall be common nail diameter, except 16d nails, which shall be box diameter.
   c. Wood Screws:
      1) SDS Screws:
         a) Category Four Approved Products. See Section 01 6200 for definitions of categories.
            (1) SDS Screws by Simpson Strong Tie Co, Dublin, CA www.strongtie.com.
      2) All Other: Standard type and make for job requirements.
   d. Powder-Actuated Fasteners:
      1) Type One Quality Standard: Hilti X-DNI 62P8.
      2) Manufacturers:
         a) Hilti, Tulsa, OK www.us.hilti.com.
         b) Redhead Division of ITW, Wood Dale, IL www.itw-redhead.com and Markham, ON www.itwconstruction.ca.
         c) Equals as approved by Architect through shop drawing submittal before installation. See Section 01 6200.
3. Adhesives:
   a. Construction Mastics:
      1) Meet requirements of 'APA-The Engineered Wood Association' Specification AFG-01 or ASTM D3498.
      2) Use phenol-resorcinol type for use on pressure treated wood products.
4. Framing Anchors:
   a. Framing anchors and associated fasteners in contact with preservative hot dipped zinc-coated galvanized steel or stainless steel. Do not use stainless steel items with galvanized items.
   b. Type Two Acceptable Products:
      1) KC Metals Inc, San Jose, CA www.kcmetals.com.
      2) Simpson Strong Tie Co, Dublin, CA www.strongtie.com.
      3) United Steel Products Co Inc (USP), Montgomery, MN www.uspconnectors.com.
      4) Equals as approved by Architect through shop drawing submittal before installation. See Section 01 6200.

PART 3 - EXECUTION

3.1 ERECTION

A. Secure one Manufacturer approved fastener in each hole of framing anchor that bears on framing member unless approved otherwise in writing by Architect.

B. Provide washers with bolt heads and with nuts bearing on wood.

END OF SECTION

SECTION 06 1100

WOOD FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install wood framing and blocking as described in Contract Documents.

B. Products Installed But Not Furnished Under This Section:
   1. Glue-laminated structural units.
   2. Miscellaneous structural steel elements.
   3. Roof related blocking, wood nailers, and curbs.
   4. Structural composite lumber.
   5. Wood panel product sheathing.

C. Related Requirements:
   1. Section 06 1636: 'Wood Panel Product Sheathing' for:
      a. Pre-installation conference held jointly with Section 06 1100.
   2. Section 06 1712: 'Structural Composite Lumber - SCL'.

1.2 REFERENCES

A. Association Publications:
   1. American Lumber Standard Committee (ALSC) (Maintains NIST standard):
      a. Voluntary Product Standard:
         1) PS 20-15, 'American Softwood Lumber Standard'.
   2. National Institute of Standards and Technology (NIST), U. S. Department of Commerce:
      a. Voluntary Product Standard DOC PS 20-15, 'American Softwood Lumber Standard'.

B. Reference Standards:

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:
   1. Participate in MANDATORY pre-installation conference held jointly with Section 06 1636.
      a. Schedule pre-installation conference immediately before beginning framing work.
      b. In addition to agenda items specified in Section 01 3100, review following:
         1) Equipment and gypsum board blocking in wood framed walls.
         2) Operable partition headers.
         3) Rough opening.
         4) Shear walls and struts.
         5) Nails and nailing requirements.
         6) Truss installation.
         7) Connections.
   2. Participate in pre-installation conference held jointly with Section 08 4113.
      a. Schedule pre-installation conference for one (1) week before scheduled installation of storefront system.
      b. In addition to agenda items specified in Section 01 3100, review following:
         1) Rough opening requirements.

1.4 SUBMITTALS

A. Informational Submittals:
   1. Test And Evaluation Reports:
      a. Technical and engineering data on nails to be set by nailing guns for Architect's approval of types proposed to be used as equivalents to specified hand set nails and adjusted number and spacing of pneumatically-driven nails to provide equivalent connection capacity.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Protect lumber and sheathing and keep under cover in transit and at job site.
   2. Do not deliver material unduly long before it is required.

B. Storage And Handling Requirements:
   1. Store lumber and sheathing on level racks and keep free of ground to avoid warping.
   2. Stack to insure proper ventilation and drainage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Dimension Lumber:
   1. Design Criteria:
      a. Meet requirements of PS 20 and National Grading Rules for softwood dimension lumber.
      b. Bear grade stamp of WWPA, SPIB, or other association recognized by American Lumber Standards Committee identifying species of lumber by grade mark or by Certificate of Inspection.
      c. Lumber 2 inches (50 mm) or less in nominal thickness shall not exceed 19 percent in moisture content at time of fabrication and installation and be stamped 'S-DRY', 'K-D', or 'MC15'.
      d. Preservative Treated Plates / Sills:
         1) 2x4 (38 mm by 64 mm): Standard and better Douglas Fir, Southern Pine, or HemFir, or StrandGuard by iLevel by Weyerhaeuser Boise, ID www.ilevel.com. (LSL 1.3 E)
         2) 2x6 (38 mm by 140 mm) And Wider: No. 2 or or MSR 1650f - 1.5e Douglas Fir, Southern Pine, HemFir, or StrandGuard by iLevel by Weyerhaeuser, Boise, ID www.ilevel.com. (LSL 1.3 E).

B. Posts, Beams, And Timbers 5 Inches by 5 Inches (125 mm by 125 mm) And Larger:
   1. Design Criteria:
      a. No. 1 or better Douglas Fir or Southern Pine.

C. Lumber Ledgers:
   1. Design Criteria:
      a. No. 2 Douglas Fir-Larch, or Southern Pine.

D. See Contract Drawings for additional requirements.

2.2 ACCESSORIES

A. Blocking:
   1. Sound lumber without splits, warps, wane, loose knots, or knots larger than 1/2 inch (13 mm).

B. Furring Strips:
   1. Utility or better.

C. Sill Sealer:
   1. Closed-cell polyethylene foam, 1/4 inch (6 mm) thick by width of plate.

PART 3 - EXECUTION

3.1 INSTALLERS

A. Approved Installers. See Section 01 4301.

B. Installers shall be pre-approved and included in Contract Documents by Addendum.

3.2 INSTALLATION

A. General:
   1. Use preservative treated wood for wood members in contact with concrete or masonry, including wall, sill, and ledger plates, door and window subframes and bucks, etc.

B. Interface With Other Work:
   1. Coordinate with other Sections for location of blocking required for installation of equipment and building specialties. Do not allow installation of gypsum board until required blocking is in place.
   2. Where manufactured items are to be installed in framing, provide rough openings of dimensions within tolerances required by manufacturers of such items. Confirm dimensions where not shown on Contract Drawings.

C. Tolerances:
   1. Walls:
      a. 1/4 inch (6 mm) in 20 feet (6 meters), non-cumulative in length of wall.
      b. 1/8 inch (3 mm) in 10 feet (3 meters) with 1/4 inch (6 mm) maximum in height of wall.
      c. Distances between parallel walls shall be 1/4 inch (6 mm) maximum along length and height of wall.

D. Floors:
   1. Place with crown side up.
   2. Provide accurately fitted header and trimmer joists of same size as regular joists around floor openings, unless detailed otherwise, and support by steel joist hangers.
   3. Double joists under partitions that parallel run of joists.

E. Walls:
   1. Openings: Single, bearing stud supporting header and one adjacent (king) stud continuous between top and bottom plates, unless shown otherwise.
   2. Corners And Partition Intersections: Triple studs.
   3. Top Plates In Bearing Partitions: Doubled or tripled and lapped. Stagger joints at least 48 inches (1 200 mm).
   4. Stud Walls To Masonry. Use one of the following methods:
      a. Connect with 1/2 inch (13 mm) machine bolts 6 inches (150 mm) from top, 6 inches (150 mm) from bottom, and 48 inches (1 200 mm) maximum on center. Use three bolts minimum in height of 6 foot (1 800 mm) or higher wall.
      b. Secure wood to masonry using continuous 1/4 inch (6 mm) minimum bead of construction adhesive and powder actuated fasteners installed at 32 inches (800 mm) on center minimum.
   5. Firestops:
      a. Horizontal or vertical concealed spaces in walls, light coves, soffits, drop ceilings, and other features over 10 feet (3 000 mm) in length or height, and at stairs, ceiling levels, floor levels, and other junctures of horizontal to vertical concealed spaces.

b. Within concealed spaces of exterior wall finishes and exterior architectural elements, such as trims, cornices or projections, at maximum intervals of 20 feet (6 000 mm), length or height.

6. Sill Plates:
   a. Shear Walls and Bearing Walls:
      1) Provide specified anchor 12 inches (300 mm) maximum and 4 inches (100 mm) minimum from each end of each plate.
      2) Shear Walls: Fasten with anchor bolts embedded in concrete or with screw anchors.
      3) Bearing Walls: Fasten with anchor bolts embedded in concrete, or with screw anchors or expansion bolts in drilled holes.
   b. Non-Structural Walls: Fasten with powder actuated fasteners.
   c. In addition to requirements of paragraphs 'a' and 'b' above, set sill plates of interior walls measuring less than 36 inches (900 mm) in length in solid bed of specified construction adhesive, except where sill sealer is used.
   d. Install specified seal sealer under sill plates of exterior walls of main building and of acoustically insulated interior walls.
   e. Masonry Wall Plates:
      1) Anchor 2x6 and 2x8 wall plates to top of block walls with 5/8 inch (16 mm) diameter anchor bolts at 32 inches (800 mm) on center unless noted otherwise.
      2) Set plates on masonry bearing walls true and level to provide full bearing. Use mortar as specified in Division 04 for leveling if leveling is required.
7. Posts And Columns:
   a. Unless shown otherwise, nail members of multiple member columns together with 16d at 6 inches (150 mm) on center from each side.
8. Beams And Girders:
   a. Built-Up Members:
      1) Stagger individual members of multiple span beams and girders so, over any one support, no more than half the members will have a joint. In all cases, however, joints shall occur over supports.
      2) Unless shown otherwise on Drawings, nail two-ply built-up members with 10d nails 12 inches (300 mm) on center top and bottom, staggered on opposite sides. Nail three-ply built-up members with 16d nails at 12 inches (300 mm) on center, top and bottom, staggered, on opposite sides. Set with crown edge up with full bearing at ends and intermediate supports.
   b. Pre-Fabricated Members:
      1) Solid glu-lam, LVL, LSL, or PSL members may be used in place of built-up 2x (38 mm) framing members. Size shall be same as built-up member.
      2) Solid LVL or PSL members may be used in place of built-up LVL members. Size shall be same as sum of built-up members.
   c. Wood shims are not acceptable under ends.
   d. Do not notch framing members unless specifically shown in Drawing detail.
9. Nailing:
   a. Stud to plate (coordinate with Contract Drawings):

2 by 4 inch nominal	38 by 89 mm	End nail, two 16d OR toe nail, four 8d
2 by 6 inch nominal	38 by 140 mm	End nail, three 16d OR toe nail, four 8d
2 by 8 inch nominal	38 by 184 mm	End nail, four 16d OR toe nail, six 8d
2 by 10 inch nominal	38 by 235 mm	End nail, five 16d OR toe nail, six 8d
1-3/4 by 5-1/2 inch LVL	44 by 140 mm LVL	End nail, three 16d OR toe nail, four 8d
1-3/4 by 7-1/4 inch LVL	44 by 184 mm LVL	End nail, four 16d OR toe nail, six 8d
1-3/4 by 9-1/4 inch LVL	44 by 235 mm LVL	End nail, five 16d OR toe nail, six 8d
1-3/4 by 11-1/4 inch LVL	44 by 286 mm LVL	End nail, six 16d OR toe nail eight 8d

   b. Top plates: Spiked together, 16d, 16 inches (400 mm) on center.
   c. Top plates: Laps, lap members 48 inches (1200 mm) minimum and nail with 16d nails 4 inches (100 mm) on center
   d. Top plates: Intersections, three 16d.
   e. Backing And Blocking: Three 8d, each end.
   f. Corner studs and angles: 16d, 16 inches (400 mm) on center.

F. Roof and Ceiling Framing:
1. Place with crown side up at 16 inches (400 mm) on center unless noted otherwise.
2. Install structural blocking and bridging as necessary and as described in Contract Documents.
3. Special Requirements:
   a. Roof And Ceiling Joists: Lap joists 4 inches (100 mm) minimum and secure with code approved framing anchors.
   b. Roof Rafters and Outlookers:
      1) Cut level at wall plate and provide at least 2-1/2 inches (64 mm) bearing where applicable. Spike securely to plate with three 10d nails.
      2) Attach to trusses or other end supports with framing anchors described in Contract Documents.
      3) Provide for bracing at bearing partitions.
4. Installation of Wood Trusses:
   a. Handle, erect, and brace wood trusses in accordance with TPI / WTCA Booklet BCSI.
   b. Do not install damaged or broken wood trusses. Replace wood trusses that are broken, damaged, or have had members cut out during course of construction.
   c. Provide continuous 2x4 horizontal web bracing as shown on truss shop drawings.
      1) Secure bracing to each truss with two 10d or 16d nails.
      2) Lap splice bracing by placing bracing members side by side on common web member. Butt splices are not acceptable.
   d. Unless directed or shown otherwise, provide diagonal 2x4 bracing between trusses at each line of horizontal web bracing.
      1) This diagonal bracing shall be continuous and extend from junction of web and top chord of one truss to junction of web and bottom chord of different truss.
      2) Install bracing at approximately 45 degree angle. Bracing will extend over three trusses minimum or more as determined by height of trusses and 45 degree installation angle.
      3) Install brace on side of web opposite horizontal web bracing and nail to each web with two 10d or 16d nails.
      4) Install one brace every 20 feet (6.1 m) as measured from top of brace to top of next brace.
5. Installation of Glue-Laminated Structural Units:
   a. Install work in accordance with Fabricators instructions and Glue-Lam Erection Safety Practices.
   b. Adequately support and brace work until tied into building structure to insure against collapse due to wind or other forces.
   c. Maintain protection of beams until roofing has been installed.
6. Installation of Structural Composite Lumber:
   a. Install temporary horizontal and cross bracing to hold members plumb and in safe condition until permanent bracing is installed.
   b. Install permanent bracing and related components before application of loads to members.
7. Installation of wood Web Joists:
   a. Handle, erect, and brace sheathing wood web joists in accordance with Manufacturer's instructions.
   b. Do not install damaged or broken wood web joists.
   c. Install temporary horizontal and cross bracing to hold members plumb and in safe condition until permanent bracing is installed.
   d. Cut holes through webs at locations or of sizes shown on Drawings and as recommended by Manufacturer.
8. Secure headers and header backing to structure as described in Contract Documents.

G. Accessory / Equipment Mounting And Gypsum Board Back Blocking (nailers) for Wood Framing):
1. Furnish and install blocking in wood framing required for hardware, specialties, equipment, accessories, and mechanical and electrical items, etc.

H. Accessory / Equipment Mounting and Standing & Running Trim Blocking (nailers) for Metal Framing:
1. Furnish and install blocking in wood framing required for hardware, specialties, equipment, accessories, and mechanical and electrical items, etc.
2. Attach blocking not installed with clips with two fasteners in each end of each piece of blocking.

I. Furring Strips:

1. On Wood or Steel: Nail or screw as required to secure firmly.
   a. Ceiling:
      1) Attach furring strips to the underside of structural elements with #8 wood screws, of length to penetrate wood framing 1 inch (25 mm) minimum.
2. On Concrete or Masonry:
   a. Back up furring strips on exterior walls or walls in contact with earth with 15 lb (6.8 kg) felt strip.
   b. Nail at 12 inches (300 mm) on center maximum.

END OF SECTION

SECTION 06 1636

WOOD PANEL PRODUCT SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install wood panel product sheathing required for walls, roofs, and floors as described in Contract Documents.

B. Related Requirements:
   1. Section 01 1200: 'Multiple Contracts Summary'.
   2. Section 01 4523: ‘Testing and Inspecting Services’ for testing and inspection, and testing laboratory services for materials, products, and construction methods.
   3. Section 06 1100: ‘Wood Framing’ for:
      a. Pre-installation conference held jointly with Section 06 1636.

C. Related Requirements:
   1. Section 01 0000: ‘General Requirements’:
      a. Section 01 1200: 'Multiple Contracts Summary'.
      b. Section 01 4523: ‘Testing and Inspecting Services’ for testing and inspection, and testing laboratory services for materials, products, and construction methods.
   2. Section 06 1100: ‘Wood Framing’ for:
      a. Pre-installation conference held jointly with Section 06 1636.

1.2 REFERENCES

A. Association Publications:
   1. National Institute of Standards and Technology (NIST), U. S. Department of Commerce:
      a. Voluntary Product Standard DOC PS 1-09. ‘Structural Plywood'.
      b. Voluntary Product Standard DOC PS 2-04. ‘Performance Standard for Wood-Based Structural-Use Panels'.
   2. The Engineered Wood Association (APA), Tacoma, WA www.apawood.org.
      a. Performance Rated Panels, 'Product Guide' (for products bearing the APA trademark) December 2011.
      b. Voluntary Product Standard:
         1) PS 1-09. ‘Structural Plywood'.
         2) PS 2-04. ‘Performance Standard for Wood-Based Structural-Use Panels'.
      c. PRP-108 'Performance Standards and Policies for Structural-Use Panels'.
   3. TECO, Cottage Grove, WI www.tecotested.com.
      a. TECO PRP-133: ('Fire Rated Assemblies – OSB substitution for plywood in UL fire-rated assemblies that specify plywood).

B. Reference Standards:
   1. International Code Council (IBC) (2018 or latest AHJ approved edition):
      a. IBC Chapter 17, ‘Special Inspections And Tests’.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:
   1. Participate in pre-installation conference as specified in Section 06 1100.
   2. In addition to agenda items specified in Section 01 3100 and Section 06 1100, review following:

a. Review Section 01 4523 for Testing and Inspection administrative requirements and responsibilities and Field Quality Control inspection required of this section.

B. Scheduling:
1. Notify Testing Agency and Architect twenty-four (24) hours minimum before placing sheathing.

1.4 SUBMITTALS

A. Closeout Submittals:
1. Include following in Operations and Maintenance Manual specified in Section 01 7800:
a. Record Documentation:
1) Testing and Inspection Reports:
a) Testing Agency Inspection Reports of sheathing.

1.5 QUALITY ASSURANCE

A. Testing and Inspection:
1. Owner will provide Testing and Inspection for inspection of sheathing:
a. Owner will employ testing agencies to perform inspection for sheathing as specified in Field Quality Control in Part 3 of this specification.
1) Owner’s employment of an independent Testing Agency does not relieve Contractor of Contractor’s obligation to perform the Work in strict accordance with requirements of Contract Documents and perform contractor testing and inspection.
2) See Section 01 1200: ‘Multiple Contract Summary’.
b. Owner’s employment of an independent Testing Agency does not relieve Contractor of Contractor’s obligation to perform testing and inspection as part of his Quality Control.
1) Testing and inspections, if performed by Contractor, will be responsibility of Contractor to be performed by an independent entity.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
1. Do not deliver material unduly long before it is required.
2. Protect sheathing and keep under cover in transit and at job site.

B. Storage And Handling Requirements:
1. Store sheathing on level racks and keep free of ground.
2. Stack to insure proper ventilation and drainage.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

2.2 MATERIALS

A. Performance:
1. Design Criteria:
a. Meet requirements of PS 1, PS 2, or PRP-133 (TECO). Except where plywood is specifically indicated on Contract Drawings, oriented strand board (OSB) is acceptable.

B. Sheathing:
1. Sheathing:

a. Sheathing shall bear grade stamp from American Plywood Association (APA) or equal grading organization.
b. Sheathing shall not exceed 18 percent moisture content when fabricated or more than 19 percent when installed in Project.
c. Sheathing 23/32 inch (18.3 mm) thick and thicker used for single-layer subflooring shall be tongue and groove.
d. Sheathing used for same purpose shall be of same thickness. In all cases, thickness specified is minimum required regardless of span rating.
e. Minimum span ratings for given thicknesses shall be as follows:

Thickness	Span Rating
3/8 inch	24 / 0
7/16 inch nominal	24 / 16
15/32 inch actual	32 / 16
1/2 inch nominal	32 / 16
19/32 inch actual	40 / 20
5/8 inch nominal	40 / 20
23/32 inch actual	48 / 24
3/4 inch nominal	48 / 24

2.3 ACCESSORIES

A. Nails:
1. As indicated on Contract Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:
1. Top of nail heads shall be flush with sheathing surface.
2. Use of edge clips to provide spacing between sheathing panels is acceptable.

B. Wall Sheathing:
1. Spacing:
a. Provide 1/8 inch (3 mm) space between sheets at end and edge joints.
2. Edge Bearing And Blocking:
a. Panel edges shall bear on framing members and butt along their center lines.
b. Back block panel edges, which do not bear on framing members, with 2 inch nominal (45 mm) framing.
3. Nail Spacing:
a. As indicated on Contract Drawings.
b. Place nails not less than 3/8 inch (9.5 mm) in from edge.
4. Thickness:
a. As indicated on Contract Drawings.
5. Do not install any piece of wall sheathing with shortest dimension of less than 12 inches (300 mm).

C. Roof Sheathing:
1. Placing:
a. Lay face grain at right angles to supports. Provide blocking for support if framing turns at roof overhang.
b. Provide 1/8 inch (3 mm) space between sheets at end and side joints.
c. Stagger panel end joints.
d. Sheathing shall be continuous of two spans minimum.

2. Edge Bearing and Blocking:
   a. As indicated on Contract Drawings.
3. Nail Spacing:
   a. As indicated on Contract Drawings.
   b. Place nails at least 3/8 inch (9.5 mm) in from edge.
4. Thickness:
   a. As indicated on Contract Drawings.
5. Do not install any piece of roof sheathing with shortest dimension of less than 24 inches (600 mm) unless support is provided under all edges.

D. Floor Sheathing:
   1. Floor Sheathing: 1 Layer Subflooring (floors accessible to public).
      a. Apply bead of glue to structural supports. Lay face grain / strength axis across supports and with panel continuous over two supports minimum.
      b. Allow expansion gap of at least 1/2 inch (12.5 mm) at walls.
      c. Tongue and Groove.
      d. Nail Spacing.
         1) As indicated on Contract Drawings.
      e. Thickness:
         1) As indicated on Contract Drawings.
      f. Do not install any piece of bottom layer floor sheathing with shortest dimension of less than 24 inches (600 mm).
   2. Subflooring: 2 Layers Subflooring.
      a. Bottom layer:
         1) Glue subflooring layers together along lines of structural supports.
         2) Leave 1/32 inch (1 mm) gap at side and end joints.
         3) Nail as per floor sheathing nailing requirements.
         4) Thickness:
            a) 19/32 inch actual (15 mm) minimum thickness, except where specifically noted otherwise.
         5) Do not install any piece of single layer floor sheathing with shortest dimension of less than 24 inches (600 mm).
      b. Top layer:
         1) Stagger joints of second layer subflooring so they do not line up with joints of first layer subflooring, but do align with intermediate structural member (for example, align with field nailing of bottom subflooring layer).
         2) Glue subflooring layers together along lines of structural supports.
         3) Leave 1/32 inch (1 mm) gap at side and end joints.
         4) Nail at 6 inch (150 mm) centers on ends and 12 inch (300 mm) centers on intermediate structural members.
         5) Thickness:
            a) 19/32 inch actual (15 mm) minimum thickness, except where specifically noted otherwise.
         6) Do not install any piece of single layer floor sheathing with shortest dimension of less than 24 inches (600 mm).

3.2 FIELD QUALITY CONTROL

A. Field Inspections:
   1. Sheathing:
      a. General:
         1) Owner is responsible for Quality Assurance. Quality assurance performed by Owner will be used to validate Quality Control performed by Contractor.
         2) Quality Control is sole responsibility of Contractor as specified in Section 01 4523 ‘Testing And Inspection Services’.
      b. For walls and roof areas where nail spacing is 4 inches (100 mm) and less on center, Inspector shall verify wood panel sheathing, grade, thickness and nominal size of framing members, adjoining panel edges, nail size and spacing, bolting and other fastening of other components.

3.3 PROTECTION

A. Protect roof sheathing from moisture until roofing is installed.

END OF SECTION

SECTION 06 1712

STRUCTURAL COMPOSITE LUMBER: SCL

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Laminated Veneer Lumber (LVL).
   2. Parallel Strand Lumber (PSL).
   3. Laminated Strand Lumber (LSL).

B. Related Requirements:
   1. Section 06 1100: 'Wood Framing' for installation, securing, bracing, etc.

1.2 REFERENCES

A. Reference Standards:
   1. ASTM International:
      a. ASTM D2559-12a(2018), ‘Standard Specification for Adhesives for Structural Laminated Wood Products for Use Under Exterior Exposure Conditions'.
      b. ASTM D5456-18, ‘Standard Specification for Evaluation of Structural Composite Lumber Products'.

1.3 SUBMITTALS

A. Informational Submittals:
   1. Certificates: Provide certification confirming that material structural design properties and design stresses have met or exceed requirements shown on Drawings.
   2. Test And Evaluation Reports: Copies of ICC or CCMC reports showing approval materials.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Storage And Handling Requirements:
   1. Store members on job site in accordance with Manufacturer's instructions.
   2. Keep dry and provide supports to keep members off floor or ground.
   3. Split plastic wrappers of members stored encased in plastic on bottom side to allow for air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Acceptable Manufacturers:
   1. Boise Cascade Corp, Boise, ID www.bc.com.
   2. Georgia-Pacific Corp, Atlanta, GA www.gp.com.
   3. Jager Industries Inc, Calgary, AB www.jagerbuildingsystems.com.
   4. Louisiana Pacific Corp, Portland, OR www.lpcorp.com.
   5. Roseburg Forest Products, Roseburg, OR www.roseburg.com.
   6. Trus Joist Corp, Div Weyerhaeuser, Boise, ID www.tjm.com or Surrey, BC (604) 588-7878.
   7. Web Joist, Chehalis, WA www.webjoist.com.

8. Weyerhaeuser, Engineered Lumber Products, Boise, ID www.woodbywy.com.
9. Equal as approved by Architect before bidding. See Section 01 6200.

B. Design Criteria:
1. Materials shall be tested and evaluated in accordance with ASTM D5456.
2. Materials shall have current ICC-ES Evaluation Report, report approved by International Codes Council, or report issued by Architect approved model code evaluation service and shall comply with requirements of report.

C. Materials:
1. Members:
a. Identify materials by stamp or stamps indicating manufacturer's name, product trade name, grade, species (if applicable), evaluation report number, plant number, and name or logo of independent inspection agency.
2. Adhesive: Meet requirements of ASTM D2559.

D. Fabrication: Materials shall be manufactured in a plant evaluated for fabrication by governing code evaluation service and under supervision of third party inspection agency listed by governing code evaluation service.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 06 2001

COMMON FINISH CARPENTRY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install sealants required for items installed under this Section, as described in Contract Documents.

B. Products Installed But Not Furnished Under This Section:
   1. Architectural Woodwork.
   2. Chair Rails.
   3. Hardwood Trim for wall covering.
   4. Miscellaneous Wood Trim.
   5. Selected Building Specialties.
   6. Selected Equipment.
   7. Wood-Veneer-Faced Architectural Cabinets.
   8. Miscellaneous as specified elsewhere.

C. Related Requirements:
   1. Section 06 1100: 'Wood Framing' for furring and blocking.
   2. Section 06 2210: 'Miscellaneous Wood Trim'.
      a. Wood Trim.
   3. Sections under 06 4000 Heading: Furnishing of Architectural Woodwork.
      a. Section 06 4001: 'Common Architectural Woodwork Requirements':
         1) Approved Fabricators.
         2) Quality of wood materials to be used in Finish Carpentry.
      b. Section 06 4114: 'Wood-Veneer-Faced Architectural Cabinets'.
         1) Custom Casework:
      c. Section 06 4512: 'Architectural Woodwork Wood Trim'.
   4. Section 07 9213: 'Elastomeric Joint Sealants' for quality of sealants, submittal and installation requirements.
   5. Sections under 09 9000 heading: Back priming of work to be installed against concrete or masonry or subjected to moisture, and finishing of finish carpentry and architectural woodwork.
   6. Sections in Division 10: Furnishing of Specialties.
   7. Sections in Division 11: Furnishing of Equipment.

1.2 REFERENCES

A. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.

B. Definitions:
   1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
      a. Economy Grade: The lowest acceptable grade in both material and workmanship requirements, and is for work where price outweighs quality considerations.
      b. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation.

c. Premium Grade: The highest Grade available in both material and workmanship where the highest level of quality, materials, workmanship, and installation is required.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
1. Manufacturer Contact List:
   a. Blum Inc, Stanley, NC www.blum.com.
   b. Bommer Industries, Landrum, SC www.bommer.com.
   c. CompX National, Mauldin, SC www.nclnet.com.
   d. Dow Chemical, Midland, MI www.dow.com.
   e. Flynn & Enslow, San Francisco, CA www.flynnenslow.com.
   f. Grass America Inc, Kernersville, NC www.grassusa.com.
   g. Hafele America Co., Archdale, NC hafele.com.
   h. Hillside Wire Cloth Co., Inc., Bloomfield, NJ www.hillsidewirecloth.com.
   i. Ives, Indianapolis, IN www.iveshardware.com.
   j. Knape & Vogt, Grand Rapids, MI www.knapeandvogt.com or Knape & Vogt Canada, Mississaugua, ON (905) 676-8972.
   k. Olympus Lock Co, Seattle, WA www.olympus-lock.com.
   l. Owens Corning, Toledo, OH www.owens-corning.com.
   m. Salice America Inc, Charlotte, NC www.saliceamerica.com.
   n. SOSS Door Hardware (Division of Universal Industrial Products Company) Pioneer OH www.soss.com.
   o. Stanley, New Britain, CT www.stanleyhardware.com or Oakville, ON (800) 441-1759.
   p. TWP Inc., Berkley, CA www.twpinc.com.
   q. Wire Cloth Manufacturers Inc., Mine Hill, NJ www.wireclothman.com.

B. Glue: Waterproof and of best quality.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
1. Verify walls, ceilings, floors, and openings are plumb, straight, in-line, and square before installing Architectural Woodwork.
2. Report conditions that are not in compliance to Architect before starting installation.

3.2 PREPARATION

A. Surface Preparation:
1. Install Architectural Woodwork after wall and ceiling painting is completed in areas where Architectural Woodwork is to be installed.

3.3 INSTALLATION

A. Special Techniques:
1. AWS Custom Grade is minimum acceptable standard, except where explicitly specified otherwise, for installation of architectural woodwork.

B. General Architectural Woodwork Installation:

1. Fabricate work in accordance with measurements taken on Project site.
2. Scribe, miter, and join accurately and neatly to conform to details.
3. Exposed surfaces shall be machine sanded, ready for finishing.
4. Allow for free movement of panels.
5. Countersink nails. Countersink screws and plug those exposed to view.
6. Attach custom casework as specified in Sections under 06 4000 Heading: 'Furnishing of Architectural Woodwork' to wall blocking with #10 x 3 inch (76 mm) minimum Cabinet Screws. Attach wall cabinets with screws equally spaced horizontally not to exceed 12 inches (305 mm) O.C. with 3 inch (76 mm) maximum spacing at cabinet edges.

END OF SECTION

SECTION 06 2024

DOOR, FRAME, AND FINISH HARDWARE INSTALLATION

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install sealants for caulking door frames as described in Contract Documents.
   2. Furnish and install insulation in doorframes as described in Contract Documents.

B. Products Installed But Not Furnished Under This Section:
   1. Flush wood doors.
   2. Finish hardware.

C. Related Requirements:
   1. Section 08 1416: 'Flush Wood Doors'.
   2. Section 07 2116: ' Blanket Insulation' for quality of fiberglass insulation.
   3. Section 07 9213: ' Elastomeric Joint Sealants' for quality of sealants.
   4. Sections under 08 1000 heading: Furnishing of doors and metal frames.
   5. Sections under 08 7000 heading: Furnishing of finish hardware.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference.
   1. Participate in pre-installation conference.
   2. In addition to agenda items specified in Section 01 3100, review following:
      a. Schedule conference after hardware has been delivered to site and organized into hardware groups by door, but before installation of hardware.
      b. Check for appropriate blocking and for correct hardware models and fasteners for substrates.
      c. Review submittals and set of Manufacturer's installation, adjustment, and maintenance instructions submitted under Section 08 7101.
      d. Review use of crowbar or other prying devices are not permitted to be used to set door frame into wall opening.

1.3 SUBMITTALS

A. Informational Submittals:
   1. Installer Report:
      a. Report verifying correct operation and adjustment of installed hardware.
   2. Special Procedure Submittals:
      a. Copy of 'Installation Guide for Doors & Hardware' by Door & Hardware Institute. Guide may be obtained from Door and Hardware Institute (DHI).

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Wood Doors:
      a. Do not have doors delivered to building site until after plaster, cement, and taping compound are dry.

b. If doors are to be stored at job-site for more than one week, seal top and bottom edges if not factory sealed.

B. Storage And Handling Requirements:
1. Wood Doors:
a. Store flat on a level surface in a dry, well ventilated building.
1) Cover to keep clean but allow air circulation
b. Handle with clean gloves and do not drag doors across one another or across other surfaces.
c. Do not subject doors to abnormal heat, dryness, or humidity or sudden changes therein
1) Condition doors to average prevailing humidity of locality before hanging.

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 INSTALLATION

A. Doors:
1. When Project is completed, doors shall not bind, stick, or be mounted so as to cause future hardware difficulties.
2. Do not impair utility or structural strength of door in fitting of door, applying hardware, or cutting and altering door louvers, panels, or other special details.

B. Hardware:
1. General:
a. Install using set of Manufacturer's installation, adjustment, and maintenance instructions submitted with hardware under Section 08 7101. Follow as closely as possible.
b. Mount closers on jamb stop side of door in parallel arm configuration where it is physically possible to do so and not damage or hinder operation of door or closer.
2. Hardware for Wood Doors:
a. If doors are not factory-machined, use hardware templates furnished by Hardware Manufacturer when mounting hardware.
b. Set hinges flush with edge surface. Be sure that hinges are set in a straight line to prevent distortion.
c. Mount door latches high in strike plate opening so when door later settles, latch will not bind.

3.2 FIELD QUALITY CONTROL

A. Field Tests:
1. Arrange to have keys brought to Project site and, in meeting attended by local representatives and Architect, test every new key and locking mechanism.

B. Non-Conforming Work: Non-conforming work as covered in the General Conditions applies, but is not limited to the following:
1. Correct any work found defective or not complying with contract document requirements at no additional cost to the Owner.

3.3 CLOSEOUT ACTIVITIES

A. Instruction of Owner:
1. Using Owner's Operations And Maintenance Manual, explain keying systems at same time keys and locking mechanisms are tested.

END OF SECTION

SECTION 06 2210

MISCELLANEOUS WOOD TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install wood trim not specified elsewhere as described in Contract Documents.
   2. Section 06 4512: 'Architectural Woodwork Wood Trim'.
   3. Section 09 9324: ‘Interior Clear-Finished Hardwood’.

1.2 REFERENCES

A. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.

B. Definitions:
   1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
      a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation.
   2. Plain-Sawn: A hardwood figure developed by sawing a log lengthwise at a tangent to the annual growth rings. It appears as U-shaped or straight markings in the board’s face.

1.3 SUBMITTALS

A. Action Submittals:
   1. Samples:
      a. Interior Hardwood for Transparent Finish:
         1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.
         2) Design Criteria:
            a) Provide 8 inch by 10 inch (200 mm by 255 mm) sample of Red Oak to match Owner provided stain color selected for Project.
            b) Control Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:
   1. Source Quality Control Submittals:
      a. Samples:
         1) Interior Hardwood for Transparent Finish:
            a) Owner will provide Control Sample for finish.

1.4 WARRANTY

A. Manufacturer Extended Warranty:

1. Approved Fabricator's written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Design Criteria:
   1. General:
      a. Meet requirements of Section 06 4001 for general standards for materials and fabrication of Architectural Woodwork.
   2. Clear Finished Hardwood:
      a. Match materials specified in Section 06 4512.
      b. Match finish specified in Section 06 4512 and match Owner selected sample as specified in Section 09 9324.
   3. Clear Finished Paneling: Match materials specified in Sections 06 4216.
   4. Opaque Finished Hardwood: Hardwood allowed by AWS Custom Grade.
   5. Opaque Finished Softwood: Solid stock Pine, C or better, S4S.
   6. Opaque Finished Paneling: Paneling allowed by AWS Custom Grade.

2.2 SOURCE QUALITY CONTROL

A. Inspections:
   1. Clear Finished Hardwood:
      a. Color matches Owner provided sample specified in Section 09 9324.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 06 4001

COMMON ARCHITECTURAL WOODWORK REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. General standards for materials and fabrication of Architectural Woodwork and for hardware associated with Architectural Woodwork.

B. Related Requirements:
   1. Section 06 1100: 'Wood Framing' for furring and blocking.
   2. Section 06 2001: 'Common Finish Carpentry Requirements' for Installation.
   3. Section 06 2210: ‘Miscellaneous Wood Trim’.
   4. Section 06 4114: ‘Wood-Veneer-Faced Architectural Cabinets’.
   5. Section 06 4512: ‘Architectural Woodwork Wood Trim’.
   6. Section 09 9324: ‘Interior Clear-Finished Hardwood’ for filling of nail holes and finishing.

1.2 REFERENCES

A. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.

B. Definitions:
   1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
      a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation.

1.3 SUBMITTALS

A. Action Submittals:
   1. Product Data:
      a. Manufacturer's literature for specialty items and hardware not manufactured by Architectural Woodwork fabricator.
   2. Shop Drawings:
      a. Fabricator:
         1) Provide shop drawings for cabinet and casework that are included for project showing details, casework locations and layout in compliance with Contract Drawings.

B. Informational Submittals:
   1. Qualification Statement:
      a. Fabricator:
         1) Provide Qualification documentations as requested.

1.4 QUALITY ASSURANCE

A. Qualifications: Requirements of Section 01 4301 applies, but not limited to following:
   1. Fabricator:

a. Fabricator Firm specializing in performing work of this section.
   1) Firm experience in supplying products indicated for this Project.
   2) Firm with sufficient production capacity to produce required units.
   3) Firm will comply with specifications and Contract Documents for this Project.
   4) Minimum five (5) years experience in Woodwork installations.
   5) Minimum five (5) satisfactorily completed installations in past three (3) years of projects similar in size, scope, and installation procedures required for this project before bidding.
b. Upon request by Architect or Owner, submit documentation.

1.5 DELIVERY, HANDLING, AND STORAGE

A. Delivery And Acceptance Requirements:
   1. Assemble architectural woodwork at Architectural Woodwork Fabricator's plant and deliver ready for erection insofar as possible.
   2. Protect architectural woodwork from moisture and damage while in transit to job site.
   3. Report damaged materials received within two (2) days from delivery at project site.

B. Storage And Handling Requirements:
   1. Unload and store in place where it will be protected from moisture and damage and convenient to use.

1.6 WARRANTY

A. Manufacturer Extended Warranty:
   1. Approved Fabricator’s written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 FABRICATORS

A. Approved Fabricators. See Section 01 4301:
   1. Meet Quality Assurance Fabricator Qualifications as specified in Part 1 of this specification.

2.2 ASSEMBLIES

A. Design Criteria:
   1. General:
      a. AWS Custom Grade is minimum acceptable standard, except where explicitly specified otherwise, for materials, construction, and installation of architectural woodwork.
   2. Materials:
      a. Lumber:
         1) Grade:
            a) No defects in boards smaller than 600 sq in (3 871 sq cm).
            b) One defect per additional 150 sq inches (968 sq cm) in larger boards.
            c) Select pieces for uniformity of grain and color on exposed faces and edges.
            d) No mineral grains accepted.
         2) Allowable Defects:
            a) Tight knots not exceeding 1/8 inch (3 mm) in diameter. No loose knots permitted.
            b) Patches (dutchmen) not apparent after finishing when viewed beyond 18 inches (450 mm).
            c) Checks or splits not exceeding 1/32 inch by 3 inches (1 mm by 75 mm) and not visible after finishing when viewed beyond 18 inches (450 mm).

d) Stains, pitch pockets, streaks, worm holes, and other defects not mentioned are not permitted.
e) Normal grain variations, such as cats eye, bird's eye, burl, curl, and cross grain are not considered defects.

3) Use maximum lengths possible, but not required to exceed 10 feet (3 meters) without joints. No joints shall occur closer than 72 inches (1 800 mm) in straight runs exceeding 18 feet (3 600 mm). Runs between 18 feet (3 600 mm) and 10 feet (3 meters) may have no more than one joint. No joints shall occur within 72 inches (1 800 mm) of outside corners nor within 18 inches (450 mm) of inside corners.
4) Moisture content shall be six (6) percent maximum at fabrication. No opening of joints due to shrinkage is acceptable.

B. Fabrication:
1. Follow Architectural Woodwork Standards (AWS) for fabrication of Architectural Woodwork.
2. Tolerances:
a. No planer marks (KCPI) allowed. Sand wood members and surfaces with 100 grit or finer.
b. Maximum Gap: None allowed.
c. Flushness Variation: 0.015 inch (0.4 mm) maximum.
d. Sanding Cross Scratches: 1/4 inch (6 mm) maximum.
e. Plug screw holes. Screw locations not to be visible beyond 18 inches (450 mm).
3. Fabricate work in accordance with measurements taken on job site.
4. 'Ease' sharp corners and edges of exposed members to promote finishing and protect users from slivers. Radius of 'easing' shall be uniform throughout Project and between 1/32 and 1/16 of an inch (0.8 and 1.6 of a millimeter).
5. Fabricate so veneer grain is vertical.
6. Joints:
a. Use lumber pieces with similar grain pattern when joining end to end.
b. Compatibility of grain and color from lumber to panel products is required.
7. Install hardware in accordance with Manufacturer's directions. Leave operating hardware operating smoothly and quietly.
8. Remove or repair damaged surface of or defects in exposed finished surfaces of architectural woodwork to match adjacent similar undamaged surface.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 06 4114

WOOD-VENEER-FACED ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Custom casework.

B. Related Requirements:
   1. Section 06 1100: 'Wood Framing' for wall blocking required for Custom Casework.
   2. Section 06 2001: ‘Common Finish Carpentry Requirements’ for installation of Custom casework.
   3. Section 06 4001: ‘Common Architectural Woodwork Requirements’ for:
      a. Approved Fabricators.
      b. General standards for materials and fabrication of Architectural Woodwork and for hardware associated with Architectural Woodwork.
   4. Section 09 9324: ‘Interior Clear-Finished Hardwood’ for wood finishes.

1.2 REFERENCES

A. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.
      b. HPVA, NWWDA, or APA.
   2. Hardwood Plywood & Veneer Association (HPVA), Reston, VA www.hpva@hpva.org.
   3. The Engineered Wood Association (APA), Tacoma, WA www.apawood.org.
   4. Window & Door Manufacturers Association (WDMA) Chicago, IL www.wdma@wdma.com.

B. Definitions:
   1. Book-Match: Matching between adjacent veneer leaves on one panel face. Every other piece of veneer is turned over so that the adjacent leaves are “opened” as two pages in a book. The fibers of the wood, slanting in opposite directions in the adjacent leaves, create a characteristic light and dark effect when the surface is seen from an angle.
   2. Face Veneer: The outermost exposed wood veneer surface of a veneered wood door, panel, or other component exposed to view when the project is completed.
   3. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
      a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation.
   4. High-Pressure Decorative Laminate (HPDL): Laminated thermosetting decorative sheets intended for decorative purposes. Also known as Plastic Laminate.
   5. Medium Density Fiberboard (MDF): Generic name for a panel or core manufactured from lignocellulosic fibers combined with synthetic resin or other suitable binder and bonded together under heat and pressure in hot press by process in which added binder creates entire bond.
   6. Panel Product: Panels manufactured with differences in core materials, adhesives or binders which affect characteristics of the panels. These include wood veneers and many prefinished wood panels and decorative overlays with aesthetic and performance characteristics.
   7. Plain-Sawn: A hardwood figure developed by sawing a log lengthwise at a tangent to the annual growth rings. It appears as U-shaped or straight markings in the board’s face.
   8. Running Match: Each panel face is assembled from as many veneer leaves as necessary. Any portion left over from one panel may be used to start the next.

9. Veneer: A thin sheet or layer of wood, usually rotary cut, sliced or sawn from a log or flitch. Thickness may vary from 1/100 inch (0.3 mm) to 1/4 inch (6.4 mm).

C. Reference Standards:
1. American National Standards Institute / Builders Hardware Manufacturers Association:
   a. ANSI/BHMA A156.11-2014, 'Cabinet Locks'.
2. American National Standards Institute / Hardwood Plywood & Veneer Association:
   a. ANSI/HPVA HP-1-2009, 'Standard for Hardwood and Decorative Plywood'.
3. American National Standards Institute / Window & Door Manufacturers Association (WDMA:
   a. ANSI/WDMA I.S. 6A-13, 'Industry Standard for Architectural Stile and Rails Doors'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
1. Coordinate the efforts of the various trades affected by the Work of this Section.
2. Coordinate completion of 2x6 (50mm x 100mm) wall blocking for custom casework.
3. Coordinate completion of custom casework.

1.4 SUBMITTALS

A. Action Submittals:
1. Product Data:
   a. Manufacturer's literature or cut sheets for hardware.
2. Shop Drawings:
   a. Confirm compliance with Contract Document requirements as to configuration and dimensions of custom casework.
   b. Include plan and elevation views, materials used, standing and running trim profiles, assembly methods, joint details, fastening methods, accessories, and hardware.
3. Samples:
   a. Interior Hardwood for Transparent Finish:
      1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.
      2) Design Criteria:
         a) Provide 8 inch by 10 inch (200 mm by 255 mm) sample(s) of Red Oak to match Owner provided stain color selected for Project.
         b) Control Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:
1. Source Quality Control Submittals:
   a. Samples:
      1) Interior Hardwood for Transparent Finish:
         a) Owner will provide Control Sample for finish.

1.5 WARRANTY

A. Manufacturer Extended Warranty:
1. Approved Fabricator's written guarantee that all Goods and Services will be free from defects in materials and workmanship for period of five (5) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 ASSEMBLIES

A. Components:
1. Design Criteria:
a. General:
1) Except as noted otherwise, fabricate the work of this section according to AWS 'Custom Grade'.
a) Cabinet door wood grain direction shall run vertically and all doors shall be set matched.
2) Casework Construction Type:
a) Type B: Face-frame construction where front edge of cabinet body components are overlaid with frame.
3) Door interface style:
a) Type B Construction: Flush Overlay.
b. Solid Stock:
1) Exposed: Plain sawn Red Oak.
2) Semi-exposed And Concealed: Species as acceptable for AWS 'Custom Grade'.
c. Panel Product:
1) Glues (adhesives) used in manufacture and fabrication of panel products shall be Type I or II.
2) Moisture content shall be same as specified for lumber.
3) Cores:
a) Cabinet Doors: Medium density fiberboard (MDF) with minimum density of 48 lbs per cu ft (769 kg per cu meter).
b) All Other: Industrial grade particle board with minimum density of 45 lbs per cu ft (721 kg per cu meter).
4) Facings:
a) Hardwood veneer facings shall be plain sliced Red Oak AWS Grade A, or equal by HPVA, WDMA, or APA.
b) All other facings shall be Melamine or Kortron.
5) Edgings:
a) Cabinet Doors And Drawer Fronts Higher Than 8 Inches (200 mm):
(1) 3/4 inch by 1/8 to 1/4 inch (19 mm by 3 to 6 mm) edge-banding of wood species matching hardwood face veneer.
d. Casework Doors:
1) Face Veneer:
a) Design Criteria:
(1) Plain sliced Red Oak meeting requirements of AWS Grade A, 1/50 inch (0.5 mm) thick minimum immediately before finishing.
(2) Face veneers shall be running book matched.
2) Doors under 1-3/8 inch (35 mm) thick: Panel Product.
3) Doors 1-3/8 inch (35 mm) or more thick:
a) Door Grade: AWS Custom hollow-core.
b) Stiles:
(1) 1-1/4 inches (32 mm) deep minimum before fitting.
(2) 1/4 inch (6 mm) minimum of stile face to be hardwood matching face veneer material.
c) Rails:
(1) 1-1/8 inches (28.5 mm).
(2) Mill option material.

B. Fabrication:
1. Fabricators:
a. Approved Fabricators. See Section 06 4001 for Category Three Approved Fabricators.
2. Cabinet Body:
a. Use AWS Flush Overlay construction on cabinet bodies.
b. If used, install Rail System adjustable shelf supports recessed.

3. Cabinet Doors:
   a. Full height, panel product cabinet doors may be fabricated in two pieces and joined on back with metal backplate. Backplate shall match interior door surface color.
   b. Hinges: Install hinges using plastic insertion dowels for hinges and 'Euroscrews' for baseplates.
   c. Every cabinet door shall have specified pull installed.
4. Cabinet Component Thickness And Material:
   a. Use hardwood veneer facing on panel product, except on following surfaces:
      1) Where Kortron or Melamine shall be used.
      2) Cabinet exposed interiors surfaces (not including cabinet doors) and shelving faces behind cabinet doors in all rooms.
      3) Cabinet semi-exposed surfaces.
      4) Cabinet concealed surfaces.
      5) Cabinet exposed exteriors permanently concealed (not exposed to view).
      6) Drawer sides, backs, bottoms, and subfronts.
   b. Ends, Divisions, Bottoms, Tops: 3/4 inch (19 mm) thick panel product.
   c. Rails: 3/4 inch (19 mm) thick panel product.
   d. Shelves:
      1) Panel product.
      2) Thickness:
         a) 30 Inch (750 mm) Span And Less: 3/4 inch (19 mm) thick.
         b) Spans Over 30 Inches (750 mm) To 42 Inches (1 050 mm): One inch (25 mm) thick.
         c) Spans Over 42 inches (1 050 mm): One inch (25 mm) thick and provide Hafele or equal center supports.
   e. Backs: 1/4 inch (6 mm) thick panel product.
   f. Doors: 3/4 inch (19 mm) thick panel product.
5. Cabinet and Drawer Locks:
   a. Install only on cabinets and drawers as shown on Contract Documents.

C. Finishes:
1. Factory Finishing:
   a. Design Criteria:
      1) Applied before leaving factory.
      2) Factory-finish to match Owner selected sample as specified in Section 09 9324.
   b. Match existing Project Color Scheme:
      1) Control Sample provided by Owner:
         a) Control Sample will be existing wood item from Project.

2.2 ASSESSORIES

A. Manufacturers:
1. Manufacturer Contact List for Assessories:
   a. Accuride, Santa Fe Springs, CA www.accuride.com.
   b. Anybumper, Amite, LA www.Anybumper.com.
   c. Blum Inc, Stanley, NC www.blum.com.
   d. CompX National, Mauldin, SC www.nclnet.com.
   e. Glynn Johnson, Chicago, IL www.glynn-johnson.com.
   f. Grass America Inc, Kernerville, NC www.grassusa.com.
   g. Hafele America Co., Archdale, NC hafele.com.
   h. Hager Companies, St Louis, MO www.hagerhinge.com or Hager Hinge (Canada) Ltd, Kitchener, ON (519) 893-7580.
   i. Ives, Indianapolis, IN www.iveshardware.com.
   j. Knape & Vogt, Grand Rapids, MI www.knapeandvogt.com or Knape & Vogt Canada, Mississaugua, ON (905) 676-8972.
   k. Mark Eaton LLC, American Fork, UT www.markeatonllc.com.
      1) Contact Information: Mark Eaton (801) 756-5639.
   l. Mckinney, Scranton, PA www.mckinneyhinge.com or Markham, ON (905) 940-2040.
   m. Olympus Lock Co, Seattle, WA www.olympus-lock.com.

n. Salice America Inc, Charlotte, NC www.saliceamerica.com.
o. Stanley, New Britain, CT www.stanleyhardware.com.
p. Techna-Base Inc, Pleasant Grove, UT (801) 361-2289 or dlundahl@earthlink.net.
1) Contact Information: Dewey Lundahl (801) 785-6477 or (801) 361-2289 (cell).
q. Trimco, Los Angeles, CA www.trimcobbw.com.
r. Wire Cloth Manufacturers, Inc., Mine Hill, NJ www.wireclothman.com.

B. Cabinet Hardware:
1. Cabinet Locks:
a. General:
1) Pin tumbler type suitable for location.
2) Keying: Key each cabinet and drawer individually as shown on Contract Documents except as follows:
a) Key each cabinet and drawer within each Office alike.
3) Stamp keys with Room number and cabinet designation as shown on Signage Plan of Contract Drawings.
4) Provide six (6) keys per cabinet.
b. Design Criteria:
1) Barrel diameter: 7/8 inch (22 mm).
2) Cylinder length: 7/8 inch (22 mm).
3) Key removable in locked or unlocked position.
4) Meet ANSI/BHMA A156.11 Grade 2 requirements.
c. Type Two Acceptable Manufacturers:
1) Advantage Plus cam lock by CompX National Lock.
2) 100DR/200DW N Series door and drawer lock by Olympus Lock Inc.
3) Equal as approved by Architect before installation. See Section 01 6200.
2. Cabinet Adjustable Shelf Supports:
a. Either of following systems are acceptable, at Fabricator's option:
1) 32mm System: Casework Fabricator's standard.
2) Traditional System:
a) Class Two Quality Standards: 255 and 256 by Knape & Vogt.
3. Cabinet Door Pull:
a. Type: Flush Pull.
b. Material:
1) Baldwin: Brass.
2) Schwinn: Zamac (Zinc, Aluminum, Magnesium, and Copper alloy).
c. Size:
1) Baldwin: 1.30 inch (33 mm) wide x 3.12 inch (79 mm) long x 0.33 inch (8.38 mm) deep. Projection: 0.33 inch (8.38 mm).
2) Schwinn: 34 mm (1 5/16 inch) wide x 103 mm (4 1/16 inch) long x 17 mm (1/16 inch) deep. Projection: 2 mm (1/16 inch).
d. Color / Finish: Satin Nickel Finish.
e. Type Two Acceptable Products:
1) 9BR7013002 by Baldwin Hardware, Wyomissing,PA, www.baldwinhardware.com.
2) Item Z078 (SCW-59058) by Schwinn Hardware, Inc., Scottsdale, AR www.schwinnhardware.com.
3) Equal as approved by Architect before installation. See Section 01 6200.
4. Cabinet Hinges:
a. Description:
1) Cup Hinge (Concealed Hinge or European style).
2) Steel, nickel-plated, full overlay, self closing with dowel, Mod 17.
b. Design Criteria:
1) Doors 48 inches (1 200 mm) High or Less:
a) Two (2) hinges.
b) Hinge Opening: 165 degree minimum.
2) Doors over 48 inches (1 200 mm) High:
a) Four (4) hinges.
b) Hinge Opening: 165 degree minimum.
c. Basis of Design: Model 329.03.558 with Model 329.73.510 mounting plate by Hafele.

1) Category Four Approved Manufacturers. See Section 01 6200 for definitions of Categories:
   a) Blum.
   b) Grass America.
   c) Hafele.
   d) Knape & Vogt.
   e) Salice.

5. Cabinet Inactive Leaf Catches:
   a. Class Two Quality Standards:
      1) Full-Height Doors: Two Surface Bolts No 043 - 2 inch (50 mm) by Ives.
      2) All Other Doors: Elbow Catch No 2 by Ives.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 06 4512

ARCHITECTURAL WOODWORK WOOD TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Chair rails.
   2. Hardwood trim for wall panels.

B. Related Requirements:
   1. Section 06 1100: 'Wood Framing' for wall blocking required for Wood Trim.
   2. Section 06 2001: ‘Common Finish Carpentry Requirements’:
      a. Installation of Wood Trim.
   3. Section 06 2210: Remaining Wood Trim.
   4. Section 06 4001: 'Common Architectural Woodwork Requirements':
      a. Approved Fabricators.
      b. General standards for materials and fabrication of Architectural Woodwork.
   5. Section 08 1429: Interior Flush Wood Doors.
   6. Section 09 9324: ‘Interior Clear-Finished Hardwood’.

1.2 REFERENCES

A. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.

B. Definitions:
   1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade.
      a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation.
   2. Plain-Sawn: A hardwood figure developed by sawing a log lengthwise at a tangent to the annual growth rings. It appears as U-shaped or straight markings in the board’s face.
   3. Running Trim: Generally combined in the term “standing and running trim” and refers to random, longer length trims delivered to the jobsite (e.g., baseboard, chair rail, crown molding).

1.3 SUBMITTALS

A. Action Submittals:
   1. Shop Drawings:
      a. Include materials used, standing and running trim profiles, joint details, and hardware.
   2. Samples:
      a. Interior Hardwood for Transparent Finish:
         1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.
         2) Design Criteria:
            a) Provide 8 inch by 10 inch (200 mm by 255 mm) sample of Red Oak to match Owner provided stain color selected for Project.

b) Control Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:
1. Source Quality Control Submittals:
a. Samples:
1) Interior Hardwood for Transparent Finish:
a) Owner will provide Control Sample for finish.

1.4 WARRANTY

A. Manufacturer Extended Warranty:
1. Approved Fabricator's written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
1. Approved Fabricators. See Section 06 4001 for Approved Fabricators.

B. Performance / Design Criteria: Conform to requirements of Section 06 4001 'Common Architectural Woodwork Requirements'.
1. Glue: Waterproof and of best quality.
2. Factory-finish to match Owner selected sample as specified in Section 09 9324.

C. Architectural Woodwork Wood Trim:
1. Interior Hardwood For Transparent Finish:
a. Design Criteria:
1) Solid wood shall be plain sawn Red Oak.
2) Paneling shall be panel product with plain sliced Red Oak veneer.
3) Finish to match Owner selected sample as specified in Section 09 9324.
b. Match existing Project Color Scheme:
1) Control Sample provided by Owner:
a) Control Sample will be existing wood item from Project.
2. Interior Wood For Opaque, Painted Finish:
a. Applies to ceiling trim only.
b. Solid wood shall be any species allowed by AWS Custom grade.

2.2 SOURCE QUALITY CONTROL

A. Inspections:
1. Clear Finished Hardwood:
a. Color matches Owner provided sample specified in Section 09 9324.

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 07 2116

BLANKET INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install faced acoustic batt insulation as described in Contract Documents.

1.2 REFERENCES

A. Reference Standards:
   1. ASTM International:
      a. ASTM C665-17, ‘Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing'.

1.3 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
   1. Insulation shall be manufactured and installed in compliance with International Building Code (IBC) or other applicable building codes.

PART 2 - PRODUCTS

2.1 SYSTEMS

A. Manufacturers:
   1. Insulation:
      a. Type One Acceptable Manufacturers:
         1) Certainteed Corp, Valley Forge, PA www.certainteed.com.
         2) FiberTEK, Salt Lake City, UT www.fibertekinsulation.com.
         3) Guardian Fiberglass, Greer, SC www.guardianbp.com.
         4) Johns Manville, Denver, CO www.jm.com.
         5) Knauf Fiber Glass, Shelbyville, IN www.knaufusa.com.
         6) Owens-Corning Fiberglass Corporation, Toledo, OH www.owens-corning.com.
         7) Thermafiber, Wabash, IL www.thermafiber.com.
      b. Equal as approved by Architect before bidding. See Section 01 6200.

B. Materials:
      a. Unfaced Insulation: Meet requirements of ASTM C665, Type I.
      b. 'R' Value Required:
         1) Acoustically Insulated Ceilings:
            a) Enclosed Spaces: Fill framed cavity with batt of appropriate thickness.

PART 3 - EXECUTION

3.1 INSTALLATION

A. In Framing:

1. Install insulation behind plumbing and wiring, around duct and vent line penetrations, and in similar places.
2. Fit ends of batts snug against top and bottom plates.
3. Fit batts snug against stud framing at each side.
4. Where insulation is not enclosed by structure or drywall, support in place with wire or other suitable material as approved by Architect before bid.

END OF SECTION

SECTION 07 9213

ELASTOMERIC JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install sealants not specified to be furnished and installed under other Sections.
   2. Quality of sealants to be used on Project not specified elsewhere, including submittal, material, and installation requirements.

B. Related Requirements:
   1. Removing existing sealants specified in Sections where work required.
   2. Furnishing and installing of sealants is specified in Sections specifying work to receive new sealants.

1.2 REFERENCES

A. Definitions:
   1. Sealant Types and Classifications:
      a. ASTM Specifications:
         1) Type:
            a) Type S: Single-component sealant.
            b) Type M: Multi-component sealant.
         2) Grade:
            a) Grade P: Pourable or self-leveling sealant used for horizontal traffic joints.
            b) Grade NS: Non-sag or gunnable sealant used for vertical and non-traffic joints.
         3) Classes: Represent movement capability in percent of joint width.
            a) Class 100/50: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand of at least 100 percent increase and decrease of at least 50 percent of joint width as measured at time of application.
            b) Class 50: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand increase and decrease of at least 50 percent of joint width as measured at time of application.
            c) Class 25: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand increase and decrease of at least 25 percent of joint width as measured at time of application.
            d) Class 12: Sealant that, when tested for adhesion and cohesion under cyclic movement shall withstand increase and decrease of at least 12 percent of joint width as measured at time of application.
         4) Use:
            a) T (Traffic): Sealant designed for use in joints in pedestrian and vehicular traffic areas such as walkways, plazas, decks and parking garages.
            b) NT (Non-Traffic): Sealant designed for use in joints in non-traffic areas.
            c) I (Immersion): Sealant that meets bond requirements when tested by immersion (Immersion rated sealant applications require primer).
            d) M (Mortar): Sealant that meets bond requirements when tested on mortar specimens.
            e) G (Glass): Sealant that meets bond requirements when tested on glass specimens.
            f) A (Aluminum): Sealant that meets bond requirements when tested on aluminum specimens.
            g) O (Other): Sealant that meets bond requirements when tested on substrates other than standard substrates, being glass, aluminum, mortar.

2. Silicone: Any member of family of polymeric products whose molecular backbone is made up of alternating silicon and oxygen atoms and which has pendant hydrocarbon groups attached to silicon atoms. Used primarily as a sealant. Offers excellent resistance to water and large variations in temperature (minus 100 deg F to + 600 deg F) (minus 73.3 deg C to + 316 deg C).

B. Reference Standards:
1. ASTM International:
a. ASTM C920-14a, 'Standard Specification for Elastomeric Joint Sealants'.
b. ASTM C1193-16, 'Standard Guide for Use of Joint Sealants'.
c. ASTM C1330-18, 'Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants'.
d. ASTM C1481-12(2017) 'Standard Guide for Use of Joint Sealants with Exterior Insulation & Finish Systems (EIFS)'.
e. ASTM D5893/D5893M-16, 'Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Scheduling:
1. Schedule work so waterproofing, water repellents and preservative finishes are installed after sealants, unless sealant manufacturer approves otherwise in writing.
2. Ensure sealants are cured before covering with other materials.

1.4 SUBMITTALS

A. Action Submittals:
1. Product Data:
a. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
b. Manufacturer's literature for each Product.
c. Schedule showing joints requiring sealants. Show also backing and primer to be used.

B. Informational Submittals:
1. Certificates:
a. Manufacturer's Certificate:
1) Certify products are suitable for intended use and products meet or exceed specified requirements.
2) Certificate from Manufacturer indicating date of manufacture.
2. Manufacturers' Instructions:
a. Manufacturer's installation recommendations for each Product.
b. Manufacturer's installation for completing sealant intersections when different materials are joined.
c. Manufacturer's installation for removing existing sealants and preparing joints for new sealant.

1.5 QUALITY ASSURANCE

A. Qualifications:
1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten (10) years documented experience.
2. Applicator Qualifications:
a. Company specializing in performing work of this section.
b. Provide if requested, reference of projects with minimum three (3) years documented experience, minimum three (3) successfully completed projects of similar scope and complexity, and approved by manufacturer.

c. Designate one (1) individual as project foreman who shall be on site at all times during installation.

B. Preconstruction Testing:
1. Pre-construction testing is not required when sealant manufacturer can furnish data acceptable to Architect based on previous testing for materials matching those of the Work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements:
1. Deliver and keep in original containers until ready for use.
2. Inspect for damage or deteriorated materials.

B. Storage and Handling Requirements:
1. Handle, store, and apply materials in compliance with applicable regulations and material safety data sheets (MSDS).
2. Handle to prevent inclusion of foreign matter, damage by water, or breakage.
3. Store in a cool dry location, but never under 40 deg F (4 deg C) or subjected to sustained temperatures exceeding 90 deg F (32 deg C) or as per Manufacturer's written recommendations.
4. Do not use sealants that have exceeded shelf life of product.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
1. Do not install sealant during inclement weather or when such conditions are expected. Allow wet surfaces to dry.
2. Follow Manufacturer’s temperature recommendations for installing sealants.

1.8 WARRANTY

A. Manufacturer Warranty:
1. Signed warranties against adhesive and cohesive failure of sealant and against infiltration of water and air through sealed joint for period of three (3) years from date of Substantial Completion.
a. Manufacturer's standard warranty covering sealant materials.
b. Applicator’s standard warranty covering workmanship.

PART 2 - PRODUCTS

2.1 SYSTEMS

A. Manufacturers:
1. Manufacturer Contact List:
a. Dow Corning Corp., Midland, MI www.dowcorning.com.
b. Franklin International, Inc. Columbus, OH www.titebond.com.
c. GE Sealants & Adhesives (see Momentive Performance Materials Inc.).
d. Laticrete International Inc., Bethany, CT www.laticrete.com.
e. Momentive Performance Materials Inc. (formally GE Sealants & Adhesives), Huntersville, NC www.ge.com/silicones.
f. Sherwin-Williams, Cleveland, OH www.sherwin-williams.com.
g. Sika Corporation, Lyndhurst, NJ www.sikaconstruction.com or Sika Canada Inc, Pointe Claire, QC www.sika.ca.
h. Tremco, Beachwood, OH www.tremcosealants.com or Tremco Ltd, Toronto, ON (800) 363-3213.

B. Materials:
1. Design Criteria:
a. Compliance: Meet or exceed requirements of these standards:
1) ASTM C920: Elastomeric joint sealant performance standard.
2) ASTM D5893/D5893M: Silicone Joint Sealant for Concrete Pavements.
b. Comply with Manufacturer's ambient condition requirements.
c. Sealants must meet Manufacturer's shelf-life requirements.
d. Sealants must adhere to and be compatible with specified substrates.
e. Sealants shall be stable when exposed to UV, joint movements, and environment prevailing at project location.
f. Primers (Concrete, stone, masonry, and other nonporous surfaces typically do not require a primer. Aluminum and other nonporous surfaces except glass require use of a primer. Installer Option to use Adhesion Test to determine if primer is required or use primer called out in related sections):
1) Adhesion Test:
a) Apply silicone sealant to small area and perform adhesion test to determine if primer is required to achieve adequate adhesion. If necessary, apply primer at rate and in accordance with Manufacturer's instructions. See 'Field Quality Control' in Part 3 of this specification for Adhesive Test.
2) If Primer required, shall not stain and shall be compatible with substrates.
3) Allow primer to dry before applying sealant.
2. General Interior Sealants:
a. General:
1) Both sides of interior door frames.
2) Miscellaneous gaps between substrates.
b. Design Criteria:
1) Meet ASTM C920, Type S, Grade NS, NT, and Class 25 test requirements.
2) 100 percent silicone sealant.
c. Non-Paintable Sealant (Installer Option A):
1) Category Four Approved Product. See Section 01 6200 for definitions of Categories:
a) Dow Corning: Tub, Tile, And Ceramic Silicone Sealant.
b) Laticrete: Latasil Silicone Sealant.
c) Momentive Performance Materials (formerly, GE Sealants & Adhesives): GE SCS2800 SilGlaze II Silicone Sealant.
d) Sherwin Williams: White Lightning Silicone Ultra Low Odor Window and Door Sealant.
e) Tremco: Tremsil 200 Silicone Sealant.
f) Franklin International: Titebond 2601 (White) 2611 (Clear) 100% Silicone Sealant.
d. Paintable Sealant (Installer Option B):
1) Category Four Approved Product. See Section 01 6200 for definitions of Categories:
a) Momentive Performance Materials (formerly, GE Sealants & Adhesives): GE SCS7000 Paintable Silicone Sealant.
3. Sealants For Interior Joints:
a. Description:
1) One-part acetoxy cure silicone sealant with fungicides to resist mold and mildew.
b. Design Criteria:
1) Meet ASTM C920, Type S, Grade NS, NT, and Class 25 test requirements.
2) 100 percent silicone sealant.
c. Color: As selected by Architect from Manufacturer's standard colors.
d. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
1) Dow Corning: Tub, Tile, And Ceramic Silicone Sealant.
2) Laticrete: Latasil Tile and Stone Silicone Sealant.
3) Momentive Performance Materials (formerly, GE Sealants & Adhesives): GE SCS1700 Sanitary Silicone Sealant.
4) Tremco: Tremsil 200 Silicone Sealant.

2.2 ACCESSORIES

A. Bond Breaker Tape:

1. Pressure sensitive tape as by Sealant Manufacturer to suit application.
2. Provide tape to prevent adhesion to joint fillers or joint surfaces at back of joint and allow sealant movement.

B. Joint Backing:
1. Comply with ASTM C1330.
2. Flexible closed cell, non-gassing polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.
3. Oversized 25 to 50 percent larger than joint width.

C. Joint Cleaner:
1. Non-corrosive and non-staining type as recommended by Sealant Manufacturer, compatible with joint forming materials.

D. Masking Tape:
1. Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
1. Examine substrate surfaces and joint openings are ready to receive Work.
   a. Verify each sealant is compatible for use with joint substrates.
   b. Verify joint surfaces are clean and dry.
   c. Ensure concrete surfaces are fully cured.
2. Sealants provided shall meet Manufacturer's shelf-life requirements.
3. Notify Architect of unsuitable conditions in writing.
   a. Do not proceed until unsatisfactory conditions are corrected.
4. Commencement of Work by installer is considered acceptance of substrate.

3.2 PREPARATION

A. Surface Preparation:
1. Remove existing joint sealant materials where specified.
   a. Clean joint surfaces of residual sealant and other contaminates capable of affecting sealant bond to joint surface using manufacturer’s recommended joint preparation methods.
   b. Repair deteriorated or damaged substrates as recommended by Sealant Manufacturer to provide suitable substrate. Allow patching materials to cure.
2. Surfaces shall be clean, dry, free of dust, oil, grease, dew, frost or incompatible sealers, paints or coatings that may interfere with adhesion. Prepare substrates in accordance with Manufacturer’s instructions:
   a. Porous surfaces: Clean by mechanical methods to expose sound surface free of contamination and laitance followed by blasting with oil-free compressed air.
   b. Nonporous surfaces: Use two-cloth solvent wipe in accordance with ASTM C1193. Allow solvent to evaporate prior to sealant application.
   c. High-pressure water cleaning: Exercise care that water does not enter through failed joints.
   d. Primers:
      1) Primers enhance adhesion ability.
      2) Use of primers is not a substitution for poor joint preparation.
      3) Primers should be used always in horizontal application where there is ponding water.
3. Field test joints in inconspicuous location.
   a. Verify joint preparation and primer required to obtain optimum adhesion of sealants to joint substrate.

b. When test indicates sealant adhesion failure, modify joint preparation primer, or both and retest until joint passes sealant adhesion test.

4. Masking: Apply masking tape as required to protect adjacent surfaces and to ensure straight bead line and facilitate cleaning.

B. Joints:
1. Prepare joints in accordance with ASTM C1193.
a. Clean joint surfaces of contaminates capable of affecting sealant bond to joint surface using Manufacturer's recommended instructions for joint preparation methods.
b. Remove dirt, dust, oils, wax, paints, and contamination capable of affecting primer and sealant bond.
c. Clean concrete joint surfaces to remove curing agents and form release agents.

C. Protection:
1. Protect elements surrounding the Work of this section from damage or disfiguration.

3.3 APPLICATION

A. General:
1. Apply silicone sealant in accordance with Manufacturer's instructions.
2. Do not use damaged or deteriorated materials.
3. Install primer and sealants in accordance with ASTM C1193 and Manufacturer's instructions.
4. Apply primer where required for sealant adhesion.
5. Install sealants immediately after joint preparation.
6. Do not use silicone sealant as per the following:
a. Apply caulking/sealant at temperatures below 40 deg F (4 deg C).
b. Below-grade applications.
c. Brass and copper surfaces.
d. Materials bleeding oils, plasticizers, and solvents.
e. Structural glazing and adhesive.
f. Surfaces to be immersed in water for prolonged time.

B. Joint Backing:
1. Install joint backing to maintain sealant joint ratios recommended by Manufacturer.
2. Install without gaps, twisting, stretching, or puncturing backing material. Use gage to ensure uniform depth to achieve correct profile, coverage, and performance.
3. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than 3/8 inch (9.5 mm) deep.

C. Bond Breaker:
1. Install bond breaker where joint backing is not used or where backing is not feasible.
a. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

D. Sealant:
1. Apply sealant with hand-caulking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint. Apply sealants in vertical joints from bottom to top.
2. Fill joint opening to full and proper configuration.
3. Apply in continuous operation.
4. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface. Tool joints in opposite direction from application direction, i.e., in vertical joints, from the top down. Do not 'wet tool' sealants.
5. Depth of sealant bite shall be 1/4 inch (6 mm) minimum and 1/2 inch (12.7 mm) maximum, but never more than one half or less than one fourth joint width.

E. Caulk gaps between painted or coated substrates and unfinished or pre-finished substrates. Caulk gaps larger than 3/16 inch (5 mm) between painted or coated substrates.

3.4 TOLERANCES

A. Provide joint tolerances in accordance with Manufacturer's printed instructions.

3.5 FIELD QUALITY CONTROL

A. Adhesion Test (Installer Option to use adhesion test to determine if primer is required).
   1. Perform adhesion tests in accordance with Manufacturer's instructions and ASTM C1193, Method A, Field-Applied Sealant joint Hand-Pull Tab:
      a. Perform five (5) tests for first 1,000 linear feet (300 meters) of applied silicone sealant and one (1) test for each 1,000 linear feet (300 meters) seal thereafter or perform one (1) test per floor per building elevation minimum.
      b. For sealants applied between dissimilar materials, test both sides of joints.
   2. Sealants failing adhesion test shall be removed, substrates cleaned, sealants re-installed, and re-testing performed.
   3. Maintain test log and submit report to Architect indicating tests, locations, dates, results, and remedial actions.

3.6 CLEANING

A. Remove masking tape and excess sealant.

B. Clean adjacent materials, which have been soiled, immediately (before setting) as recommended by Manufacturer.

C. Waste Management: Dispose of products in accordance with manufacturer's recommendation.

END OF SECTION

SECTION 08 1429

FLUSH WOOD DOORS: Factory-Finished, Clear

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Factory-finished flush wood doors.

B. Related Requirements:
   1. Section 06 2024: 'Door, Frame, And Finish Hardware Installation' for installation.
   2. Section 09 9324: ‘Interior Clear-Finished Hardwood’.

1.2 REFERENCES

A. Abbreviations And Acronyms:
   1. AWS: Architectural Woodwork Standards (formerly AWI).
   2. FD: Fire-resistant core, fire-resistant materials assembled to stiles and rails according to methods prescribed by the testing agency to meet rigorous smoke, flame, and pressure tests.
   3. FD-5: Core with 2 layers on each side.
   4. ME: Matching edges, i.e., vertical edges same as decorative faces.
   5. PC: Particleboard core, solid core door with stiles and rails bonded to the core and abrasive planed flat prior to the application of the faces.
   6. PC-5: Core with 2 layers on each side.

B. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.

C. Definitions:
   1. Book-Match: Matching between adjacent veneer leaves on one panel face. Every other piece of veneer is turned over so that the adjacent leaves are “opened” as two pages in a book. The fibers of the wood, slanting in opposite directions in the adjacent leaves, create a characteristic light and dark effect when the surface is seen from an angle.
   2. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade.
      a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation.
      b. Premium Grade: The highest Grade available in both material and workmanship where the highest level of quality, materials, workmanship, and installation is required.
   3. Running Match: Each panel face is assembled from as many veneer leaves as necessary. Any portion left over from one panel may be used to start the next.

D. Reference Standards:
   1. American Architectural Manufacturers Association / Window & Door Manufacturers Association / CSA Group:
      a. AAMA/WDMA/CSA 101/I.S.2/A440-17, ‘North American Fenestration Standard/Specification for windows, doors, and skylights'
   2. ASTM International:
      a. ASTM C1036-16, ‘Standard Specification for Flat Glass'.
      b. ASTM C1048-18, 'Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass'.

3. Hardwood, Plywood, and Veneer Association:
   a. HPVA HP-1-2016 ‘Standard for Hardwood and Decorative Plywood'.
4. National Particleboard Association / Composite Panel Association:
   a. NPA A208.1-2009, ‘Particleboard'.
5. Underwriters Laboratories, Inc.
   a. UL 9, ‘Fire Tests of Window Assemblies’ (8th Edition).
   b. UL 10B, ‘Fire Tests of Door Assemblies’ (10th Edition).

1.3 SUBMITTALS

A. Action Submittals:
   1. Shop Drawings:
      a. Schedule showing type of door at each location. Included shall be size, veneer, core type, fire rating, hardware prep, openings, blocking, etc.
      b. Indicate factory finish color and type.
   2. Samples:
      a. Interior Hardwood for Transparent Finish:
         1) Before performing work of this Section, prepare sample, to match Control Sample available from project, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324. Control Sample will be wood item from existing project such as existing door.
         2) Design Criteria:
            a) Provide 8 inch by 10 inch (200 mm by 255 mm) sample of Red Oak to match stain Control Sample provided for Project.
            b) Control Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:
   1. Source Quality Control Submittals:
      a. Samples:
         1) Interior Hardwood for Transparent Finish:
            a) Owner will provide Control Sample from project for finish.

C. Closeout Submittals:
   1. Include following information in Operations And Maintenance Manuals specified in Section 01 7800:
      a. Record Documentation:
         1) Manufacturers Documentation:
            a) Manufacturer's product literature on doors and factory finish.
            b) Maintenance and repair instructions.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Deliver in clean truck and, in wet weather, under cover.
   2. Deliver to building site only after plaster, cement, and taping compound are completed and dry and after interior painting operations have been completed.
   3. Individually wrap in polyethylene bags for shipment and storage.

B. Storage And Handling Requirements:
   1. Store doors in a space having controlled temperature and humidity range between 25 and 55 percent.
   2. Store flat on level surface in dry, well ventilated space.
   3. Cover to keep clean but allow air circulation.
   4. Do not subject doors to direct sunlight, abnormal heat, dryness, or humidity.
   5. Handle with clean gloves and do not drag doors across one another or across other surfaces.

6. Leave shipping bag on door after installation until immediately before substantial completion inspection.
7. Doors have been acclimated to the field conditions for a minimum of 72 hours before installation is commenced.

1.5 WARRANTY

A. Manufacturer Warranty:
   1. Manufacturer's standard full door warranty for lifetime of original installation.
      a. Warranty shall include finishing, hanging, and installing hardware if manufacturing defect was discovered after door was finished and installed.
      b. Warranty to include defects in materials including following:
         1) Delaminating in any degree.
         2) Warp or twist of 1/4 inch (6 mm) or more in door panel at time of one-year warranty inspection.
         3) Telegraphing of core assembly: Variation of 1/100 inch (0.25 mm) or more in 3 inch (75 mm) span.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Suppliers:
   1. Category Three Approved Suppliers. See Section 01 6200 for definitions of Categories and Section 01 4301 for Qualification Requirements:
      a. Architectural Building Supply, Salt Lake City, UT www.cookandboardman.com:
         1) Contact Information: Russ Farley: phone (800) 574-4369, fax 801-484-6817, or e-mail russf@absdoors.com.
      b. Beacon Metals Inc, Salt Lake City, UT www.beacon-metals.com:
         1) Contact Information: Jared Butler: phone (801) 486-4884, cell (435) 216-2297, FAX 801-485-7647, or e-mail Jared@beacon-metals.com.
      c. Midwest D-Vision Solutions, Salt Lake City, UT www.mwdsutah.com.
         1) Contact Information: Dan Mercer, office (801) 377-4355, cell (801) 618-9456, e-mail danm@mwdsutah.com.

B. Manufacturers:
   1. Category Four Approved Manufacturers. See Section 01 6200 for definitions of Categories:
      a. Graham Wood Doors, Mason City, IA.
      b. Marshfield Door Systems Inc, Marshfield, WI.
      c. VT Industries, Holstein, IA.

C. Wood Doors:
   1. Type: AWS PC-5ME or FD-5ME.
   2. Grade: AWS Premium, except face veneer.
   3. Fully Type I Construction: Adhere all glue lines with Type I adhesive, including veneer lay-up.
   4. Face Veneer:
      a. Plain sliced Red Oak meeting requirements of AWS Grade A, 1/50 inch (0.5 mm) thick minimum immediately before finishing.
      b. Face veneers shall be running book matched.
   5. Core:
      a. Fully bonded to stiles and rails and sanded as a unit before applying veneers.
      b. Non-Rated:
         1) 32 lb density meeting requirements of ANSI A208.1 Mat Formed Wood Particle Board, Grade 1-L-1 minimum.
         2) Stiles:
            a) 1-3/8 inches (35 mm) deep minimum before fitting.

b) Stile face to be hardwood matching face veneer material, thickness manufacturer's standard.

3) Rails:

a) 1-1/8 inches (28 mm).

b) Manufacturer's option.

6. Factory Glazing (non-fire-rated openings):

a. Glazing: Tempered glazing meeting requirements of ASTM C1048, Kind FT, Condition A, Type I, Class I, Quality q3. Thickness 1/4 inch (6 mm).

b. Lite Kit:

1) Design Criteria:

a) Pre-finished wood or wood veneer frames.

2) Dimensions:

a) Meetinghouse Classroom Doors: 6 inch (150 mm) wide by 30 inches (400 mm) high clear opening) security view window with bottom of opening located 56 inches (1 420 mm) above finish floor and side located 6 inches (150 mm) from strike edge of door.

3) Category Four Approved Product. See Section 01 6200 for definitions of Categories:

a) Profile M6G by Graham.

b) Profile W6 by Marshfield.

c) Profile VT1 by VT Industries.

D. Fabrication:

1. Doors shall be factory-machined. Coordinate with Section 08 1213 and Sections under 08 7000.

E. Finishes:

1. Factory Finishing:

a. Applied by Door Manufacturer before leaving factory.

b. Performance / Design Criteria:

1) Finish factory-finish to match Owner selected sample as specified in Section 09 9324.

c. Match existing Project Color Scheme:

a) Control Sample will be existing wood item from Project.

d. Finish: AWS Finish System TR-6 Catalyzed Polyurethane Premium Grade for unfilled, open-grain woods.

2.2 SOURCE QUALITY CONTROL

A. Inspections:

1. Verification of Performance:

a. Doors shall have following information permanently affixed on top of door:

1) Manufacturer:

2) Door designation or model.

3) Veneer species.

4) Factory finish.

2. Clear Finished Hardwood:

a. Color matches Owner provided sample specified in Section 09 9324.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 08 7101

COMMON FINISH HARDWARE REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. General requirements for finish hardware related to architectural wood and hollow metal doors.

B. Related Requirements:
   1. Section 06 2024: 'Door, Frame, And Finish Hardware Installation' for installation of hardware.
   2. Section 06 4114: 'Wood-Veneer-Faced Architectural Cabinets' for architectural woodwork hardware.
   3. Section 08 0601: 'Hardware Group and Keying Schedules'.

1.2 REFERENCES

A. Association Publications:
   1. Builders Hardware Manufacturers Association (BHMA), 355 Lexington Avenue, 15th Floor, New York, NY 10017-6603, Tel: 212-297-2122 Fax: 212-370-9047, www.buildershardware.com.

B. Reference Standards:
   1. International Code Council / American National Standards Institute:
      a. ICC / ANSI A117.1-2009, 'Accessible and Usable Buildings and Facilities'.
   2. Underwriters Laboratories (UL):
      a. UL 10B, 'Fire Tests of Door Assemblies' (10th Edition).
      b. UL 10C, 'Positive Pressure Fire Tests of Door Assemblies' (Third Edition).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Hardware Templates:
      a. Provide hardware templates to Sections 08 1213 and 08 1429 within fourteen (14) days after Architect approves hardware schedule.
      b. Supply necessary hardware installation templates to Section 06 2024 before pre-installation conference.

1.4 SUBMITTALS

A. Action Submittals:
   1. Product Data:
      a. Manufacturer's cut sheets.
      b. Two (2) copies of Manufacturer's installation, adjustment, and maintenance instructions for each piece of hardware. Include one (1) set in 'Operations And Maintenance Manual' and send one (1) set with hardware when delivered.
      c. Copy of hardware schedule.
      d. Written copy of keying system explanation.
   2. Shop Drawings:
      a. Submit hardware schedule indicating hardware to be supplied.
      b. Schedule shall indicate details such as proper type of strikeplates, spindle lengths, hand, backset, and bevel of locks, hand and degree opening of closer, length of kickplates, length

of rods and flushbolts, type of door stop, and other necessary information necessary to determine exact hardware requirements.

B. Closeout Submittals:
   1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
      a. Operations and Maintenance Data:
         1) Manufacturer’s installation, adjustment, and maintenance instructions for each piece of hardware.
      b. Record Documentation:
         1) Manufacturers documentation:
            a) Manufacturer's literature and/or cut sheets.
            b) Include keying plan and bitting schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Storage And Handling Requirements:
   1. Neatly and securely package hardware items by hardware group and identify for individual door with specified group number and set number used on Supplier's hardware schedule.
   2. Include fasteners and accessories necessary for installation and operation of finish hardware in same package.

PART 2 - PRODUCTS

2.1 SUPPLIERS

A. Existing Projects (Doors and Door Hardware):
   1. USA Projects:
      a. Category Three Approved Suppliers. See Section 01 6200 for definitions of Categories:
         1) Architectural Building Supply, Salt Lake City, UT www.cookandboardman.com:
            a) Contact Information: Russ Farley: phone (800) 574-4369, fax 801-484-6817, or e-mail russf@absdoors.com.
         2) Beacon Metals Inc, Salt Lake City, UT www.beacon-metals.com:
            a) Contact Information: Jared Butler: phone (801) 486-4884, cell (435) 216-2297, FAX 801-485-7647, or e-mail Jared@beacon-metals.com.
         3) Midwest D-Vision Solutions, Salt Lake City, UT www.mwdsutah.com.
            a) Contact Information: Dan Mercer, office (801) 377-4355, cell (801) 618-9456, e-mail danm@mwdsutah.com.

2.2 FINISHES

A. Hardware Finishes:
   1. Finishes for brass or bronze hardware items shall be:
      a. ANSI / BHMA Finish Code 626.
         1) Description: Satin Chromium Plated.
         2) Base Metal: Brass. Bronze.
   2. Finishes for flat goods items may be:
      a. ANSI / BHMA Finish Code 630.
         1) Description: Satin Stainless Steel.
         2) Base Metal: Stainless Steel (300 Series).
   3. Materials other than steel, brass, or bronze shall be finished to match appearance satin chromium plated, except flat goods which shall be satin stainless steel.

2.3 FASTENERS

A. Fasteners shall be of suitable types, sizes and quantities to properly secure hardware. Fasteners shall be of same material and finish as hardware unless otherwise specified. Fasteners exposed to weather shall be non-ferrous or corrosion resisting steel.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before ordering materials, examine Contract Documents to be assured that material to be ordered is appropriate for thickness and substrate to which it is to be secured and will function as intended.

END OF SECTION

SECTION 08 7102

HANGING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Hinges for flush wood doors.

B. Related Requirements:
   1. Section 08 7101: 'Common Hardware Requirements'.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturers:
   1. Manufacturer Contact List:
      a. Hager Companies, St Louis, MO www.hagerhinge.com.
      b. Ives, New Haven, CT www.iveshardware.com.
      c. McKinney, Scranton, PA www.mckinneyhinge.com.
      d. PBB, Ontario, CA www.pbbinc.com.
      e. Stanley (dormakaba Americas), Indianapolis IN www.stanleyhardwarefordoors.com/products/.

B. Hinges:
   1. Doors:
      a. Sizes:
         1) Non-Fire-Rated Doors:
            a) 1-3/8 inch 35 mm wood or metal doors: 3-1/2 inches by 3-1/2 inches (89 mm by 89 mm).
            b) Hinges shall be sized to allow for 180 degree opening where shown on hardware schedule.
   2. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
      a. Interior:
         1) Hager: BB 1279.
         2) Ives: 5BBI.
         3) McKinney: TA 2714.
         4) MacPro / McKinney: MPB79.
         5) PBB: BB81.
         6) Stanley: FBB 179.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 08 7103

SECURING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Items for architectural wood or hollow metal doors:
      a. Latchsets.

B. Related Requirements:
   1. Section 08 7101: Common Hardware Requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturers:
   1. Manufacturer List:
      a. Best Locks by Stanley, Indianapolis IN www.stanleysecuritysolutions.com.
      b. Glynn-Johnson, Indianapolis, IN www.glynn-johnson.com.
      c. Hager, St Louis, MO www.hagerhinge.com.
      d. Ives, New Haven, CT www.iveshardware.com.
      e. Knape & Vogt, Grand Rapids, MI www.knapeandvogt.com.
      f. Marks USA, Amityville, NY www.marksusa.com.
      g. Precision Hardware, Romulus, MI www.precisionhardware.com.
      h. Rockwood, Manufacturing Co, Rockwood, PA www.rockwoodmfg.com.
      i. Sargent, New Haven, CT www.sargentlock.com.
      j. Schlage, Colorado Springs, CO www.schlage.com.
      k. Von Duprin, Indianapolis, IN www.vonduprin.com.
      l. Yale Commercial Locks, Lenoir City, TN www.yalecommercial.com.

B. General:
   1. Backsets shall be 2-3/4 inches (70 mm).
   2. Furnish lead shields where required.

C. Latchsets:
   1. Design Criteria:
      a. Grade 2 Standard Duty Latchset:
         1) ANSI/BHMA A156.02 Series 4000 Grade 2.
         2) Meet UL 3 hour fire rating.
         3) Meet ADA Compliant ANSI A117.1 Accessibility Code.
         4) Door Lever:
            a) Meet California code for 1/2 inch (12.7 mm) or less return to door.
   2. Lever Operated:
      a. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
         1) Grade 2 Standard Duty Key-In Lever Cylindrical Locksets:
            a) 7K Series Best Lock with 15D Lever by Stanley standard cylinders - (I/C cores may be used when authorized by AEC).
            b) 175 Series with American Lever by Marks USA.
            c) 7 Line Series with L Lever by Sargent.
            d) AL Series with Saturn (SAT) Lever by Schlage.
            e) 5300LN Series with Augusta (AU) Lever by Yale.

END OF SECTION

SECTION 08 7108

STOPS AND HOLDERS

PART 1 - GENERAL

1.1 SUMMARY

A. Products Supplied But Not Installed Under This Section:
   1. Door stops.

B. Related Sections:
   1. Section 08 7101: Common Hardware Requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturers:
   1. Manufacturer Contact List:
      a. Glynn-Johnson, Indianapolis, IN www.glynn-johnson.com.
      b. Hager, St Louis, MO www.hagerhinge.com.
      c. Ives, Wallingford, CT www.iveshardware.com.
      d. Rockwood Manufacturing Co, Rockwood, PA www.rockwoodmfg.com.
      e. Sargent, New Haven, CT (800) 906-6606 or (203) 562-2151 www.sargentlock.com.

B. Stops:
   1. Use wall type stops unless indicated otherwise on Door Schedule.
   2. Provide model appropriate for substrate. Wall stops may be either cast or wrought.
   3. Type Two Acceptable Products:
      a. Interior Wall
      b. Hager 236W
      c. Ives WS407CCV
      d. Rockwood 409
      e. Equal as approved by Architect before Installation. See Section 01 6200.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Interface With Other Work: When using overhead stops, coordinate installation with door closer and other door hardware.

END OF SECTION

SECTION 08 7109

ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Smoke Gaskets.
   2. Thresholds (metal) where required for wood doors.

B. Related Requirements:
   1. Section 08 7101: 'Common Finish Hardware Requirements' for general finish hardware requirements and Approved Suppliers.

1.2 REFERENCES

A. Association Publications:
   1. American Architectural Manufacturers Association (AAMA:
      a. AAMA 609 & 609-09, 'Cleaning and Maintenance Guide for Architecturally Finished Aluminum' (combined document).
      b. AAMA 611-12, 'Voluntary Standards for Anodized Architectural Aluminum'.
      c. AAMA 701/702-11, 'Voluntary Specification for Pile Weatherstripping and Replaceable Fenestration Weatherseals'.
   2. National Association of Architectural Metal Manufacturers (NAAMM):
      a. AMP 500-06, 'Metal Finishes Manual' for Architectural and Metal Products.

B. Reference Standards:
   1. American National Standards Institute / Builders Hardware Manufacturers Association:
      a. ANSI / BHMA A156.18-2012, 'Materials and Finishes'.
      b. ANSI / BHMA A156.21-2014, 'American National Standard for Thresholds'.
   2. International Code Council / American National Standards Institute:
      a. ICC / ANSI A117.1-2009, 'Accessible and Usable Buildings and Facilities'.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturers:
   1. Manufacturer Contact List:
      a. Hager, St Louis, MO www.hagerhinge.com.
      b. NGP - National Guard Products, Memphis, TN www.ngpinc.com.
      c. Pemko Manufacturing, Ventura, CA www.pemko.com.

B. Smoke Gaskets:
   1. Color as selected by Architect.
   2. Type One Acceptable Products:
      a. 726 by Hager.
      b. 5050 by NGP.
      c. PK 55 by Pemko.
      d. Equal as approved by Architect before bidding. See Section 01 6200.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install smoke gaskets in manner to give continuous air-tight fit.
   1. Install smoke gaskets as per Manufacturer's installation requirements:
      a. Hinge Jamb: Install smoke gaskets on jamb face of door frame so door will compress smoke gasket.
      b. Header and Strike Jamb: Install smoke gaskets on face of stop of door frame so door will compress smoke gasket.

END OF SECTION

SECTION 09 2900

GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install gypsum board as described in Contract Documents.
   2. Furnish and install acoustical sealants as described in Contract Documents.

B. Related Requirements:
   1. Section 09 9413: 'Interior Textured Finishing'.

1.2 REFERENCES

A. Definitions:
   1. Accessories: Metal or plastic beads, trim, or moulding used to protect or conceal corners, edges, or abutments of the gypsum board construction.
   2. Drywall Primer: Paint material specifically formulated to fill the pores and equalize the suction difference between gypsum board surface paper and the compound used on finished joints, angles, fastener heads, and accessories and over skim coatings.
   3. Skim Coat: Either a thin coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer’s recommendations, over the entire surface.
   4. Texturing: Regular or irregular patterns typically produced by applying a mixture of joint compound and water, or proprietary texture materials including latex base texture paint, to a gypsum board surface previously coated with drywall primer.

B. Reference Standards:
   1. ASTM International:
      a. ASTM C11-18, ‘Standard Terminology Relating to Gypsum and Related Building Materials and Systems'.
      b. ASTM C475/C475M-17, ‘Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board'.
      c. ASTM C840-18a, 'Standard Specification for Application and Finishing of Gypsum Board'.
      d. ASTM C1002-18, 'Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs'.
      e. ASTM C1047-14a, ‘Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base'.
      f. ASTM C1178/C1178M-18, ‘Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel'.
      g. ASTM C1396/C1396M-17, ‘Standard Specification for Gypsum Board'.
      h. ASTM E84-18b, ‘Standard Test Method for Surface Burning Characteristics of Building Materials'.
      i. ASTM E119-18b, ‘Standard Test Method for Fire Tests of Building Construction and Materials'.
   2. Gypsum Association:
      a. GA-214-15, ‘Recommended Levels of Gypsum Board Finish'.
      b. GA-216-16: ‘Application and Finishing of Gypsum Panel Products'.
      c. GA-600-15, ‘Fire Reference Design Manual'.
      d. GA-801-2017, ‘Handling and Storage of Gypsum Panel Products: A Guide for Distributors, Retailers, and Contractors'.

3. International Building Code (IBC) (2018 or latest approved version):
   a. Chapter 25, ‘Gypsum Board And Plaster’.
4. Standards Council of Canada / Underwriters Laboratories of Canada:
   a. CAN/ULC-S102:2018: ‘Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies'.
5. Underwriters Laboratories, Inc.
   a. UL 263: ‘Test Method for Fire Tests of Building Construction and Materials' (14th Edition).
   b. UL 723: ‘Test for Surface Burning Characteristics of Building Materials; (11th Edition).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:
   1. Schedule MANDATORY pre-installation conference immediately before installation of gypsum wallboard.
   2. In addition to agenda items specified in Section 01 3100, review following:
      a. Finish requirements necessary for installation of finish materials over gypsum wallboard, and location and installation of ceramic tile backerboard.

1.4 SUBMITTALS

A. Informational Submittals:
   1. Test And Evaluation Reports:
      a. Fire test results or assembly diagrams and numbers confirming products used will provide required fire ratings with installation configurations used.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General:
   1. Following recommendations of GA-801 Guide for Handling and Storage of Gypsum Panel Products unless local, state or federal laws or agency rules differing from the recommendations shall take precedence.

B. Delivery And Acceptance Requirements:
   1. Deliver materials in original packages, containers, or bundles bearing brand name, applicable standard designation, and Manufacturer's name.

C. Storage And Handling Requirements:
   1. Store material under roof and keep dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack gypsum board flat to prevent sagging.

1.6 FIELD CONDITIONS

A. Ambient Conditions:
   1. Comply with ASTM C840 or GA-216 requirements, whichever are more stringent:
      a. Do not install interior products until installation areas are enclosed and conditioned.
         1) Temperature shall be 50 deg F (10 deg C) and 95 deg F (35 deg C) maximum day and night during entire joint operation and until execution of Certificate of Substantial Completion.
         2) Provide ventilation to eliminate excessive moisture.
         3) Avoid hot air drafts that will cause too rapid drying.
      b. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
1. Manufacturer Contact List:
   a. American Gypsum, Dallas, TX www.americangypsum.com.
   b. CertainTeed Gypsum, Inc; Tampa, FL www.certainteed.com.
   c. Georgia Pacific, Atlanta, GA www.gp.com.
   d. National Gypsum, Charlotte, NC www.nationalgypsum.com.
   e. Pabco Gypsum, Newark, CA www.pabcogypsum.com.
   f. United States Gypsum Co, Chicago, IL www.usg.com.

B. Materials:
1. Interior Gypsum Board:
   a. General:
      1) Size:
         a) Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.
      2) Class Two Quality Standard:
         a) Core: Fire-resistant rated gypsum core.
         b) Complies with Type X requirements of ASTM C1396/C1396M (Section 5).
         c) Surface paper: Face paper suitable for painting.
         d) Long edges: Tapered edge.
         e) Overall thickness: 5/8 inch (15.9 mm).

2.2 ACCESSORIES

A. Manufacturers:
1. Manufacturer Contact List:
   a. Kinetics Noise Control, Dublin, OH www.kineticsnoise.com.
   b. Magnum Products, Lenaxa, KS www.levelcoat.com.
   c. National Gypsum, Charlotte, NC www.nationalgypsum.com.
   d. Soundproofing Co, San Marcos, CA www.soundproofing.org.
   e. United States Gypsum Co, Chicago, IL www.usg.com.
   f. Westpac Materials Inc, Orange, CA www.westpacmaterials.com.
   g. Wm. Zinsser & Co, Somerset, NJ www.zinsser.com.
2. Gypsum Board Mounting Accessories:
   a. Corner And Edge Trim:
      1) Metal, paper-faced metal, paper-faced plastic, or solid vinyl meeting requirements of ASTM C1047. Surfaces to receive bedding cement treated for maximum bonding.
   b. Control Joint:
      1) Bent zinc sheet with V-shaped slot, perforated flanges, covered with plastic tape meeting requirements of ASTM C1047.
3. Joint Compound:
   a. Best grade or type recommended by Board Manufacturer and meeting requirements of ASTM C475/C475M.
      1) Use Taping Compound for first coat to embed tape and accessories.
      2) Use Taping Compound or All-Purpose Compound for subsequent coats except final coat.
      3) Use Finishing Compound for final coat and for skim coat.
4. Joint Reinforcing:
   a. Paper reinforcing tape acceptable to Gypsum Board Manufacturer.
5. Fasteners:
   a. Bugle head screws meeting requirements of ASTM C1002:
      1) Gypsum Board:

a) Type W: For fastening gypsum board to wood members, of length to penetrate wood framing 5/8 inch (15.9 mm) minimum.

B. Primer / Surfacer On Surfaces To Receive Texturing:
1. Type Two Acceptable Products:
a. Sheetrock First Coat by USG.
b. Prep Coat by Westpac Materials.
c. Level Coat by Magnum Products.
d. Equal as approved by Architect before bidding. See Section 01 6200.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
1. Examine substrate and verify framing is suitable for installation of gypsum board.
2. Examine gypsum board before installation. Reject panels that are wet, moisture damaged, and mold damaged.
3. Notify Architect of unsuitable conditions in writing.
a. Do not install board over unsuitable conditions.
4. Commencement of Work by installer is considered acceptance of substrate.

3.2 INSTALLATION

A. Interface With Other Work:
1. Coordinate with Division 06 for location of backblocking for edges and ends of gypsum board and for blocking required for installation of equipment and building specialties.
2. Do not install gypsum board until required blocking is in place.

B. General: Install and finish as recommended in ASTM C840 or GA-216 unless specified otherwise in this Section.

C. Interior Gypsum Board:
1. General:
a. Install so trim and reinforcing tape are fully backed by gypsum board. No hollow spaces between pieces of gypsum board over 1/8 inch (3 mm) wide before taping are acceptable.
b. Rout out backside of gypsum board to accommodate items that extend beyond face of framing, but do not penetrate face of gypsum board, such as metal door frame mounting brackets, etc.
c. On walls over 108 inches (2 700 mm) high, apply board perpendicular to support
d. Butt edges in moderate contact. Do not force in place. Shim to level.
e. Leave facings true with joint, finishing flush. Vertical work shall be plumb and ceiling surfaces level.
f. Scribe work closely:
1) Keep joints as far from openings as possible.
2) If joints occur near an opening, apply board so vertical joints are centered over openings.
3) No vertical joints shall occur within 8 inches (200 mm) of external corners or openings.
g. Install board tight against support with joints even and true. Tighten loose screws.
h. Caulk perimeter joints in sound insulated rooms with specified acoustical sealant.
2. Fastening:
a. Apply from center of board towards ends and edges.
b. Apply screws 3/8 inch (9.5 mm) minimum from ends and edges, one inch (25 mm) maximum from edges, and 1/2 inch (13 mm) maximum from ends.
c. Spacing:

1) Ends: Screws not over 7 inches (175 mm) on center at edges where blocking or framing occurs.
2) Wood Framed Walls And Ceilings: Screws 7 inches (175 mm) on center in panel field.

d. Set screw heads 1/32 inch (0.8 mm) below plane of board, but do not break face paper. If face is accidentally broken, apply additional screw 2 inches (50 mm) away.
e. Screws on adjacent ends or edges shall be opposite each other.
f. Drive screws with shank perpendicular to face of board

3. Trim:
   a. Corner Beads:
      1) Attach corner beads to outside corners.
         a) Attach metal corner bead with staples spaced 4 inches (100 mm) on center maximum and flat taped over edges of corner bead. Also, apply screw through edge of corner bead where wood trim will overlay corner bead.
         b) Set paper-faced trim in solid bed of taping compound.
   b. Edge Trim: Apply where gypsum board abuts dissimilar material. Hold channel and 'L' trim back from exterior window and door frames 1/8 inch (3 mm) to allow for caulking.
4. Finishing:
   a. General:
      1) Tape and finish joints and corners throughout building as specified below to correspond with final finish material to be applied to gypsum board. When sanding, do not raise nap of gypsum board face paper or paper-faced trim.
      2) First Coat:
         a) Apply tape over center of joint in complete, uniform bed of specified taping compound and wipe with a joint knife leaving a thin coating of joint compound. If metal corner bead is used, apply reinforcing tape over flange of metal corner bead and trim so half of tape width is on flange and half is on gypsum board.
         b) Completely fill gouges, dents, and fastener dimples.
         c) Allow to dry and sand lightly if necessary, to eliminate high spots or excessive compound.
      3) Second Coat:
         a) Apply coat of specified joint compound over embedded tape extending 3-1/2 inches (88 mm) on both sides of joint center. Use finishing compound only if applied coat is intended as final coat.
         b) Re-coat gouges, dents, and fastener dimples.
         c) Allow to dry and sand lightly to eliminate high spots or excessive compound.
      4) Third Coat: Apply same as second coat except extend application 6 inches (150 mm) on both sides of joint center. Allow to dry and sand with fine sandpaper or wipe with damp sponge.
      5) Fourth Coat: Apply same as second coat except extend application 9 inches (425 mm) on both sides of joint center. Allow to dry and sand with fine sandpaper or wipe with damp sponge.
   a. Finishing Levels: Finish panels to levels indicated below and according to ASTM C840, GA-214 and GA-216:
      1) Gypsum Board Surfaces not painted or finished:
         a) GA-214 Level 1: 'All joints and interior angles shall have tape set in joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable'.
      2) Gypsum Board Surfaces Under Acoustical Tile:
         a) GA-214 Level 2: 'All joints and interior angles shall have tape embedded in joint compound and wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Fastener heads and accessories shall be covered with a coat of joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable. Joint compound applied over the body of the tape at the time of tape embedment shall be considered a separate coat of joint compound and shall satisfy the conditions of this level.
         b) Note: It is critical that gypsum board ceiling be smooth before installing ceiling tile. Drywall joints must be as specified in paragraph above.

3) Gypsum Board Surfaces to Receive: Painted Texturing - Section 09 9413: 'Interior Textured Finishing':
   a) GA-214 Level 4: 'All and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges. Coat prepared surface with specified primer'.

3.3 FIELD QUALITY CONTROL

A. Non-Conforming Work:
   1. Remove and replace panels that are wet, moisture damaged, and mold damaged.
      a. Indications that panels are wet, or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
      b. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

3.4 CLEANING

A. Remove from site debris resulting from work of this Section including taping compound spills.

END OF SECTION

SECTION 09 5116

ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install acoustical tile on backerboard as described in Contract Documents.

1.2 REFERENCES

A. Association Publications:
   1. The Ceilings & Interior Systems Construction Association (CISCA), 405 Illinois Avenue, 2B, St Charles IL. www.cisca.org.
      a. *'Ceiling Systems Handbook':* Recommendations for direct hung acoustical tile installation.
      b. *'Production Guide'*: Practical reference for ceiling systems and estimating costs.

B. Definitions:
   1. Absorption: Materials that have capacity to absorb sound. Absorption is the opposite of reflection.
   2. Ceiling Attenuation Class (CAC): Rates ceiling's efficiency as barrier to airborne sound transmission between adjacent closed offices. Shown as minimum value, previously expressed as CSTC (Ceiling Sound Transmission Class). Single-figure rating derived from normalized ceiling attenuation values in accordance with classification ASTM E413, except that resultant rating shall be designated ceiling attenuation class. (Defined in ASTM E1414.) Acoustical unit with high CAC may have low NRC.
   3. Class A: Fire classification for product with flame spread rating of no more than 25 and smoke developed rating not exceeding 50, when tested in accordance with ASTM E84 or UL 723.
   4. Flame Spread: The propagation of flame over a surface.
   5. Flame Spread Index: Comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E84 or UL 723.
   6. Light Reflectance (LR): Percentage of light a surface reflected by ceiling surface expressed in decimal form.
   7. Noise Reduction Coefficient (NRC): Average sound absorption coefficient measured at four frequencies: 250, 500, 1,000 and 2,000 Hertz expressed to the nearest integral multiple of 0.05. Rates ability of ceiling or wall panel or other construction to absorb sound. NRC is fraction of sound energy, averaged over all angles of direction and from low to high sound frequencies that is absorbed and not reflected.
   8. Smoke-Developed Index: Comparative measure, expressed as a dimensionless number, derived from visual measurements of smoke obscuration versus time for a material tested in accordance with ASTM E84 or UL 723.
   9. Sound Absorption: Property possessed by materials and objects, including air, of converting sound energy into heat energy. Sound wave reflected by surface always loses part of its energy. Fraction of energy that is not reflected is called sound absorption coefficient of reflecting surface. For instance, if material reflects 80 percent of sound energy, then sound absorption coefficient would be 20 percent (0.20).
   10. Surface Burning Characteristic: Rating of interior and surface finish material providing indexes for flame spread and smoke developed, based on testing conducted according to ASTM Standard E84 or UL 723.
   11. Textured Pattern: Granular or raised (fine, coarse, or a blend), felted or matted surface as an integral part of the basic product or superimposed on the product surface.

C. Reference Standards:

1. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (AASHRA):
   a. ASHRAE Standard 62.1-2013, ‘Ventilation for Acceptable Indoor Air Quality’.
2. ASTM International;
   a. ASTM D1779-98(2017), ‘Standard Specification for Adhesive for Acoustical Materials’.
   b. ASTM E84-18b, ‘Standard Test Method for Surface Burning Characteristics of Building Materials'.
   c. ASTM E795-16, 'Standard Practices for Mounting Test Specimens During Sound Absorption Tests'.
   d. ASTM E1264-14, ‘Standard Classification for Acoustical Ceiling Products'.
   e. ASTM E1414/E1414-16, ‘Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum'.
   f. ASTM E1477 - 98a(2017), ‘Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers’.
3. International Building Code (IBC) (2018 or latest approved Edition:
   a. Chapter 8, ‘Interior Finishes’:
      1) Section 803, ‘Wall And Ceiling Finishes’:
         a) 803.1.1, ‘Interior Wall and Ceiling Finish Materials’.
         b) 803.1.2, ‘Room Corner Test for Interior Wall or Ceiling Finish Materials’.
4. National Fire Protection Association:
   a. NFPA 101: ‘Life Safety Code’ (2018 Edition).
   b. NFPA 265: ‘Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls’ (2015 Edition).
5. Underwriters Laboratories Inc.:
   a. UL 723, ‘Standard for Safety Test for Surface Burning Characteristics of Building Materials’ (Tenth Edition).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
   1. Participate in pre-installation conference specified in Section 09 2900 to review finish requirements for gypsum wallboard ceilings.
   2. Schedule acoustical tile ceiling pre-installation conference after installation of gypsum wallboard but before beginning installation of tile.
   3. In addition to items specified in Section 01 3100, review following:
      a. Verify that tile comes from same dye lot and has same dye lot code.
      b. Review requirements of acceptable and non-acceptable tile.

1.4 SUBMITTALS

A. Action Submittals:
   1. Samples:
      a. One (1) sample of each variant of specified tile series.

B. Informational Submittals:
   1. Certificates:
      a. Installer(s):
         1) Provide each Installer’s ‘Certificate of Completion - Duratile’ from Manufacture showing Name and completion date with bid to be included in closing documents for project.
            a) Certificate is valid for two (2) years from date printed on Certificate before recertification is required.
   2. Test And Evaluation Reports:
      a. If requested by Owner, provide copies of Quality Assurance requirements for ‘Class A’ flame spread rating and 'Room-Corner Test'.
   3. Manufacturer Installations:
      a. Published installation recommendations.
   4. Qualification Statement:
      a. Installer(s):

1) Provide Qualification documentation unless waived by Owner.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
a. Warranty Documentation:
1) Include final, executed copy of warranty.
b. Record Documentation:
1) Manufacturers Documentation:
a) Manufacturer's literature on tile and adhesive.
b) Color and pattern selection.
2) Installer(s) ‘Certificate of Completion - Duratile’ submitted at time of bid.

D. Maintenance Material Submittals:
1. Extra Stock Materials:
a. Provide Owner with six (6) cartons of each type of tile with same dye lot code.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
1. Fire-Test-Response Characteristics: As determined by testing identical ceiling tile applied with identical adhesives to substrates according to test method indicated below by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
a. Surface-Burning Characteristics:
1) Ceiling tile shall have Class A flame spread rating in accordance with ASTM E84 or UL 723 Type 1.
a) Class A (Flame spread index 0-25; Smoke-developed index 0-450).
b) Flash point: None.
2. Passage of ‘Room-Corner Test' as recognized by AHJ, is required for system. Adhesive cited in test literature is required for installation of ceiling tile on Project.
a. Room Corner Tests:
1) ASTM E84, ‘Standard Test Method for Surface Burning Characteristics of Building Materials'.
2) IBC 803.2.1, ‘Room Corner Test for Interior Wall or Ceiling Finish Materials’.
3) NFPA 265: ‘Room Corner Test for Interior Wall or Ceiling Finish Materials’.
4) UL 723, ‘Standard for Safety Test for Surface Burning Characteristics of Building Materials'.

B. Qualifications:
1. Installer: Requirements of Section 01 4301 applies, but not limited to following:
a. Minimum five (5) years satisfactorily completed projects of comparable quality, similar size, and complexity including a minimum of three (3) years of experience in glue-up ceiling tile installations and shall have satisfactorily completed glue-up installation(s) within in past three (3) years before bidding.
b. Review, understand, and comply Installer Qualifications and submitted ‘Duratile’ published installation recommendations provided by Manufacturer:
1) Contact Armstrong CSA customer service center at (800) 442-4212 to obtain and review compliance package on Duratile prior to bidding.
2) This requirement may be waived by Owner, if Installer has previously complied with Installer Qualification requirements and can document at least two (2) satisfactorily completed projects of comparable size using Armstrong 12 inch x 12 inch (300 mm x 300 mm) ceiling tile for glue-up within past three (3) years prior to bidding.
3) Installer shall note complete compliance with Qualification requirements on submitted bid form.
4) Submit qualification documentation unless waived by Owner.
c. Agree to complete and pass ‘Duratile Personal Learning Module’ (Certificate required for all Installer(s) for Church projects). Certification valid for two (2) years:
1) Go to http://www.armstrong.com/commceilingsna/#.
2) Click on My Armstrong Upper Right hand Corner.

3) First time users: Click on 'Register' button and provide all appropriate information for username and password (you must register as a contractor to have access to 'ELearning System).
4) Under My Armstrong Functions (left hand side), click on 'ELearning System'.
5) Click on 'Duratile Video'.
6) Watch video and take Quiz (10 questions). Passing grade required for certificate.
7) Print Certificate.
8) Certificate must be submitted with Bid.
9) Submit 'Certificate of Completion - Duratile'. Required for all projects and may not be waived by Owner.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements:
1. Materials shall be delivered in original, unopened packages with labels intact.

B. Storage And Handling Requirements:
1. Store materials where protected from moisture, direct sunlight, surface contamination, and damage.
2. Store acoustic tile in cool, dry location, out of direct sunlight and weather, and at temperatures between 32 deg F (0 deg C) and 86 deg F (30 deg C).
3. Store adhesive on site at installation temperature, between 65 and 90 deg F (18 and 32 deg C), for one week before installation.
4. Handle acoustical ceiling tiles carefully to avoid chipping edges or damage. Use no soiled, scratched, or broken material in the Work.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
1. Building shall be enclosed, mechanical system operating with proper filters in place, and temperature and humidity conditions stabilized within limits under which Project will operate before, during, and after installation until Substantial Completion.
2. Temperature at time of setting tile shall be 50 deg F (10 deg C) minimum and 100 deg F (38 deg C) maximum.

1.8 WARRANTY

1. Provide Manufacturer's system warranty for the following:
a. Manufacturer's warranty to be free from defects in materials and factory workmanship.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
1. Manufacturer Contact List:
a. Armstrong World Industries, Strategic Accounts, Lancaster, PA www.armstrong.com.
1) For pricing and ordering of tile, contact Sherry Brunt, Phyllis Miller, or Beth Rinehart at (800) 442-4212, or Armstrongcsa@armstrong.com.
2) For Strategic Account information, contact Deborah Pickens at (480) 695-9053 dlpickens@armstrong.com.
b. Franklin International, Inc, Columbus, OH www.titebond.com.
c. USG Inc, Chicago, IL www.usg.com.

B. Materials:

1. Description:
   a. Size: 3/4 inch (19 mm) thick minimum by 12 inches (305 mm) square.
   b. Color: White.
   c. Grid Face: Tile glue-up.
   d. Surface Finish: Factory-applied.
   e. Wet-formed high density mineral fiber.
2. Design Criteria:
   a. Armstrong:
      1) Meet requirements of ASTM E1264, Type III (mineral base with painted finish), Form 2 (water felted), Pattern CE (perforated, small holes – lightly textured), Fire Class A.
      2) Meet requirements of ASTM E1264, Type III (mineral base with painted finish), Form 1 (nodular), Pattern E (lightly textured) or Pattern F (heavily textured), Fire Class A.
   b. USG:
      1) Meet requirements of ASTM E1264, Type III (mineral base with painted finish), Form 4 (cast or molded), Pattern D (Fissured), Fire Class A.
   c. Acoustics:
      1) Noise Reduction Coefficient (Rating expressed according to ASTM E1284 requirements:
         a) NRC rating: 60 minimum.
      2) CAC rating:
         a) Armstrong: 35 minimum.
         b) USG: 25 minimum.
   d. Anti Mold / Mildew:
      1) Resistance against growth of mold/mildew.
   e. Durable:
      1) Impact-resistant.
      2) Scratch-resistant.
   f. Finish:
      1) Abuse-resistant/durable, factory applied vinyl latex paint.
   g. Fire Performance:
      1) Panels meet ASTM E84 or UL 723 Type 1 surface burning characteristics.
   h. High Recycled Content (HRC): Classified as containing greater than 50 percent total recycled content.
   i. Light Reflectance (LR): 0.79 minimum.
   j. VOC Requirements:
      1) Armstrong:
         a) Low formaldehyde: Contributing less than 13.5 ppb in typical conditions per ASHRAE Standard 62, ‘Ventilation for Acceptable Indoor Air Quality’.
      2) USG:
         a) Zero.
3. Acoustic Tile:
   a. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
      1) 'F' Fissured by USG.

C. Accessories:
1. Adhesive:
   a. Description:
      1) For use on acoustical ceiling tiles.
   b. Design Criteria:
      1) Meet requirements of ASTM D1779.
      2) Meet NFPA Class A fire rating when tested in accordance with ASTM E84.
      3) Fast grab and ‘no sag’ installation.
      4) Water cleanup.
      5) Not recommended for use on tiles larger than 12 inch x 12 inch (305 mm x 305 mm).
   c. Type Two Acceptable Products:
      1) Titebond No. 2704 Solvent Free Acoustical Ceiling Tile Adhesive by Franklin International.
      2) Highest quality of adhesive from manufacturer recommended by Tile Manufacturer as approved by Architect before use. See Section 01 6200.
2. Edge Molding:

a. Steel 'U' molding with baked enamel finish.
b. Type Two Acceptable Products:
   1) US 12 RWS 14 by USG Interiors.
   2) Equal as approved by Architect before installation. See Section 01 6200.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
   1. Inspect for defects in backing and support that are not acceptable.
      a. Examine areas around HVAC diffusers and light fixtures for tile installation problems.
      b. Examine ceiling for levelness. CISCA *'Code of Practice'* requires ceiling to be free of irregularities and be level to within 1/4 inch (6 mm) in 12 foot (305 mm).
      c. Examine substrate for any problems that will compromise adhesion of ceiling tile.
   2. Notify Architect in writing of unacceptable conditions.
   3. Do not apply ceiling tile until defects in backing and support are corrected.

3.2 PREPARATION

A. Surface Preparation:
   1. Follow Manufacturer recommendations for surface preparation:
      a. Substrate must be clean, free of grease and dirt, sound, smooth, even and level before applying tile to surface.
         1) Do not install new ceiling tile over old glue globs or bad substrate with any surface finish that is incompatible with tile adhesive.
      b. Painted Surfaces: Avoid applying tile to newly painted ceiling.
      c. Materials shall be dry and clean at time of application.

3.3 INSTALLATION

A. Special Techniques:
   1. Installation shall be in accordance with Manufacturer's recommendations:
      a. Do not install tile when room temperature exceeds or below recommended ambient conditions.
      b. Tile is directional tile and must be installed in same direction of pattern running parallel to long dimension of each room.
      c. Remove loose dust from back of tile and ceiling where adhesive is to be applied.
      d. Prime 3 inch (75 mm) minimum circle near each corner by buttering very thin coat of adhesive.
      e. Apply daub of adhesive to each corner. Daubs will be of sufficient size to form a circle 2-1/2 to 3 inches (63 to 75 mm) in diameter and 1/8 to 1/4 inch (3 to 6 mm) thick when tile is pressed firmly in place. Do not apply daubs so far in advance of installation that adhesive skins over.
      f. Do not bend tile during installation.
   2. Tile Layout:
      a. Lay out tile symmetrically about center lines of room.
      b. Lay out so tiles at room perimeters are at least 1/2 full tile size.
      c. Leave tile in true plane with straight, even joints.
      d. Tile joints shall be straight and in alignment, and exposed surface flush and level.
      e. Furnish and install specified molding wherever tile has exposed edges or abuts walls, columns, and other vertical surfaces, except at curves of 3 inch (75 mm) radius or smaller.
      f. Cut around penetrations that are not to receive moldings cleanly with sharp knife and at a slight angle away from cutout.
   3. Ceiling mounted items:

a. Locate light fixtures, speakers, and mechanical diffusers and grilles symmetrically in room and centered on tile centers or tile joints insofar as possible, unless shown otherwise.
b. Keep method of locating ceiling mounted items as consistent as possible throughout building.
c. Ceiling mounted item location method within each room shall always be consistent.

3.4 FIELD QUALITY CONTROL

A. Non-Conforming Work:
1. Acoustical Tile. The following have been identified by the Manufacturer as tile defects, should not be installed, and will be replaced at no charge to Owner. Manufacturer will replace any material that does not meet product specifications. Installer to call 1 (800) 442-4212 immediately to report any tile discrepancies:
a. Obvious Tile Defects:
1) Gross surface defects or damage.
2) Gross damage to edges and corners.
3) Bevels without paint.
b. Size Measurement:
1) Tiles measure 12 inches (305 mm), plus or minus 1/32 inch (0.8 mm), measured across center of two (2) parallel sides.
c. Squareness Measurement:
1) Measure two (2) diagonals of an individual ceiling tile.
2) Diagonal measurements need to be within 1/16 inch (1.6 mm) of each other. No more than 1/16 inch (1.6 mm) difference.
d. Warp:
1) Tiles specification is plus or minus 0.050 inch (1.27 mm) as measured in the center of tile.
2. Installer:
a. Substrate preparation and installation of ceiling tile not following CISCA Code of Practice will be unacceptable and considered defective and subject to replacement at no cost to Owner.

3.5 ADJUSTING

A. 'Touch-up' minor abraded surfaces.

3.6 CLEANING

A. Remove from site debris connected with work of this Section.

END OF SECTION

SECTION 09 6816

SHEET CARPETING: Back Cushion, Direct Glue

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But Is Not Limited To:
   1. Coordination, sequencing, and scheduling installation of Owner-Furnished carpet, carpet base, carpet accessories, leveling compounds as described in Contract Documents and including following:
      a. Pre-Installation Conference held in conjunction with Section 09 6813.
      b. Maintain Building Ambient Conditions including normal levels of humidity, lighting, heating, and air conditioning for acceptability for beginning floor preparation and carpet installation.
      c. Protection of carpet after installation of carpeting as required.

B. Related Requirements:
   1. Section 01 0000: 'General Requirements':
      a. Section 01 1200: Owner will furnish and install carpet tiles and carpet base. This Section establishes quality of materials and installation for information of Contractor, Architect, and Owner's Representatives.

1.2 REFERENCES

A. Association Publications:
   1. The Carpet and Rug Institute (CRI), Dalton, GA www.carpet-rug.org. Standard for Installation Specification of Commercial Carpet:
      a. CRI Indoor Air Quality (IAQ):
         1) CRI Green Label Plus Certification.

B. Reference Standards:
   1. The Carpet and Rug Institute (CRI):
      a. CRI 104, 'Standard For Installation of Commercial Carpet' (Sept 2015).
      b. CRI TM-102, 'School Carpet Minimum Average Specifications'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate completion of carpet installation with other trades.

B. Pre-Installation Conference:
   1. Participate in MANDATORY pre-installation conference as specified in Section 09 0503 and held jointly with Section 09 6813 pre-installation conference.
   2. Schedule pre-installation conference before installation of flooring system.
   3. Conference may be held at project site or another convenient site. Participants may also attend by video or audio conference if approved by Project Manager.
   4. Schedule conference after substrate preparation and ONE (1) week before installation of flooring system.
   5. In addition to agenda items specified Section 01 3100 and Section 09 0503, review following:
      a. Review Owner's Representative schedule for furnishing and installation carpet.
      b. Review Flooring Manufacturer's installation conditions verification procedure and requirements.
      c. Review Building Ambient Conditions including normal levels of humidity, lighting, heating, and air conditioning for acceptability for beginning floor preparation and carpet installation.

d. Review cleaning and disposal requirements.
e. Review protection requirements of carpet after installation of carpeting.

C. Scheduling:
1. Notify Flooring Installer when Building Ambient Conditions requirements are met before installation of flooring system.
2. Notify Owner's Representative to coordinate installation of carpet.

1.4 SUBMITTALS

A. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
a. Warranty Documentation:
1) Copy of Warranty.
b. Record Documentation:
1) Owner will provide Project Carpet Request Documentation forms in both hard copy and digital format:
a) Carpet Request Information Sheet.
b) Carpet Vendor Quotation.
c) Carpet Preinstallation Meeting Agenda.
d) Carpet Installation Notice to Proceed or Cancel.
e) Carpet Inspection and Completion.
f) Carpet Overage Report and Completion.
g) Carpet Quotation Change Request.

B. Maintenance Material Submittals:
1. Extra Stock Materials:
a. Leave excess pieces of carpet, 6 feet square (1 800 sq mm) or larger and 25 lineal feet (7.620 m) minimum of carpet cove base.
b. Roll up and tie securely.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
1. All products provided will meet requirements of all federal, state, and local codes having jurisdiction.
2. Label meeting Federal Labeling Requirements, as stated in Textile Products Identification Act under Federal Trade Commission, shall be attached to certification samples and products delivered.

B. Qualifications: Section 01 4301 applies, but is not limited to following:
1. Carpet Installer Qualifications:
a. Certified CFI Master or Contract II grade installer or FCIB certified.
b. Not less than five (5) years of experience in installation of commercial carpet tile of type, quantity and installation methods similar to work of this section.
c. Qualified and approved by Carpet Manufacturer.
2. Carpet Manufacturer Qualifications:
a. Not less than five (5) years of production experience, whose published literature clearly indicates general compliance of products with requirements of this section.
b. Category One Approved Carpet Manufacturers:
1) Approval subject to agreement process approval.

1.6 DELIVERY, STORAGE, AND HANDLING

A. General:

1. Comply with instructions and recommendations of Manufacturer for special delivery, storage, and handling requirements.

B. Delivery And Acceptance Requirements:
1. Deliver materials and accessories necessary for completion of carpet installation to site before beginning installation of carpet.
2. Do not deliver materials before date scheduled for installation.
3. Transport carpet in manner that prevents damage and distortion. Bending or folding individual carpet rolls or cuts from rolls is not recommended. When bending or folding is unavoidable for delivery purposes, carpet is required to be unrolled and allowed to lie flat immediately upon arrival at installation site.

C. Storage And Handling Requirements:
1. Store carpet and related materials in a climate-controlled, dry space.
2. Protect carpet from soil, dust, moisture and other contaminants and store on a flat surface.
3. Stacking heavy objects on top of carpet rolls or stacking more than three rolls is prohibited.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
1. Building Conditions:
a. Conditions inside building shall be brought to levels to be normal at occupancy of building. Conditions include normal levels of humidity, lighting, heating, and air conditioning. (HVAC must be in operation thru out carpet installation):
1) Carpet installation is not to begin until HVAC system is operational and following conditions are maintained for at least forty-eight (48) hours before, during and seventy-two (72) hours after completion:
a) Carpet is to be installed when indoor temperature is between 65º - 95º F (18º - 35º C) with maximum relative humidity of 65%.
b) Substrate surface temperature should not be less than 65º F (18º C) at time of installation.
c) Do not allow temperature of indoor carpeted areas to fall below 50º F (10º C), regardless of age of installation.
2) Maintain fresh air ventilation after installation for seventy-two (72) hours minimum or until lingering odors are gone.
2. Concrete Slab:
a. General:
1) Do not install carpet over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive.

1.8 WARRANTY

A. Manufacturer Warranty:
1. Provide Carpet Manufacturer's standard Warranty which includes following:
a. Warranty shall cover defects in installation, workmanship, and installation materials.
b. Warranty includes specific workmanship warranties for delamination, edge raveling, fuzzing, pilling, and other textural changes which can be controlled through proper manufacturing (no fraying, zippering, delamination, edge raveling, fuzzing, pilling in carpet is acceptable for any reason).
c. Warranty terms will include inspection of defective area within fifteen (15) days of receipt of written notice from Owner and completion of corrective work within forty-five (45) days, unless other arrangements are made in writing with Owner on case-by-case basis.
d. Carpet defect or installation defect:
1) Carpet Manufacturer may use any reasonable means to cure first three (3) breaches of warranty affecting an area of carpeting bounded by natural breaks such as doorways, stairs, rostrum and platform ('affected carpet area'). Such cure must preserve as

uniform a blended appearance, acceptable to Carpet Manufacturer and Owner, as exists throughout Installation Site at time of breach.
2) If carpet defect or installation defect continues to appear after three (3) separate notices for correction from Owner, replace carpet where defects have occurred.
e. If Carpet Manufacturer follows installation requirements of Section 09 0503 'Floor Substrate Preparation' Carpet Manufacture accepts liability of carpet installation for said given time as outlined in Special Warranty regardless of any climate or condition changes affecting RH levels of floor substrate.
2. Special Warranty:
a. Sheet Carpeting:
1) General:
a) Appearance Retention to be provided with Special Warranty requirements if not already included in Standard Warranty.
2) Meetinghouse, Mission Office, and O&M / R&I:
a) Owner Carpet Program Product: Provide twenty (20) year minimum or Carpet Manufacturer's better Warranty on carpet system.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED PRODUCTS

A. Category One Approved Manufacturers. See Section 01 6200 for definitions of Categories:
1. Materials supplied for carpet installation shall be complete package from specified Carpet Manufacturer:
a. Lees, Division of Mohawk Carpets, Glasgow, VA:
1) Contact Information: Help Line (800) 523-5555 or (801) 397-5626.
b. Mannington Commercial Carpets, Calhoun, GA:
1) Contact Information: Help Line Voice Mail (800) 241-2262, ext 8045 or Mannington Installation Services, email lds@mannington.com or (855) 466-2664.
c. Tandus Centiva: Dalton, GA www.tandus-centiva.com.
1) Contact Information: Tracy Riddle - cell (801) 580-5147 fax (866) 861-7522 Tracy.Riddle@Tarkett.com.

B. Materials:
1. Carpet (Match Existing):
a. Category One Approved Manufacturer and Color / Patterns. See Section 01 6200 for definitions of Categories:
1) Mannington:
a) New Horizon, Color: New Grove.
b) New Horizon, Color: New Medallion.
c) New Horizon, Color: New Seasons.
d) New Horizon, Color: New Ocean
2) Mohawk:
a) Nauvoo II, Color: 407 Columbine II.
b) Nauvoo II, Color: 121 Forest II.
c) Nauvoo II, Color: 405 Bountiful II.
d) Nauvoo II, Color: 417 Meadow II.
3) Tandus Centiva:
a) Style 04425 Ensign II, Color: Emerald II #85669.
b) Style 04346 Ensign II, Color: Garnet II #81096.
c) Style 04448 Ensign II, Color: Jasper II #85670.
d) Style 04346 Ensign II, Color: Sapphire II #86653.
2. Carpet Base:
a. 4-1/2 inch (115 mm) wide base without cushion backing:
1) Top edge of base serged with 1-1/4 inch (32 mm) polyester binding fabric.
2) Roll edges of binding fabric under and sew along top edge of carpet cove base.
b. Carpet:
1) Category One Approved Products. See Section 01 6200 for definitions of Categories:

a) Mannington: Ultrabac RE, Color: Black.
b) Bigelow Commercial (Mohawk): Spectrum V30, Color: 7234 Ebony Domino.
c) Tandus Centiva: Abrasive Action II, Color: Winter Gray 19103.

2.2 ACCESSORIES

A. Carpet Accessories: Snap-in vinyl reducer strips and vinyl track.

B. Floor Leveling Compound, Floor Patching Compound, And Latex Underlayment: As recommended and approved by Carpet Manufacturer.

PART 3 - EXECUTION

3.1 APPROVED INSTALLER

A. Same installer of Section 09 6816: 'Sheet Carpeting' shall install Section 09 6813: 'Tile Carpeting'.

3.2 EXAMINATION

A. Verification of Conditions:
1. Verify required ambient conditions inside building for required normal levels of humidity, lighting, heating, and air conditioning have been maintained for at least forty-eight (48) hours before and during carpet installation and seventy-two (72) after installation of carpet.

B. Evaluation And Assessment:
1. Carpet Areas:
a. Variation In Grade:
1) Plus or minus 1/8 inch (3 mm) in any 10 foot (3 meter) of floor slab and distance between high point and low point of slab of 1/2 inch (13 mm).
b. Testing Procedure:
1) Place ends of straightedge on 3/8 inch (10 mm) high shims.
2) Floor is satisfactory if 1/4 inch (6 mm) diameter steel rod rolled under straightedge will not touch anywhere along 10 foot (3 meter) length and 1/2 inch (13 mm) diameter steel rod will not fit under straightedge anywhere along 10 foot (3 meter) length.
c. Notify Owner’s Representative in writing if floor surface is not acceptable to install carpet:
1) Do not lay carpet over unsuitable surface. Commencing installation constitutes acceptance of floor and approval of existing conditions.

3.3 PREPARATION

A. Carpet Areas:
1. Flooring Preparation:
a. Owner-Furnished Product Supplier’s Responsibility:
1) Prepare floor substrate in accordance with ‘CRI Carpet Installation Standard’ best practices to receive carpet installation and to provide installation that meets warranty requirements.
2) Verify concrete surface cured, clean, dry, and free of foreign substances that will compromise carpet and/or installation.
b. Concrete floor slab patching:
1) Cracks, chips and joints must be properly patched or repaired.
c. Concrete surface cured, clean, dry, and free of foreign substances that will compromise carpet and/or other flooring installations:
1) Removal of curing compounds.

2) Remove paint, sealer, grease, oil, silicone sealants, and other materials incompatible with flooring adhesives.
3) Removal of overspray from painted walls (essential so glue will stick).

d. Vacuum and damp mop floor areas to receive flooring before flooring installation.

2. Relaxing / Conditioning Carpet:
   a. Highly recommended that carpet be unrolled and allowed to relax in installation area for time period that conforms to requirements of manufacturer of product being installed:
   b. Protect carpet adequately from soil, dust, moisture and other contaminants.
   c. Sundry items, such as adhesives, should also be conditioned.
3. Carpet Accessories:
   a. Owner-Furnished Product's Responsibility:
      1) Sundry items, such as adhesives, shall be conditioned to building ambient conditions before use.

3.4 INSTALLATION

A. Carpet:
   1. General:
      a. Install carpet and carpet base in accordance with 'CRI Carpet Installation Standard' and Manufacturer's written instructions supplied with product.
      b. Adhesion of carpet cushion (or secondary backing) to floor substrate and adhesion of carpet primary and secondary backings shall be continuous on floor surface so there are no bubble, ridges, or any separation of carpet from backings or backing from floor substrate caused by failure of carpet, backings or cushion, and adhesives as a system.
      c. Install carpet under edge of metal thresholds where possible. Use specified carpet accessories at exposed edges.
   2. Seaming Requirements:
      a. Seal seams in accordance with Carpet Manufacturer's instructions and according to CRI Carpet Installation Standard (2009) as applicable. Seam carpet base only at inside corners.
      b. No seam separation in carpet and no more observable seams from any standing position than that which is unavoidable using best seaming materials and practices available at time of installation.
      c. Lay rooms parallel to respective Corridors. Seam to permit best use of available carpet.
      d. Quarter turning allowed only at cross-Corridors longer than 24 feet (7.315 m).
      e. Use single or double seams at doorways (single seams preferred). Run nap of pieced carpet in same direction.
      f. Carpet over Stairs must be laid in Manufactured roll sequence to coordinate with surrounding carpet on floors. Double fill and end seams should be avoided whenever possible.

B. Carpet Base:
   1. Precut base so seams occur only at inside corners.
   2. Scribe base to floor.
   3. Spread adhesive over back side of base up to bottom of serging on edge or apply three 3/16 inch (4.76 mm) minimum diameter beads of adhesive placed one inch apart on back of base with top bead placed 2 inch (50 mm) down from serged edge of base and spread adhesive over back surface of base up to bottom edge of serging.
      a. Bird's mouth finish should only be required when door frame is flush with wall.
      b. If bird's mouth is required, terminate at door frames or vertical trim with 45 degree angle, bird mouth cut so serged edge turns down to contact frame or trim.
   4. Do not allow adhesive beyond edge of base. Remove excess adhesive.
   5. Do not use staples, nails, screws or other mechanical fasteners.
   6. Set carpet base on brick walls at height either above or below horizontal mortar joint line.

3.5 FIELD QUALITY CONTROL

A. Field Inspections:

1. Carpeting:
   a. Unacceptable carpet after installation shall include but not be limited to:
      1) Delaminating carpet from backings.
      2) Fiber loss less than specified.
      3) Edge raveling.
      4) Fuzzing of carpet fibers.
      5) Pilling of carpet fibers.
      6) Appearance retention less than control samples attached to Agreement.
      7) Dye bleeding.
      8) Zippering fibers in carpet.
      9) Color streaking.
      10) Irregular tufts of fiber.
   b. Unacceptable workmanship shall include but not be limited to:
      1) Improper floor preparation before installation.
      2) Failure of adhesive to completely adhere carpet to floor resulting in bubbles, ridges, or ripples where carpet has separated from floor.
      3) Seams that do not comply with specified requirements:
         a) Raveled or untrimmed seams.
         b) Seams not sealed, level, straight, or even.
         c) Open seams.
         d) Seams visibly open when viewed by Project Manager from standing position.
      4) Sequence rolls, commercial match issues created by rolls being installed out of sequence will require correction or replacement.
      5) Failure to properly install carpet next to walls and door frames to eliminate gaps or puckering of carpet.
      6) Use of unspecified carpet.
      7) Carpet base ends not finished to terminate at door frames or vertical trim shall have 45 degree angle 'birdsmouth' finish.
      8) Adhesive exposed on carpet, on carpet base, beyond edges of carpet base, and on other surfaces of building.
      9) Carpet base that is not scribed to fit against floor with no gaps.
      10) Carpet base attached by means other than acceptable carpet base adhesive.

B. Non-Conforming Work:
   1. Carpeting:
      a. Basis of Acceptable Carpeting: Source Quality Control Testing:
         1) Carpet products not meeting Design Criteria and Source Quality Control Testing of this specification will be considered unacceptable carpeting.
      b. Unacceptable Carpeting:
         1) Unacceptable carpeting will be rejected and shall be repaired or replaced at no additional cost to Owner. Owner's Representative will determine reasonable location of acceptable transition points for removal of unacceptable carpet. Minimum replacement size shall be:
            a) Between nearest existing seams.
            b) Between natural transition points or 12 feet (3.6 meters) of running length.

3.6 CLEANING

A. General:
   1. Carpeting:
      a. Carpet Installer's Responsibility:
         1) Remove any soiling and/or staining from carpet.
         2) Remove excessive adhesive with manufacturer recommended adhesive removers.
      b. Stair Treads:
         1) Carpet Installer's Responsibility:
            a) Clean all exposed surfaces of stair treads of adhesive spatter before it sets in accordance with Manufacturer's cleaning instructions.

B. Damage to building:

1. Carpeting:
    a. Carpet Installer's Responsibility:
        1) Carpet Installer responsible for cleaning and repair of all damaged surfaces to their original condition from carpet installation.

C. Waste Management:
1. Contractor's Responsibility:
    a. Provide adequate waste receptacles (dumpsters) and dispose of Owner Furnished materials from building and property as specified in Section 01 7400.
2. Carpet Installer's Responsibility:
    a. All work areas are to be kept clean, clear and free of debris at all times.
    b. Disposal of rubbish, wrapping paper, scraps, and trimmings in provided dumpster(s).

3.7 PROTECTION

A. Protection of Carpeting:
1. Contractor's Responsibility:
    a. No traffic of any kind on newly installed carpet for minimum of twenty-four (24) hours after installation is completed.
    b. No wheeled traffic of any kind placement of furniture or equipment on carpet for minimum of forty-eight (48) hours after completion of carpet installation.
    c. Protect carpet adequately from soil, dust, moisture and other contaminants after carpet installation.
    d. Protect carpet from abuse, vandalism, or damage occurring after installation is complete.

END OF SECTION

SECTION 09 9001

COMMON PAINTING AND COATING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Common procedures and requirements for field-applied painting and coating.

B. Related Requirements:
   1. Section 05 0503: 'Shop-Applied Metal Coatings' for quality of shop priming of steel and iron.
   2. Section 07 9213: 'Elastomeric Joint Sealants' for quality of Elastomeric Joint Sealants.
   3. Sections under 09 9000 heading ‘Paints and Coatings’.
      a. Pre-Installation conferences held jointly with Section 09 9001.

1.2 REFERENCES

A. Definitions:
   1. Damage Caused By Others: Damage caused by individuals other than those under direct control of Painting Applicator (MPI(a), PDCA P1.92).
   2. Gloss Levels:
      a. Specified paint gloss level shall be defined as sheen rating of applied paint, in accordance with following terms and values, unless specified otherwise for a specific paint system.

Gloss Level ‘1’	Traditional matte finish - flat	0 to 5 units at 60 degrees to 10 units maximum at 85 degrees.
Gloss Level ‘2’	High side sheen flat - 'velvet-like' finish	10 units maximum at 60 degrees and 10 to 35 units at 85 degrees.
Gloss Level ‘3’	Traditional 'eggshell-like finish	10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees.
Gloss Level ‘4’	'Satin-like' finish	20 to 35 units at 60 degrees and 35 units minimum at 85 degrees.
Gloss Level ‘5’	Traditional semi-gloss	35 to 70 units at 60 degrees.
Gloss Level ‘6’	Traditional gloss	70 to 85 units at 60 degrees.
Gloss Level “7’	High gloss	More than 85 units at 60 degrees.

   3. Properly Painted Surface:
      a. Surface that is uniform in appearance, color, and sheen and free of foreign material, lumps, skins, runs, sags, holidays, misses, strike-through, and insufficient coverage. Surface free of drips, spatters, spills, and overspray caused by Paint Applicator. Compliance will be determined when viewed without magnification at a distance of 5 feet (1.50 m) minimum under normal lighting conditions and from normal viewing position (MPI(a), PDCA P1.92).
   4. Latent Damage: Damage or conditions beyond control of Painting Applicator caused by conditions not apparent at time of initial painting or coating work.

B. Reference Standards:
   1. The latest edition of the following reference standard shall govern all painting work:
      a. MPI(a), 'Architectural Painting Specification Manual' by Master Painters Institute (MPI), as issued by local MPI Accredited Quality Assurance Association having jurisdiction.

b. MPI(r), 'Maintenance Repainting Manual' by Master Painters Institute (MPI), as issued by local MPI Accredited Quality Assurance Association having jurisdiction.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
1. Schedule painting pre-installation conference after delivery of paint or coatings and before or at same time as application of field samples.
   a. Coordinate pre-installation conferences of all related painting and coating Sections under 09 9000 heading ‘Paints and Coatings’.
   b. Schedule conference before preparation of control samples as specified in Sections under 09 9000 heading ‘Paints and Coatings’.
   c. Conference to be held at same time as Section 09 2900 to review gypsum board finish preparation.
2. In addition to agenda items specified in Section 01 3100, review following:
   a. Review Quality Assurance for Approval requirements.
   b. Review Quality Assurance Field Sample requirements.
   c. Review Submittal requirements for compliance for MPI Approved Products.
   d. Review Design Criteria requirements.
   e. Review Cleaning requirements.
   f. Review painting schedule.
   g. Review safety issues.
3. Review additional agenda items from Sections under 09 9000 heading ‘Paints and Coatings’.

1.4 SUBMITTALS

A. Action Submittals:
1. Product Data:
   a. Include following information for each painting product, arranged in same order as in Project Manual.
      1) Manufacturer's cut sheet for each product indicating ingredients and percentages by weight and by volume, environmental restrictions for application, and film thicknesses and spread rates.
      2) Provide one (1) copy of ‘MPI Approved Products List’ showing compliance for each MPI product specified.
         a) MPI Information is available from MPI Approved Products List using the following link: http://www.paintinfo.com/mpi/approved/index.shtml.
      3) Confirmation of colors selected and that each area to be painted or coated has color selected for it.
2. Samples: Provide two 4 inch by 6 inch (100 mm by 150 mm) minimum draw-down cards for each paint or coating color selected for this Project.

B. Informational Submittals:
1. Manufacturer Instructions:
   a. Manufacturer's substrate preparation instructions and application instruction for each painting system used on Project.
2. Qualification Statement:
   a. Applicator:
      1) Provide Qualification documentation if requested by Architect or Owner.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
   a. Record Documentation:
      1) Manufacturer’s documentation:
         a) Manufacturer's cut sheet for each component of each system.
         b) Schedule showing rooms and surfaces where each system was used.

D. Maintenance Materials Submittals:
   1. Extra Stock Materials:
      a. Provide painting materials in Manufacturer's original containers and with original labels in each color used. Label each can with color name, mixture instructions, date, and anticipated shelf life.
      b. Provide one (1) quart of each finish coat and one (1) pint of each primer and of each undercoat in each color used.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approval:
   1. Conform to work place safety regulations and requirements of those authorities having jurisdiction for storage, mixing, application and disposal of all paint and related hazardous materials.
   2. Paint and painting materials shall be free of lead and mercury, and have VOC levels acceptable to local jurisdiction.
   3. Master Painters Institute (MPI) Standards:
      a. Products: Comply with MPI standards indicated and listed in 'MPI Approved Products List'.
      b. Preparation and Workmanship: Comply with requirements in 'MPI Architectural Painting Specification Manual' for products and coatings indicated.

B. Qualifications:
   1. Applicator: Requirements of Section 01 4301 applies, but not limited to following:
      a. Minimum five (5) years' experience in painting installations.
      b. Minimum five (5) satisfactorily completed projects of comparable quality, similar size, and complexity in past three (3) years before bidding.
      c. Maintain qualified crew of painters throughout duration of the Work.
      d. Upon request, submit documentation.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Deliver specified products in sealed, original containers with Manufacturer's original labels intact on each container.
   2. Deliver amount of materials necessary to meet Project requirements in single shipment.
   3. Notify Architect two working days before delivery of coatings.

B. Storage And Handling Requirements:
   1. Store materials in single place.
   2. Keep storage area clean and rectify any damage to area at completion of work of this Section.
   3. Maintain storage area at 55 deg F (13 deg C) minimum.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
   1. Perform painting operations at temperature and humidity conditions recommended by Manufacturer for each operation and for each product for both interior and exterior work.
   2. Apply painting systems at lighting level of 540 Lux (50 foot candles) minimum on surfaces to be painted.
      a. Inspection of painting work shall take place under same lighting conditions as application.
      b. If painting and coating work is applied under temporary lighting, deficiencies discovered upon installation of permanent lighting will be considered latent damage as defined in MPI Manual, PDCA P1-92.

PART 2 - PRODUCTS

2.1 SYSTEMS

A. Performance:
   1. Design Criteria:
      a. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
      b. All materials, preparation and workmanship shall conform to requirements of 'Architectural Painting Specification Manual' by Master Painters Institute (MPI).
      c. All paint manufacturers and products used shall be as listed under Approved Product List section of MPI Painting Manual.
      d. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.
      e. Where specified paint system does not have Premium Grade, provide Budget Grade.
      f. Provide products of same manufacturer for each coat in coating system.
      g. Where required to meet LEED (Leadership in Energy and Environmental Design) program requirements, use only MPI listed materials having an "L" rating designation.

B. Materials:
   1. Materials used for any painting system shall be from single manufacturer unless approved otherwise in writing by painting system manufacturers and by Architect. Include manufacturer approvals in Product Data submittal.
   2. Linseed oil, shellac, turpentine, and other painting materials shall be pure, be compatible with other coating materials, bear identifying labels on containers, and be of highest quality of an approved manufacturer listed in MPI manuals. Tinting color shall be best grade of type recommended by Manufacturer of paint or stain used on Project.

PART 3 - EXECUTION

3.1 APPLICATORS

A. Approved Applicators:
   1. Meet Quality Assurance Applicator Qualifications as specified in Part 1 of this specification.

3.2 EXAMINATION

A. Verification Of Conditions:
   1. Directing applicator to begin painting and coating work will indicate that substrates to receive painting and coating materials have been previously inspected as part of work of other Sections and are complete and ready for application of painting and coating systems as specified in those Sections.

B. Pre-Installation Testing:
   1. Before beginning work of this Section, examine, and test surfaces to be painted or coated for adhesion of painting and coating systems.
   2. Report in writing to Architect of conditions that will adversely affect adhesion of painting and coating work.
   3. Do not apply painting and coating systems until party responsible for adverse condition has corrected adverse condition.

C. Evaluation And Assessment:

1. Report defects in substrates that become apparent after application of primer or first finish coat to Architect in writing and do not proceed with further work on defective substrate until such defects are corrected by party responsible for defect.

3.3 PREPARATION

A. Protection Of In-Place Conditions:
   1. Protect other finish work and adjacent materials during painting. Do not splatter, drip, or paint surfaces not intended to be painted. These items will not be spelled out in detail but pay special attention to the following:
      a. Do not paint finish copper, bronze, chromium plate, nickel, stainless steel, anodized aluminum, or monel metal except as explicitly specified.
      b. Keep cones of ceiling speakers completely free of paint. In all cases where painting of metal speaker grilles is required, paint without grilles mounted to speakers and without grilles on ceiling.
      c. On existing work where ceiling is to be painted, speakers and grilles are already installed, and ceiling color is not being changed, mask off metal grilles installed on ceiling speakers. If ceiling color is being changed, remove metal grilles and paint, and mask off ceiling speakers.

B. Surface Preparation:
   1. Prepare surfaces in accordance with MPI requirements and requirements of Manufacturer for each painting system specified, unless instructed differently in Contract Documents. Bring conflicts to attention of Architect in writing.
   2. Fill minor holes and cracks in wood surfaces to receive paint or stain.
   3. Surfaces to be painted shall be clean and free of loose dirt. Clean and dust surfaces before painting or finishing.
   4. Sand woodwork smooth in direction of grain leaving no sanding marks. Clean surfaces before proceeding with stain or first coat application.

3.4 APPLICATION

A. Interface With Other Work:
   1. Coordinate with other trades for materials and systems that require painting before installation.
   2. Schedule painting and coating work to begin when work upon which painting and coating work is dependent has been completed. Schedule installation of pre-finished and non-painted items, which are to be installed on painted surfaces, after application of final finishes.

B. Paint or finish complete all surfaces to be painted or coated as described in Contract Documents, including but not limited to following items.
   1. Finish casework and wood trims that are specified to be installed under Section 06 2001 and that are not called out to be factory-or shop-finished. Back prime wood elements to be installed against concrete or masonry or that may be subjected to moisture.

C. Apply sealant in gaps 3/16 inch (5 mm) and smaller between two substrates that are both to be painted or coated. Sealants in other gaps furnished and installed under Section 07 9213.

D. On wood to receive a transparent finish, putty nail holes in wood after application of stain using natural colored type to match wood stain color. Bring putty flush with adjoining surfaces.

E. In multiple coat paint work, tint each succeeding coat with slightly lighter color, but approximating shade of final coat, so it is possible to check application of specified number of coats. Tint final coat to required color.

F. Spread materials smoothly and evenly. Apply coats to not less than wet and dry film thicknesses and at spreading rates for specified products as recommended by Manufacturer.

G. Touch up suction spots after application of first finish coat.

H. Paint shall be thoroughly dry and surfaces clean before applying succeeding coats.

I. Use fine sandpaper between coats as necessary to produce even, smooth surfaces.

J. Make edges of paint adjoining other materials or colors clean, sharp, and without overlapping.

K. Finished work shall be a 'Properly Painted Surface' as defined in this Section.

3.5 FIELD QUALITY CONTROL

A. Non-Conforming Work:
   1. Correct deficiencies in workmanship as required to leave surfaces in conformance with 'Properly Painted Surface,' as defined in this Section.
   2. Correction of 'Latent Damage' and 'Damage Caused By Others,' as defined in this Section, is not included in work of this Section.

3.6 CLEANING

A. General:
   1. As work proceeds and upon completion of work of any painting Section, remove paint spots from floors, walls, glass, or other surfaces and leave work clean, orderly, and in acceptable condition.

B. Waste Management:
   1. Remove rags and waste used in painting operations from building each night. Take every precaution to avoid danger of fire.
   2. Paint, stain and wood preservative finishes and related materials (thinners, solvents, caulking, empty paint cans, cleaning rags, etc.) shall be disposed of subject to regulations of applicable authorities having jurisdiction.
   3. Remove debris caused by work of paint Sections from premises and properly dispose.
   4. Retain cleaning water and filter out and properly dispose of sediments.

END OF SECTION

SECTION 09 9122

INTERIOR PAINTED CMU

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Preparing and painting existing interior CMU surfaces listed below as described in Contract Documents.

B. Related Requirements:
   1. Section 09 9001: 'Common Painting And Coating Requirements':
      a. Pre-installation conference for Sections under 09 9000 heading ‘Paints and Coatings’.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
   1. Participate in pre-installation conference as specified in Section 09 9001.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturer:
   1. Category Four Approved Products and Manufacturers. See Section 01 6200 for definitions of Categories:
      a. Products listed in edition of MPI Approved Product List current at time of bidding and later are approved, providing they meet VOC requirements in force where Project is located.

B. Description:
   1. All Other:
      a. New Surfaces: Use MPI(a) INT 4.2D Latex Finish system.
      b. Previously Finished Surfaces: Use MPI(r) REX 4.2H Latex Finish system.

C. Performance:
   1. Design Criteria:
      a. New Surfaces: MPI Premium Grade finish requirements.
      b. Deteriorated Existing Surfaces: MPI Premium Grade finish requirements.
      c. Sound Existing Surfaces: MPI Custom Grade finish requirements.
      d. Gloss / Sheen Level Required: Gloss Level 5.

D. Materials:
   1. Block Filler, Over New Masonry Only: MPI Product 4: ‘Block Filler, Latex, Interior/Exterior’.
   2. Finish Coats: MPI Product 141: ‘Latex, Interior, High Performance Architectural, Semi-Gloss (MPI Gloss Level 5)’.

PART 3 - EXECUTION

3.1 APPLICATION

A. General: See appropriate paragraphs of Section 09 9001.

B. Existing Painted Surfaces:
1. Remove deteriorated existing paint by scraping or sanding. Wash surfaces that have been defaced with marking pens, crayons, lipstick, etc, with solvent recommended by Paint Manufacturer. Spot prime such surfaces.
2. Sand areas of existing sound paint if necessary for bonding of new paint system. Clean existing painted surfaces, sanded or not, with mild soap and water, or with tri-sodium phosphate (TSP).
3. Fill large holes with patching and small holes and cracks with spackle.
4. Apply one coat primer to scraped and sanded areas.
5. Apply one finish coat. Completely cover voids in masonry block but do not fill.

END OF SECTION

SECTION 09 9123

INTERIOR PAINTED GYPSUM BOARD, PLASTER

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Preparing, priming, and finish painting new interior gypsum board and plaster surfaces as described in Contract Documents.
   2. Preparing and painting following existing interior gypsum board and plaster surfaces as described in Contract Documents.

B. Related Requirements:
   1. Section 09 2900: ‘Gypsum Board’ for:
      a. Priming new interior gypsum board surfaces to receive sheet wall covering system or texturing.
      b. Pre-installation conference.
   2. Section 09 9001: 'Common Painting And Coating Requirements':
      a. Pre-installation conference for Sections under 09 9000 heading ‘Paints and Coatings’.
      b. 'Attachment: Paint Color Schedule' for O&M / R&I Projects.
   3. Section 09 9413: 'Interior Textured Finishing' for textured finishes.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
   1. Participate in pre-installation conference as specified in Section 09 2900.
      a. In addition to agenda items specified in Section 01 3100 and Section 09 2900, review following:
         1) Review finish level requirements of gypsum wallboard as specified in Section 09 2900.
   2. Participate in pre-installation conference as specified in Section 09 9001.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Category Four Approved Manufacturers and Products. See Section 01 6200 for definitions of Categories.
      a. Products listed in edition of MPI Approved Product List current at time of bidding and later are approved, providing they meet VOC requirements in force where Project is located.

B. Description:
   1. All Other:
      a. New Surfaces: Use MPI(a) INT 9.2B Latex Finish system.
      b. Previously Finished Work: Use MPI(r) RIN 9.2B Latex Finish system.

C. Performance:
   1. Design Criteria:
      a. New Surfaces: MPI Premium Grade finish requirements.
      b. Deteriorated Existing Surfaces: MPI Premium Grade finish requirements.

c. Sound Existing Surfaces: MPI Custom Grade requirements.
d. Gloss / Sheen Required:
1) Painted Surfaces: Gloss Level 5.

D. Materials:
1. Primers:
a. MPI Product 50, 'Primer Sealer, Latex, Interior'.
2. Finish Coats:
a. Painted Surfaces:
1) MPI Product 141, 'Latex, Interior, High Performance Architectural, Semi-Gloss (MPI Gloss Level 5)'.

PART 3 - EXECUTION

3.1 APPLICATION

A. General: See appropriate paragraphs of Section 09 9001.

B. New Surfaces:
1. Primer: Apply primer to be covered with other paint coats with roller only, or with spray gun and back-rolled.

C. Existing Painted Surfaces:
1. Remove deteriorated existing paint down to sound substrate by scraping or sanding. Feather edges of existing paint by sanding to be smooth with adjacent surfaces.
2. Clean surface with mild soap and water, or with tri-sodium phosphate (TSP). Wash surfaces that have been defaced with marking pens, crayons, lipstick, etc, with solvent recommended by Paint Manufacturer. Spot prime such surfaces.
3. Spackle and tape cracks. Sand to smooth finish and spot prime.
4. Sand or chemically etch existing painted surface as required to prepare surface to accept new paint.
5. Re-clean surface.
6. Apply primer coat.
7. Apply finish coats.

END OF SECTION

SECTION 09 9324

INTERIOR CLEAR-FINISHED HARDWOOD

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Preparing and finishing of new interior clear finished hardwood as described in Contract Documents.

B. Related Requirements:
   1. Section 06 2210: ‘Miscellaneous Wood Trim’.
   2. Section 06 4114: ‘Wood-Veneer-Faced Architectural Cabinets’.
   3. Section 06 4512: ‘Architectural Woodwork Wood Trim’.
   4. Section 08 1429: ‘Interior Flush Wood Doors’.
   5. Section 09 9001: 'Common Painting And Coating Requirements':
      a. Pre-installation conference for Sections under 09 9000 heading ‘Paints and Coatings’.
   6. Section 09 0193: Refinishing existing interior clear finished hardwood.

1.2 REFERENCES

A. Reference Standards:
   1. Kitchen Cabinet Manufacturers Association / American National Standards Institute:
      a. ANSI/KCMA A161.1-2000 (R2005) 23-Jan-2001 ‘Recommended Performance and Construction Standards for Kitchen and Vanity Cabinets.’

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
   1. Participate in pre-installation conference as specified in Section 09 9001.
   2. In addition to agenda items specified in Section 01 3100 and Section 09 9001, review following:
      a. Review control sample(s).

1.4 SUBMITTALS

A. Action Submittals:
   1. Samples:
      a. Interior Hardwood for Transparent Finish:
         1) Requirements for samples are specified in Related Requirement Sections listed above.
      b. Design Criteria:
         1) Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:
   1. Test And Evaluation Reports:
      a. Before beginning finish work, submit Finish Manufacturer's literature or certification that finish material meets requirements of ANSI / KCMA A161.1.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Materials:
1. Design Criteria:
   a. See appropriate paragraphs of Section 09 9001.
2. Stain: MPI 90, 'Stain, Semi-Transparent, for Interior Wood'.
3. Clear Finish Coats:
   a. Field Finished:
      1) Chemcraft International Inc:
         a) First, Second, And Third Coats: 20 Sheen Opticlear Pre-Catalyzed Lacquer.
      2) ICI Dulux / Trinity:
         a) First Coat: ICE Vinyl Sanding Sealer.
         b) Second And Third Coats: ICI Pre-Catalyzed Lacquer.
      3) Lilly / Valspar:
         a) First, Second, And Third Coats: 20 Sheen Pre-Catalyzed Lacquer 587E208.
      4) Sherwin-Williams:
         a) First Coat: T67F3 Vinyl Sealer.
         b) Second And Third Coats: T77F38 Sherwood Pre-Catalyzed Lacquer DRE.
   b. Mill Finished: Architectural Woodwork finished in a mill may use one (1) coat of Vinyl Sealer and two (2) coats of Conversion Varnish or three (3) coats of Conversion Varnish from one (1) of the approved Finish Manufacturers, as recommended by Finish Manufacturer.
   c. Products meeting testing requirements for finishes of ANSI / KCMA A161.1 may be used upon approval of submission by Architect before use. See Section 01 6200.
4. Color:
   a. Design Criteria:
      1) Finish to match Owner selected sample.

PART 3 - EXECUTION

3.1 APPLICATION

A. General:
1. See appropriate paragraphs of Section 09 9001.
2. Sand entire exposed surface of item to be finished lightly with 120 to 150 non-stearated sandpaper and clean before applying dye or stain.
3. Apply stain in accordance with Manufacturer's recommendations and as necessary to attain correct color.
4. Scuff sand with 220 non-stearated sandpaper between application of application stain and first finish coat.
5. If wood is finished before installation, finish cut ends and other unfinished, exposed surfaces same as previously finished surfaces after installation of wood.

B. Where back-priming is required, apply one coat of finish material.

C. Architectural Woodwork Door Surfaces (cabinetry doors only):
1. Finish tops, bottoms, and edges before faces.
2. Finish architectural woodwork doors with no hardware applied to doors.

D. Softwood Components:
1. Existing Cabinets:
   a. Where Douglas Fir serves as a component part (shelves, backs, etc) of hardwood cabinets, use same specification as for hardwood finish, but as sufficient 1:1 mix of sanding sealer / Mineral spirits with stain to make color of Pine or Douglas Fir grains approximate color of finish hardwood.

b. Coat interior surfaces of Drawers with one (1) coat high gloss urethane varnish.

END OF SECTION

SECTION 09 9413

INTERIOR TEXTURED FINISHING

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and apply texturing on walls and ceilings as described in Contract Documents.

B. Related Requirements:
   1. Section 09 2900: 'Gypsum Board' for priming.
   2. Section 09 9001: 'Common Painting And Coating Requirements' for:
      a. Pre-installation conference for Sections under 09 9000 heading ‘Paints and Coatings’.
   3. Section 09 9123: 'Interior Painted Gypsum Board, Plaster' for finish painting.

1.2 REFERENCES

A. Definitions:
   1. Drywall Texture: Compound rolled, sprayed, or troweled onto sheetrock after taping and floating of joints is complete. Uses same material as joint compound, but thinned down with water and applied to wall surface:
      a. Light Orange Peel: Sprayed texture leaves light splatter on walls. Resembles peel of orange. If done with fine spray, can be one of the lightest, least noticeable of the texture styles.
      b. Light Skip Trowel - Texture is applied to ceilings with trowel. Trowel marks may be left on surface to give a rustic, hand crafted look.
      c. Hawk and Trowel, Multi-Directional: Lightly sanded, (80/20) 80 percent smooth with 20 percent random voids. Resembles aged plaster.
      d. Smooth - Smooth application of texture over sheetrock wall that feathers out sheetrock joints, and creates even, non-textured wall.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
   1. Participate in pre-installation conference as specified in Section 09 9001.
   2. In addition to agenda items specified in Section 01 3100 and Section 09 9001, review following:
      a. Review control samples.

1.4 SUBMITTALS

A. Action Submittals:
   1. Samples (Match Existing):
      a. Light Orange Peel Texture:
         1) Provide minimum of three (3) 24 inch (600 mm) square control samples on primed gypsum wallboard of ‘light orange peel’ texture to show possible variations.
      b. Light Skip Trowel Texture:
         1) Provide minimum of three (3) 24 inch (600 mm) square control samples on primed gypsum wallboard of ‘light orange peel’ texture to show possible variations.
      c. Hawk and Trowel, Multi-Directional (lightly sanded) Texture:
         1) Provide minimum of three (3) 24 inch (600 mm) square control samples on primed gypsum wallboard of ‘multi-directional’ texture (70/30, 80/20, and 90/10) to show possible variations.

1.5 QUALITY ASSURANCE

A. Field Samples:
   1. Before performing work of this Section, prepare control samples.
   2. Architect will inspect control sample at pre-installation conference following preparation of control sample. When sample is approved, work of this Section may proceed. Approved samples will be kept at site at all times work of this section is being performed.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Manufacturer Contact List:
      a. National Gypsum, Charlotte, NC www.nationalgypsum.com.
      b. U S Gypsum Co, Chicago, IL www.usg.com.

B. Materials:
   1. Class Two Quality Standards: See Section 01 6200.
      a. ProForm Perfect Spray EM/HF by National Gypsum.
      b. Sheetrock Wall & Ceiling Texture by U S Gypsum.

PART 3 - EXECUTION

3.1 APPLICATION

A. Location:
   1. Walls (Match Existing):
      a. Light Orange Peel Texture:
         1) All areas except those listed in following paragraph.
      b. Hawk And Trowel, Multi-Directional (lightly sanded) Texture:
         1) All areas except those listed in following paragraph.

END OF SECTION

SECTION 10 1113

FIXED CHALKBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Products Installed But Not Furnished Under This Section:
   1. Chalkboards and specified hardware: Visual Display Board Type 1.

B. Related Requirements:
   1. Section 01 6400: Owner will furnish Chalkboards. PART 2 of this Section establishes quality of materials for information of Contractor, Architect, and Owner's Representatives.
   2. Section 06 1100: 'Wood Framing' for blocking.
   3. Section 06 2001: 'Common Finish Carpentry Requirements' for installation.

1.2 REFERENCES

A. Association Publications:
   1. Porcelain Enamel Institute, Inc., Norcross, GA www.porcelainenamel.com.
      a. PEI-1002, *Manual and Performance Specifications for Porcelain Enamel Writing Surfaces (Whiteboards and Chalkboards)* 2002.

1.3 SUBMITTALS

A. Informational Submittals:
   1. Manufacturer Instructions:
      a. Published installation instructions.
      b. Printed cleaning instructions.

B. Closeout Submittals:
   1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
      a. Operations and Maintenance Data:
         1) Maintenance instructions.
         2) Printed cleaning instructions.
      b. Warranty Documentation:
         1) Manufacturer Warranty.
      c. Record Documentation:
         1) Manufacturer’s documentation:
            a) Manufacturer’s product literature.
            b) Color selections.

1.4 WARRANTY

A. Manufacturer Warranty:
   1. Letter from Manufacturer certifying Contract Documents have been complied with and guarantee against faulty workmanship and materials for five years.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED PRODUCTS

A. Category Two Approved Manufacturers. See Section 01 6200 for definitions of Categories:
   1. ADP Lemco Corporation, Draper, UT www.adplemco.com.

B. Fixed Chalkboard:
   1. Color: Dark Gray.
   2. Mounting Hardware: Suitable for wall conditions.

C. Fixed Chalkboard:
   1. Face:
      a. Face shall be steel, 28 ga (0.4 mm) minimum, coated two sides with fused ground coat, and finished one side with vitreous porcelain enamel designed for use with chalk.
      b. Coating shall meet requirements of PEI-1002.
   2. Core:
      a. Core shall be mat-formed particleboard.
         1) 3/8 inch (9.5 mm) thick medium-density or
         2) 1/2 inch (12.7 mm) thick low-density minimum.
   3. Backing:
      a. Backing shall be 0.005 inch (0.13 mm) minimum aluminum foil.
   4. Trim:
      a. Extruded 6063-T5 alloy aluminum with satin etched, natural aluminum anodized finish.
      b. Extrusions shall match thickness of units without wedging.
      c. Round all sharp edges.
      d. 2 inch (50 mm) high map rail.
   5. Map Clips:
      a. Manufacturer's standard.
      b. Provide map clips on chalkboards as follows:
         1) 60 Inches (1 500 mm) And Shorter: Two clips.
         2) Over 60 Inches (1 500 mm): Four clips.
   6. Color: Dark Gray.
   7. Mounting Hardware: Suitable for wall conditions.

D. Fabrication:
   1. Prefabricate units at factory and ship to Project site in one piece, except for chalk trays.
   2. Units shall be of first quality and lamination done by approved standards of industry.
   3. Furnish printed cleaning instructions with each shipment.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mount boards square and level.
   1. Shim as necessary to provide permanent installation and smooth operation.
   2. Anchor boards securely to wall following Manufacturer’s written installation instructions.
   3. Anchor concealed hangers with screws at 24 inches (600 mm) on center.

B. Mounting fasteners shall penetrate framing lumber or blocking 1-1/2 inch (38 mm) minimum. Use toggle bolts or expansion bolts in masonry walls.

C. After attaching map clips, apply permanently attached end cap or screw to prevent removal of map clips.

END OF SECTION

SECTION 10 2239

FOLDING PANEL PARTITIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install motor-operated folding panel partitions as described in Contract Documents.

B. Related Requirements:
   1. Section 06 1100: 'Wood Framing' for framing and headers for support of folding panel partitions.
   2. Section 06 2001: 'Common Finish Carpentry Requirements' for installation of hardwood jambs, trim, chair rail on partition, and floor guide track.

1.2 REFERENCES

A. Definitions:
   1. Flame Spread: The propagation of flame over a surface.
   2. Flame Spread Index: The numerical value assigned to a material tested in accordance with ASTM E84.
   3. Smoke-Developed Index: The numerical value assigned to a material tested in accordance with ASTM E84.

B. Reference Standards:
   1. ASTM International:
      a. ASTM E84-18b, ‘Standard Test Method for Surface Burning Characteristics of Building Materials’.
      b. ASTM E90-09(2016), ‘Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements’.
      c. ASTM E336-17, ‘Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings’.
      d. ASTM E413-16, 'Classification for Rating Sound Insulation’.
      e. ASTM E557-12, ‘Standard Guide for The Installation of Operable Partitions’.
   2. International Building Code (IBC) (2018 or most recent edition adopted by AHJ):
      a. 803.1.1, ‘Interior Wall and Ceiling Finish Materials tested in accordance with NFPA 286'.
      b. 803.1.2, ‘Interior Wall and Ceiling Finish Materials tested in accordance with E84 or UL 723’.
   3. International Organization for Standardization:
      a. ISO 9705-2003, ‘Fire Tests - Full-scale room test for surface products'.
   4. National Fire Protection Association / American National Standards Institute:
      a. NFPA 265: ‘Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls’ (2015 Edition).
   5. Underwriters Laboratories:
      a. UL 723, ‘Test for Surface Burning Characteristics of Building Materials' (11th Edition).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate location of floor pin guide track.

1.4 SUBMITTALS

A. Action Submittals:
   1. Product Data:
      a. Color selections.
   2. Shop Drawings:
      a. Fully describe partition fabrication, layout, and installation. Include but not limited to following items:
         1) Details of track, trolleys, hardware, etc.
         2) Loading to be imposed in supporting structure.
         3) Anchorage, accessory items, and finishes.
         4) Electrical details for motor and switches.

B. Informational Submittals:
   1. Certificates:
      a. For each type of operable panel partition from Manufacturer.
      b. Seismic Qualification Certificates:
         1) For operable panel partitions, accessories, and components, from manufacturer.
            a) Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
         2) Dimensioned Outline Drawings of Equipment Unit:
            a) Identify center of gravity and locate and describe mounting and anchorage provisions.
         3) Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
   2. Delegated Design Submittals:
      a. For operable panel partitions indicated to comply with performance requirements, including analysis data and calculations signed and sealed by the qualified professional engineer responsible for their preparation.
         1) Design Calculations: Calculate requirements for seismic restraints.
   3. Test And Evaluation Reports:
      a. Written sound test reports by test facility showing panels installed meet specified rating for sound.
      b. Copies of flame spread certification and 'Room-Corner Test'.
   4. Manufacturer Instructions:
      a. Written installation instructions.

C. Closeout Submittals:
   1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
      a. Operations and Maintenance Data:
         1) Manufacturer's maintenance instructions.
            a) Panel finish facings and finishes for exposed trim and accessories. Include precautions for cleaning materials and methods that could be detrimental to finishes and performance.
            b) Seals, hardware, track, carriers, and other operating components.
      b. Warranty Documentation:
         1) Include copy of final, executed warranty / Certificate stating that installed materials comply with specification.
      c. Record Documentation:
         1) Manufacturers Documentation:
            a) Manufacturer's literature.
            b) Color selections.

D. Maintenance Material Submittals:
   1. Extra Stock Materials:
      a. Provide two (2) keys for electric drive system.
      b. Provide appropriate repair parts unique to minor partition maintenance and adjustment at completion of installation.
   2. Tools:

a. Provide appropriate tools unique to minor partition maintenance and adjustment at completion of installation.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
1. Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates according to test method indicated below by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
a. Surface-Burning Characteristics:
1) Wall covering shall have Class A flame spread rating in accordance with ASTM E84 or UL 723.
a) Class A (Flame spread index 0-25; Smoke-developed index 0-450).
2. Passage of 'Room-Corner Test' as recognized by AHJ, is required for system. Adhesive cited in test literature is required for installation of wall covering on Project.
a. Room Corner Tests:
1) ASTM E84.
2) IBC 803.3.1.
3) NFPA 265.
4) UL 723.

B. Qualifications:
1. Installers: Requirements of Section 01 4301 applies, but not limited to the following:
a. Installation of folding panel partitions shall be by crews trained and certified by Manufacturer and with minimum five (5) years experience installing folding panel partitions similar to those specified in this Section.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
1. Panel Partitions:
a. Deliver in Manufacturer's original, unopened package(s).

B. Storage And Handling Requirements:
1. Panel Partitions:
a. Comply with Manufacturer's written storage and handling requirements.
b. Provide secure location protected from the weather and other trades.

1.7 WARRANTY

A. Manufacturer Warranty:
1. Provide three (2) year warranty on folding partition installation and on folding partition and other related items provided by Manufacturer. Warranty to begin at date of Substantial Completion.

B. Suspension System Warranty:
1. Provide ten (10) year warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturer:
1. Category Three Approved Product. See Section 01 6200 for definitions of Categories.

a. OP-01: Acousti-Seal Legacy by Modernfold, Greenfield, IN, distributed by Alder's, Midvale, UT (801) 262-9700 www.alders.com.
1) Electric panel: electrically operated continuously hinged operable partition.

2.2 OPERATION

A. OP-01: Acousti-Seal Legacy - Electric Panel: Series of continuously hinged flat panels, electrically operated, top supported with operable floor seals.

B. Final Closure:
1. OP-01: Side Jamb with overlapping trail panel.

C. Partition shall be operated by:
1. OP-01: Motor unit shall be reversible, continuous duty, and class A insulated. Motor unit shall have NEMA MG 1 service factor, high starting torque, thermal overload protection, and open/drip proof enclosure. Motor assembly shall have wiring compliant with NFPA 70, 24-volt controls, compliant with UL 508A, and speed of 28 feet/minute. The drive unit motor shall be equipped with outboard limit switches to prevent over-extension. A positive chain drive attached to the lead panel shall pull the partition across the opening. Cable, belt, or other friction type drives will not be accepted.

D. Electric motor shall consist of:
1. OP-01: A 208-volt, 3-phase

2.3 PANEL CONSTRUCTION

A. OP-01: Nominal 3-inch (76mm) thick panels in manufacturer's standard 48-inch (1220mm) widths. All panel horizontal and vertical framing members fabricated from minimum 16-gage formed steel with overlapped and welded corners for rigidity. Top channel is reinforced to support suspension system components. Frame is designed so that full vertical edges of panels are of formed steel and provide concealed protection of the edges of the panel skin.

B. Panel skin shall be:
1. OP-01: Roll-formed steel wrapping around panel edge. Panel skins shall be lock formed and welded directly to the frame for unitized construction. Acoustical ratings of panels with this construction minimum:
a. 28 STC

C. Hinges for Panels, Closure Panels, Pass Doors, and Pocket Doors shall be:
1. OP-01: SOSS invisible laminated hinge with antifriction segments mounted between each heat treated link. Welded internal hinge bracket shall support the hinge and allow for adjustment of hinge plates. Concealed hinges or hinges mounted into panel edge or vertical astragal are not acceptable. Exposed hinge barrels, low profile hinges, and other hinges are not acceptable.

D. Panel Trim: No vertical trim required or allowed on edges of panels; minimal groove appearance at panel joints.

E. Panel Weights:
1. OP-01: 28 STC - 6 lbs./square foot

2.4 PANEL FINISH

A. Panel finish shall be:
1. OP-01: Acoustical, non-woven needle punch carpet, with fused fibers to prevent unraveling or fray of material.
2. Panel Trim: Exposed panel trim of one consistent color:

a. OP-01: To Be Advised

2.5 SOUND SEALS

A. Vertical Interlocking Sound Seals between panels: Roll-formed steel astragals, with reversible tongue and groove configuration in each panel edge for universal panel operation. Rigid plastic or aluminum astragals or astragals in only one panel edge are not acceptable.

B. Horizontal Top Seals: Continuous contact extruded vinyl bulb shape with pairs of non-contacting vinyl fingers to prevent distortion without the need for mechanically operated parts.

C. Horizontal bottom floor seals shall be:
1. OP-01: Modernfold Floating Bottom Seal. Floating operable seals provide nominal 3.50 (89mm) operating clearance with an operating range of +.50" (15mm) to -3" (76mm) and shall provide continuous floor contact as panels are positioned without the need for tools or cranks.

2.6 SUSPENSION SYSTEM

A. OP-01: #14 Suspension System – Aluminum tracks not acceptable.
1. Suspension Tracks: Minimum 7-gauge, 0.18-inch (4.57mm) roll formed steel. Static loading of track with brackets at 48-inch (1220mm) centers shall show no failure of track or brackets at 5,000 pounds (2550kg) point loading at mid-span. Track shall be supported by adjustable steel hanger brackets connected to structural support pairs of 0.50-inch (13mm) diameter threaded rods. Brackets must support the load bearing surface of the track.
a. Exposed track soffit: Steel, removable for service and maintenance, attached to track bracket without exposed fasteners, and pre-painted off-white.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with ASTM E557, operable partition manufacturer's written installation instructions, Drawings and approved Shop Drawings.

B. Install operable partitions and accessories after other finishing operations, including painting have been completed.

C. Match operable partitions by installing panels from marked packages in numbered sequence indicated on Shop Drawings.

D. Broken, cracked, chipped, deformed or unmatched panels are not acceptable.

3.2 CLEANING AND PROTECTION

A. Clean partition surfaces upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer’s written instructions.

B. Provide final protection and maintain conditions in a manner acceptable to the manufacturer and Installer that ensure operable partitions are without damage or deterioration at time of Substantial Completion.

3.3 ADJUSTING

A. Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

3.4 EXAMINATION

A. Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

3.5 DEMONSTRATION

A. Demonstrate proper operation and maintenance procedures to Owner's representative.

B. Provide Operation and Maintenance Manual to Owner's representative.

3.6 CLEANING

A. General:
   1. Clean any soiling of partitions as recommended by Manufacturer or any surrounding areas caused by installation of partitions.

B. Building Damage:
   1. Installer responsible for cleaning and repair of all damaged surfaces to their original condition from partition installation.

C. Waste Management:
   1. All work areas are to be kept clean, clear and free of debris at all times.
   2. Disposal of rubbish, debris, and packaging materials to Dumpster.

3.7 CLOSE-OUT ACTIVITIES

A. Demonstration:
   1. After installation and when folding panel partition is fully operational, provide minimum two (2) hour instruction and demonstration period concerning operation and maintenance of folding panel partitions.
   2. Those to be included in instruction period are Architect, Owner's Representative, Seminary Principal / Institute Director, and Facilities Manager.

B. Instruction of Owner:
   1. After installation, meet with Owner’s Representative’s personnel.
      a. Review maintenance procedures and materials using specified maintenance and repair Manual.

3.8 PROTECTION

A. Upon completion of partition installation, protect partitions from damage and replace or repair subsequent damage at no cost to Owner.

END OF SECTION