SECTION 061010

ROUGH CARPENTRY

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Agreement, including General and Supplementary Conditions, and Division 01 of the Specifications, apply to work of this Section.
B. See Section 072500 – Weather Barriers for DensElement Wall Sheathing .

1.02 SCOPE

A. Furnish labor and materials necessary to install a complete system.

1.03 STANDARDS

A. All work of this section shall conform to industry standards and/or manufacturer's recommendations.
B. ALSC "Certified Agencies and Typical Grade Stamps".
C. ALSC "Softwood Lumber Standards".
D. APA "Construction Guide".
E. AWPA "Book of Standards".
F. AWPB "Standards for Softwood Lumber, Timber, and Plywood"
G. NES "NER108"
H. NFPA "Span Tables for Joists and Rafters".
I. NFPA WCD1 "Manual for Wood Frame Construction"
J. PS 20 "American Softwood Lumber Standards".
K. ASTM D 5664 Standard Test Method for Evaluating the Effects of Fire-Retardant Treatments and Elevated Temperatures on Strength Properties of Fire-Retardant Treated Lumber.
L. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
M. AWPA Standard P49 Fire Retardant Formulations.
N. NFPA 255 Standard Test Method for Surface Burning Characteristics of Building Materials.
O. UL 723 Test for Surface Burning Characteristics of Building Materials.

1.04 SUBMITTALS

A. Submit pursuant to 013000 Administrative Requirements for Shop Drawings, Product Data, Samples.
B. Submit pursuant to 016000 Product Requirements.
C. Certification:
    1. Grade mark each piece of lumber and plywood with stamp of an ALSC- or APA-certified agency at the source.
    2. Apply quality mark of an AWPA-certified agency to each piece of pressure treated lumber or plywood.

1.05 QUALITY ASSURANCE

A. Experienced workmen familiar with the work and according to manufacturers' recommendations and/or industry standards shall perform all work of this section.
B. Lumber Inspection and Grading: Rules-writing agencies certified by ALSC Board of Review.
C. Plywood Grading: Agencies certified by APA.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Pursuant to manufacturer's published instructions.
B. Protect against moisture exposure and damage.
C. Keep lumber and plywood dry by elevating above dampness, so that air can circulate and warping will not occur, and by covering with waterproof film that permits circulation of air to all parts of each pile.
D. Do not stack any lumber in direct contact with the ground.

1.07 DEFINITIONS

A. Abbreviations:
1. PPT or PT: Pressure preservative treated.
2. E-Modulus of elasticity.
3. Fb: Extreme fiber stress in bending.
4. RFS: Rough full sawn.
5. S4S: Surfaced four sides.
6. LVL: Laminated Veneer Lumber

PART 2 PRODUCTS

2.01 DIMENSION LUMBER AND BOARDS

A. Qualities: Provide following species, product class, and grade for lumber up to 4 in. thick which is not exposed to weather or moist environment. Grade stamp each piece except Appearance grade.
1. Framing: Studs and plates:
a. Species: Spruce Pine Fir, Southern Pine or Douglas Fir - Larch.
b. Product class: Light Framing and Studs.
c. Grade: No. 2 or better.
d. Moisture content: 19% maximum.
e. Fire retardant lumber (FRT).
2. Framing: Blocking and lumber for supporting and fastening of other work, including such items as frames, furring, nailers, curbs, and bases:
a. Species: Spruce Pine Fir, Southern Pine or Western Woods.
b. Product class: Light Framing and Studs.
c. Stress grade: Stud or Construction.
d. Moisture content: 19% maximum. Bring down to 19% after treatment.
e. Pressure preservative treatment: LP 2.
f. Fire retardant lumber (FRT).
3. Framing: Grounds, sill plates, and other board lumber:
a. Species: Spruce Pine Fir, Southern Pine or Western Woods.
b. Product class: Light Framing and Studs.
c. Grade: No. 2 or better.
d. Moisture content: 19% maximum.
e. FRX treated lumber.
B. Referenced Standards:
1. Lumber: PS 20.

C. Inspection agencies whose ALSC-certified rules shall be used for lumber in this Work: AWPA, NELMA, NH&PMA, NLGA- SPIB, WCLIB, or WWPA.

2.02 PLYWOOD

A. Qualities: Veneer-face composite or plywood panels, with 15% maximum moisture content, except 18% allowed after re-drying from fire or pressure preservative treatment.
   1. Roof Applications:
      a) Thickness: 3/4 in. (23/32 in.) unless otherwise shown.
      b) Grade: APA C-D, Group 1, Fire Retardant Treated (FRT) plywood.
      c) Exposure durability class: Exposure 1.
      d) Fasteners: #3 Wing Drill - #2 Phillips 'plywood to metal' screws - #10 x 1 7/16" Phillips screw with thin wafer head, drill points, clear zinc finish, 24 threads per inch; for attaching plywood sheathing to 20-8 (heavy) gauge metal by Grabber Construction Products or approved equal.
      e) Fastener spacing: 6 in. o.c. at edges; 12 in. o.c. at intermediate supports.
      f) H-clips: One per span for plywood thickness indicated above.
      g) Plywood must meet or exceed span and load requirements.
         1. 40 lb. snow load (verify with Architect)
         2. 24" o.c. span unless otherwise indicated on the Drawings.
   2. Wall Applications: see Weather Barriers specification section 072500.
B. Referenced Standards:
   1. Veneer plywood: PS 1.
   2. Composite panels: NES NER108.

2.03 PLYWOOD EQUIPMENT MOUNTING PANELS

A. Qualities: 1/2 in. minimum thick, suitable for mounting electrical and communications equipment.
   1. Grade: APA C-D PLUGGED, Group 1 Exposure 1.
   2. Fire resistive treatment: UL FR-S, Interior A.

2.04 FIRE RETARDANT TREATMENT (FRT)

A. Qualities: A fire retardant treatment for wood (dimensional and engineered wood products) produced by a licensed treatment plant. Fire retardant chemical(s) shall provide protection against termites and fungal decal, shall be registered for use as wood preservative by the U.S. Environmental Protection Agency (EPA), shall comply with formulation FR-1 of the current edition of AWPA Standard P49, and shall be free of halogens, sulfates and ammonium phosphate. Treated wood shall have a flame spread of less than 25 when tested in an extended 30 minute tunnel test in accordance with ASTM E 84, NFPA 255 or UL 723.
   1. Testing: Testing on fire performance, strength and corrosion properties of fire retardant treated wood shall be recognized by issuance of a National Evaluation Services Report.
   2. Fire Retardant Treatment Standard: Manufacturer's solution for fire retardant treatment of wood to Comply with AWPA Standard U1
   3. Subject to compliance with requirements, provide one of the following products or approved equal:
      a. Exterior Fire-X, Exterior Fire-X BLUE or Pyro-Guard
      b. Dricon Fire Retardant Treated.

2.05 PRESSURE PRESERVATIVE TREATMENT (PPT or PT)

A. Qualities: Pressure treat lumber and plywood using water-borne preservatives by full-cell process to retention levels required by applicable referenced standard.
   1. Marks: Stamp each piece with AWPB Quality Mark.
   2. Redrying: After treating, kiln-dry lumber to specified moisture content, plywood to 15%. Inspect each treated and redried piece and discard warped or otherwise defective pieces.
   3. Cut treating: After cutting or drilling, apply a heavy brushed coat of copper naphthenate, or the treatment preservative if lawful, to cuts, holes, and injured areas.

B. Referenced Standards:
   1. Lumber treatment: AWPA C2.
   2. Plywood treatment: AWPA C9.
   3. Preservative treatment for above-ground items: AWPBLP2.
   4. Preservative treatment for items in contact with ground or fresh water: AWPB LP22.
   5. Cut treatment: AWPA M4.

2.06 METAL FRAMING ANGLES

A. Metal framing angles or connectors, use: A35 framing angles by Simpson Strong Tie or approved equivalent for attaching wood members together. See details for specific applications. Material: 18 gauge. Finish: galvanized, standard G90 zinc coating. Fasteners: (12) – 8d x 1 ½" nails (0.131" shank diam.).

B. Fasteners for attaching light gauge utility angles to wood, use: #8 x 1 1/4" pan head screws.

C. Fasteners for attaching wood to wood use: #8 x 3" wood screws. See details for specific applications.

2.07 ENGINEERED WOOD PRODUCTS

A. Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that evidence compliance with the building code in effect for the Project.
   1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses as published by manufacturer that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis, and demonstrated by comprehensive testing performed by a qualified independent testing agency.
   2. Fire retardant treatment (FRT).

B. Laminated Veneer Lumber: Lumber manufactured by laminating wood veneers in a continuous press using an exterior type adhesive complying with ASTM D 2559 to produce members with grain of veneers parallel to their lengths and complying with the following requirements:
   1. Extreme Fiber Stress in Bending: 2,600 psi.
   2. Modulus of Elasticity: 1,900,000 psi.
   3. Tension Parallel to Grain: 1,550 psi.
   4. Compression Parallel to Grain: 2,510 psi.
   5. Compression Perpendicular to Grain: 750 psi.
   6. Horizontal Shear Parallel to Grain: 285 psi.
   7. Fire retardant treatment (FRT).

2.08 ANCHOR BOLTS

A. Anchor Bolts: ASTM F1554-04, 36 ksi., ASTM F436 hardened steel washers and with ASTM A563 nuts; plain, no finish or with galvanization. Anchor bolts may be supplied as straight rods with nuts and washers at both ends. Tack weld washer and nut to bottom of anchor bolt.

PART 3 EXECUTION

3.01 FRAMING

A. Frame the Work according to NFPA Manual for Wood Frame Construction.
B. Cut pieces for full wood-to-wood fit at connections. Do not splice free standing members.
C. Examine each piece of lumber before setting in place. Set the most sound pieces in positions of greatest stress. Select clearest pieces for exposed use. Discard pieces that have defects that impair their structural function.
D. Set members plumb, level, or to slope shown.
E. Do not cope or notch horizontal members more than 1/ 6 their depth in center third of span, nor more than 1/5 joist depth at end thirds. Drill joists for passage of lines in end thirds only. Drilled holes shall be no more than 1/3 joist depth, and shall leave a full 2 in. of wood top or bottom.
F. Fire stop stud walls at top and bottom of each story and at 8 ft o.c. vertical intervals in stud walls higher than 8 ft. Fire stop concealed spaces such as dropped ceilings, and at openings which can allow passage of smoke or fire such as perimeters of flues, ducts, pipes, and electrical lines.

3.02 FASTENERS AND FASTENER SPACING

A. For work above roof or in damp locations, use hot-dip or hot tumbled galvanized steel common nails, or hot-dip galvanized bolts, nuts, and washers.
B. Drive nails full depth, first drilling hard or brittle woods first to prevent splitting. Leave no hammer marks in exposed work. In beams, headers and trimmers built up from 2x lumber, nail 16 in. o.c. minimum, staggered top and bottom.
C. Nail according to the Building Code of New York State Table 2304.9.1 or except as more stringently specified herein.

3.03 FURRING AND GROUNDS

A. Provide PPT furring at exterior walls and in damp locations.
B. Terminate vertical furring with horizontal firestop strip at floor, opening, and ceiling lines, positioned to provide fastening for edges of wall finish material and base and cove trim.
C. Execute furring at openings to serve as grounds for finish work. Shim furring and grounds to make finish work plane and flush with opening frames. Bevel plaster grounds to form key.
D. Space 1 x 3 or 1 x 2 furring 16 in. o.c. for all finishes, except that 1 x 3 furring 24 in. o.c. shall be provided for plywood paneling 3/8 in. or thicker.
E. Do not use furring strips with knots or missing knots where nail or screw fastening of plywood finish will be employed.

3.04 BLOCKING AND OTHER SUPPORT MEMBERS

A. Select sound lumber for blocking, nailers, sleepers, cants, deck edges, curbs, frames, bases, and ledgers. Provide bolted PPT cants of straight grained lumber, with recessed

bolt holes. Space out or kerf backs of cants to permit out-migration of water vapor under roofing.

B. Provide quality and size of fasteners that will support live and dead loads. Recess bolts and nuts as necessary to avoid conflict with roofing and other adjoining or covering work. Provide washers where bolt heads and nuts bear against wood.

3.05 PLYWOOD BLOCKING AND COMPOSITE PANEL INSTALLATION

A. Set full panels with long dimension perpendicular to wood framing, with each panel supported by at least 3 framing members. Shorten adjoining panels to avoid single-span panels. Stagger end joints.

B. In addition to specified supports and fastenings, block edges of panels where concentrated loads will occur.

C. Furnish and install plywood or 2x12 blocking and ledgers for support of bathroom handrails, fixtures, cabinets, sinks, lavatories toilets and urinals, recessed equipment shelving, railings, kitchen cabinets and other wall-hung construction.

3.06 EXTENT AND INSTALLATION OF TREATED WOOD

A. Provide PPT lumber at the following locations:
   1. Wood in contact with slabs on grade and foundation
   2. Walls, such as sills, sleepers, furring, and posts.
   3. Wood buried in, or in contact with earth.
   4. Wood above structural roof deck, such as roof blocking, frames, sleepers, nailers, roof curbs, equipment supports, and roof cants.
   5. Wood in moist locations, such as trenches, tunnels, sumps, and washing areas.

B. Install PPT lumber with galvanized steel or stainless steel fasteners and connectors that do not react with the particular treatment salt that has been used.

C. Apply a heavily brushed touchup coat to cuts, holes, and abraded or dented areas of each piece of treated lumber using specified chemical.

END OF SECTION

SECTION 062000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

B. Wood casings and moldings.

C. Hardware and attachment accessories.

1.02 RELATED REQUIREMENTS

A. Section 061010 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 081416 - Flush Wood Doors.

C. Section 088000 - Glazing: Glass and glazing of wood partitions and screens.

D. Section 099113 - Exterior Painting: Painting of finish carpentry items.

E. Section 099123 - Interior Painting: Painting of finish carpentry items.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test 2015.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2020.

D. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards 2014, with Errata (2018).

E. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.1 2017, with Errata (2019).

F. AWPA U1 - Use Category System: User Specification for Treated Wood 2018.

G. BHMA A156.9 - American National Standard for Cabinet Hardware 2015.

H. NHLA G-101 - Rules for the Measurement & Inspection of Hardwood & Cypress 2015.

I. PS 1 - Structural Plywood 2009.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with framing, blocking, furring, reinforcements, plumbing rough-in, electrical rough-in, and installation of associated and adjacent components to ensure that finish carpentry can be supported and installed as indicated.

B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data:

1. Provide instructions for attachment hardware and finish hardware.

C. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.

2. Provide the information required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

D. Samples: Submit two samples of finish plywood, as applicable for project, 3 by 3 inch in size illustrating wood grain and specified finish.

E. Samples: Submit two samples of each specified profile of wood trim 6 inch long.

1.06 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during the remainder of the construction period.

B. Field Measurements: Where finish carpentry is indicated to fit to other construction, **verify dimensions of other construction by field measurements before fabrication**, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

C. Exterior Woodwork Items:

1. Ipe Rainscreen Siding.

D. Interior Woodwork Items:

1. Moldings, Bases, Casings, and Miscellaneous Trim: As defined in Section 090600 Schedules of Finishes; prepare for finish per 090600.

2.02 LUMBER MATERIALS

A. Interior Hardwood Lumber: White Birch species, Quarter sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.

B. Exterior Hardwood Lumber Rainscreen: Ipe species, Plain sawn, maximum moisture content of 6 percent; with flat grainfor semi-transparent stain.

1. Grading: In accordance with NHLA G-101 Grading Rules; www.natlhardwood.org.

2.03 SHEET MATERIALS

A. Softwood Plywood, Exposed to View: Face species as indicated, plain sawn, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.

2.04 FASTENINGS

A. Fasteners: Of size and type to suit application; countersunk finish in concealed locations and countersunk and filled flush finish, matching final finish, in exposed locations.

2.05 ACCESSORIES

A. Primer: Alkyd primer sealer.

B. Wood Filler: Solvent base, tinted to match surface finish color.

C. Aluminum Siding "H" clip:

1. Manufacturers:

a. For use with furring:

1) Brazilian Wood Depot: www.bwdepot.com: Siding H Clip.

2) Advantage Lumber: www.advantagelumber.com: Deckwise Siding Fasteners

3) Timberland Holdiongs: www.ganahllumber.com: Iron Woods Vanish Clip #VRSC OB

b. For use without furring:

1) Timberland Holdiongs: www.ganahllumber.com: Iron Woods Vanish Clip #VRSC NB

2) Mataverde Preium Siding: www.mataverdedecking.com: Climate-Shield CS 2 Rain Screen Clip

2.06 HARDWARE

A. Hardware: Comply with BHMA A156.9.

B. Adjustable Shelf Standards: Adjustable, heavy duty style; "83 Series Heavy-Duty Standard System" System" manufactured by Knape & Vogt: www.kv.com. Sizes as shown on Drawings.

C. Adjustable Shelf Brackets: Adjustable, Heavy duty style; "183 Series Flanged Bracket System" Standard" manufactured by Knape & Vogt: www.kv.com. Sizes as shown on Drawings.

D. Fixed Shelf Brackets: Fixed, heavy duty style; "204 Series Reinforced L-Brackets" manufactured by Knape & Vogt: www.kv.com. Size as shown on Drawings.

E. Finish as selected by Architect from manufacturer's full line of finishes.

2.07 FABRICATION

A. Shop assemble work, including assembly and hardware application, to maximm extent possible for delivery to site, permitting passage through building openings.

1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.08 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. For opaque finishes, apply wood filler in exposed nailand screw indentations.

C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.

D. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:

1. Transparent:

a. System - 1, Lacquer, Nitrocellulose.

b. Stain: As selected by Architect.

c. Sheen: Flat.

2. Opaque:

a. System - 1, Lacquer, Nitrocellulose.

b. Color: As selected by Architect.

c. Sheen: Flat.

E. Back prime woodwork items to be field finished, prior to installation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

C. See Section 061010 for installation of recessed wood blocking.

3.02 INSTALLATION

A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps. Refinish cut surfaces. Repair damaged finish at cuts.

D. Install hardware in accordance with manufacturer's written instructions.

3.03 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

B. Site Finishing: See Section 090600 as required.

C. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 REPAIR

A. Repair damaged and defective finish carpentry, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork.

3.05 CLEANING

A. Clean, lubricate and adjust hardware.

B. Clean exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION

SECTION 066620
MANUFACTURED TRIM AND ORNAMENTS-URETHANE

PART 1 - GENERAL

1.01 RELATED SECTIONS:

A. All contract documents apply to work of this section; this includes but is not limited to: Drawings, Instructions to Bidders, General and Supplementary Conditions and Division One Administrative Sections of the specifications.

B. Related Sections:

1. 013000 - Administrative Requirements
2. 014000 - Quality Requirements
3. 016000 - Product Requirements
4. 061000 - Rough Carpentry
5. 0620 00 – Finish Carpentry
6. 079005 - Joint Sealers
7. 099000 - Painting and Coating

1.02 SUMMARY:

A. Section includes furnishing and installing all selected Urethane Foam Manufactured Trim and Ornament Products, including but not limited to:

1. Decorative Columns

1.03 DESIGN / PERFORMANCE REQUIREMENTS:

A. Finished surfaces shall be free from cracks, pits, chips, voids, depressions, bumps, ridges waves, scratches, discoloration or other defacements.

B. Products in this section shall be designed, engineered, fabricated and installed to conform to project drawings and specifications.

C. Consult the local building code AHJ to determine suitability of products to meet project and code requirements.

1.04 SUBMITTALS:

A. Comply with provisions of Section 013000 - Administrative Requirements

B. Product Data: Provide Manufacturer' s Data for each product to be used, including: storage and handling requirements and recommendations; preparation instructions and recommendations

and installation instructions.

C. Shop drawings: Submit detailed drawings showing location, profiles and product components, including but not limited to anchorage requirements, accessories and provisions for achieving desired finishes.

D. Product Samples: Submit two (2) 18" long samples for each product component specified, representing the actual profiles, products, patterns and finishes specified.

1.05 QUALITY ASSURANCE:

A. Installer Qualifications: Installer shall have a minimum of 5 years experience installing products of similar type and scope as those specified in this section.

1.06 DELIVERY, STORAGE AND HANDLING:

A. Deliver all materials in original packaging, unopened with no visible damage.

B. Label each package with product contents and stock number of contents, with warranty, installation, handling and storage recommendations enclosed, available on-line or on packaging.

C. Allow for receiving, unloading, handling and movement to approved storage areas within project, and final movement to point of installation.

D. Store and protect all materials in accordance with manufacturer' s requirements for environmental and physical protection. Keep temporary protective coverings in place.

E. Store products on flat level surface to prevent warping.

F. Protect materials and finish from damage during handling and installation.

1.07 PROJECT CONDITIONS:

A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer' s recommendations.

B. Allow at least 24 hours for materials to adapt to conditions at project site prior to installation.

1.08 WARRANTY:

A. Upon completion of work, provide a written Manufacturer' s Limited Warranty for products installed as part of this project to the Original Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

A. Acceptable Manufacturer:

1. Chemcrest, Inc: www.chemcrest.com

2. Worthiongton Millwork: www.worthingtonmillwork.com

3. The Column Store: https://thecolumnstore.com

B. Substitutions: See Section 016000 - Product Requirements

2.02 MATERIALS:

A. Manufactured polyurethane trim and ornaments:

1. Round Fluted Tapered Polyurethane Column; 8" diameter, 9'-0" tall, fluted shaft, Tuscan Style.

2.03 ACCESSORIES:

A. Sealant: Use a compatible urethane-based adhesive.

B. Fasteners: Use corrosive-resistant fasteners.

C. Filler: Use a compatible filler putty.

2.04 FINISHES:

A. Manufacturer supplied protective barrier coat primer, resistant to UV degradation, providing interim UV protection of products which is suitable for field application of 100% acrylic latex finish paint on all urethane foam products.

PART 3 - EXECUTION

3.01 EXAMINATION:

A. Site Verification of Conditions:

1. Prior to the start of installation, inspect all preceding work to ensure that there are no conditions which will cause an unsatisfactory installation of work involving polyurethane foam products.

2. Notify Architect in writing of any unacceptable conditions that would adversely affect installation or subsequent performance of this product.

3. Do not install any work involving polyurethane foam products until unsatisfactory conditions are corrected and acceptable for proper installation of work.

4. Contractor shall be responsible for correcting or replacing all unacceptable work involving urethane products, which were installed over unsatisfactory conditions at no cost to Owner.

3.02 PREPARATION:

A. Protect surrounding and adjacent work as required preventing damage to preceding work during execution of this work.

B. Perform all preparation necessary for a successful installation of products as specified in manufacturer' s installation instructions.

3.03 INSTALLATION:

A. Obtain Manufacturer' s instructions for successful installation of work to be performed and become knowledgeable with all material handling and installation recommendations.

B. Ensure full compliance with Manufacturer' s instructions in all aspects of tasks required by this work. Install products in accordance with manufacturer' s instructions at locations indicated on the drawings.

C. Provide caulk joints at intervals not to exceed 18 feet in length. Also provide caulk joints at every end of every run of material. Joints should be uniform in width and be sized at 3/16".

D. Coordinate all work with other project trades to assure proper installation and provide proper accommodations for following work by other trades.

3.04 FIELD QUALITY CONTROL:

A. After installation, check all work for flaws and defects.

B. Repair all defective work.

C. Remove and replace all damaged components that cannot be successfully repaired as determined by Architect.

3.05 PROTECTION:

A. Install temporary protective materials necessary to prevent damage to materials installed in this work until final acceptance of the project.

3.06 CLEANING:

A. Remove all protection materials.

B. Clean all surfaces following manufacturer' s recommendations prior to final project completion. Do not use harsh cleaning materials or methods that would damage finish.

C. Dispose properly of all debris generated by this work, protection materials and cleaning materials.

END OF SECTION

SECTION 068200
COMPOSITE TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Exterior synthetic (poly-ash) trim.

1.02 RELATED REQUIREMENTS

A. Section 079200 - Joint Sealants

B. Section 099113 - Exterior Painting: Field painting of composite trim.

1.03 REFERENCE STANDARDS

A. ASTM D 1761 – Standard Test Methods for Mechanical Fasteners in Wood.

B. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.

C. AWPA E1 – Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified component products.

C. Shop Drawings: Indicate design load parameters, dimensions, adjacent construction, materials, thicknesses, fabrication details, required clearances, field jointing, tolerances, colors, finishes, methods of support, integration of plumbing components, and anchorages.

D. Samples: Submit two samples of manufacturer’s exterior synthetic trim, 1 x 4 inch in size, 8 inches long, illustrating color, texture, and finish.

E. Manufacturer' s Certification: Submit manufacturer' s certification that materials comply with specified requirements and are suitable for intended application.

F. Warranty Documentation: Submit manufacturer' s standard warranty.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store and handle materials in accordance with manufacturer' s instructions.

B. Store materials in clean, dry area.

C. Store exterior synthetic trim on flat, level surface.

D. Keep exterior synthetic trim covered and free of dirt and debris.

E. Protect materials and finish during storage, handling, and installation to prevent damage.

1.06 FIELD CONDITIONS

A. Do not install site fabricated components when site conditions may be detrimental to successful installation.

1.07 WARRANTY

A. Warranty Period for Exterior Synthetic Trim: 20-year limited warranty.

1. No decay due to rot.

2. No excess swelling from moisture.

3. Resist termite damage.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Exterior synthetic (poly-ash) trim.

1. Boral Composites Inc., 200 Mansell Court East, Suite 305, Roswell, Georgia 30076; 888-926-7259; www.BoralTruExterior.com; info@TruExterior.com.

2. Substitutions: See Section 016000 - Product Requirements.

2.02 MATERIALS

A. Exterior Synthetic (Poly-ash) Trim: Boral TruExterior® Trim.

B. Composition:

1. Post-Industrial Recycled Content: Minimum 70 percent, by weight.

2. Post-Consumer Recycled Content: Minimum 2 percent, by weight

3. Pigments and dyes.

C. Physical Properties:

1. Density, ASTM C 1185: 40 to 50 pcf.

2. Water Absorption, ASTM D 570: Less than 1.5 percent.

3. Fungi Rot, AWPA E10:

a. White Rot: Negligible loss.

b. Brown Rot: Negligible loss.

4. Termite Resistance, AWPA E1: Greater than 9.0, with 10 being impervious.

D. Mechanical Properties:

1. Flexural Strength, ASTM C 1185: Greater than 1,600 psi.

2. Nail Withdrawal, ASTM D 1761: Greater than 40 lbf/in.

E. Thermal Properties:

1. Coefficient of Linear Expansion, ASTM D 6341, Typical: 1.40 E-05 in/in/degree F, tested at minus 30 to 140 degrees F.

2. Flame Spread, ASTM E 84: Less than 35.

3. Smoke Developed, ASTM E 84: Less than 450.

F. Trim Sizes:

1. Sizes:

Nominal Size	Actual Size
1 by 4	3/4" by 3-1/2"
1 by 6	3/4" by 5-1/2"
1 by 8	3/4" by 7-1/4"
1 by 10	3/4" by 9-1/4"
1 by 12	3/4" by 11-1/4"
5/4 by 4	1" by 3-1/2"
5/4 by 6	1" by 5-1/2"
5/4 by 8	1" by 7-1/4"
5/4 by 10	1" by 9-1/4"
5/4 by 12	1" by 11-1/4"
5/8 by 6 Beadboard	5/8" by 5 ¼"

2. Manufacturing Tolerances:

a. Width: Plus or minus 1/16 inch.

b. Thickness: Plus or minus 1/16 inch.

c. Length: Plus 2 inches, minus 0 inch.

d. Edge Cut: Plus or minus 2 degrees.

3. Exposed Texture: Smooth.

2.03 FINISH

A. Primer:

1. Acrylic based.

2. Low VOC.

3. Factory applied on all sides.

4. Field painted.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 INSTALLATION

A. Install fabrications in accordance with approved shop drawings and fabricator's instructions.

3.03 TOLERANCES

A. Maximum variation from true position: 1/4 inch.

B. Maximum offset from true alignment: 1/8 inch.

3.04 CLEANING

A. Clean components of foreign material without damaging finished surface.

B. Clean fabrications in accordance with fabricator's instructions.

END OF SECTION