

DIVISION 6 – WOOD AND PLASTICS

SECTION 06100

ROUGH CARPENTRY

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

- A. Applicable Wall and roof framing, wall and roof sheathing, preservative treatment, sill gaskets and flashings (as applicable).
- B. Roof curbs and cants; blocking in wall and roof openings; wood furring and grounds; electrical panel and Telephone back boards, concealed wood blocking.
- C. Backing for toilet and bath accessories, chair rails, bulletin boards, projection screen mounting brackets, stair handrails, chalkboards, plumbing fixtures, toilet accessories, plaques, telephone backboard, and all other items requiring nailing or mounting backing not listed in these specifications.
- D. Any other work requiring concealed framing carpentry to support or provide a base for finish material.

1.03 SUBMITTALS

- A. Shop Drawings: Indicate framing system, loads and cambers, bearing details, framed openings and other details as required.

1.04 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
 - 1. Lumber Grading Agency: Certified by ALSC.
 - 2. Plywood Grading Agency: Certified by APA.

PART 2: PRODUCTS

2.01 LUMBER, GENERAL

- A. Lumber Standards: Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review
- B. Inspection Agencies: Inspection agencies and the abbreviations used to reference them with lumber grades and species include the following:
 - 1. SPIB - Southern Pine Inspection Bureau.
- C. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

2.02 DIMENSION LUMBER

- A. For light additional framing necessary beyond the metal stud framing provide "Stud," "No. 3", or "Standard" grade lumber for stud framing (2 to 4 inches thick, 2 to 4 inches wide, 10 feet and shorter) and "Stud" or "No. 3" grade for other light framing (2 to 4 inches thick, 2 to 6 inches wide), any species.

2.03 SHEATHING AND UNDERLAYMENT LOCATIONS

- A. Telephone and Communications Backboards: New plywood painted to meet requirements of telephone company.
- B. Electrical Lighting Transformers Backboards: New fire retardant plywood painted to meet requirements of the manufacturer of the electrical lighting fixture.
- C. Wall Sheathing Behind Wall Siding: Provide solid plywood sheathing behind all fiber cement board wall and ceiling material. Use minimum ½ inch thick treated plywood sheathing behind fiber cement wall or ceiling material or thickness recommended by manufacturer.

2.04 ACCESSORIES

- A. Fasteners: Galvanized steel for exterior, high humidity, and treated wood locations, plain finish elsewhere.
- B. Die Stamped Connectors: Thickness as required in galvanized steel.
- C. Structural Framing Connectors/ Joist Hangers: Galvanized steel, sized to suit framing conditions.
- D. Anchors: Toggle bolt type for anchorage to hollow masonry. Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel.
- E. Sill Gasket on Top of Foundation Wall: Plate width, closed cell foam.
- F. Sill Flashing : Polyethylene sheet or Galvanized steel as required.
- G. Subfloor Glue: APA AFG-01, water base, waterproof.
- H. Building Paper: No. 15 asphalt felt.
- I. Roofing Paper: Ice and Water Shield.
- J. Termite Shield: Galvanized sheet steel.

2.05 WOOD TREATMENT

- A. Wood Preservative: AWPA Treatment C1 using water borne preservative with 0.25 percent retainage.
- B. Wood Preservative: Clear type.
- C. Shop preservative treat wood materials indicated on Drawings, in accordance with manufacturer's instructions.

- D. Do not use oil-based preservatives under roofing felts.
- E. Refer to APA Technical Bulletin Number TB-200 for information cautioning use of fire retardant treatment of materials and potential degradation of those materials in certain environments.

PART 3 EXECUTION

3.01 FRAMING (For wood framing necessary beyond metal stud framing)

- A. Erect wood framing members in accordance with applicable code with a minimum compliance to N.F.P.A. "Manual for Wood Frame Construction", unless otherwise indicated. Place members level and plumb. Place horizontal members crown side up.
- B. Place full width continuous termite shield and sill flashing on foundations.
- C. Place sill gasket directly on sill flashing.
- D. (If Applicable) Frame double joist headers at floor and ceiling openings. Frame rigidly into joists. Frame double joists under wall studding.
- E. (If Applicable) Bridge joists in excess of 8 feet span at mid-span members. Fit solid blocking at ends of members.
- F. (If Applicable) Curb all roof openings except where curbs are provided. Construct curb members of single pieces per side.
- G. Anchor and nail to comply with the following:
 - 1. National Evaluation Report No. NER-272 for pneumatic or mechanical drive staples, P-nails, and allied fasteners.
 - 2. Published requirements of manufacturer of metal framing anchors.
 - 3. "Table 1705.1 - Fastening Schedule," of the Standard Building Code.
- H. Framing headers above all doors, windows and openings shall be minimum double 2 x 10 header for all single door openings up to 36 inch doors. For single and double swing door openings over 36 inches use double 2 x 12 header.

3.02 STUD FRAMING (If Applicable for framing beyond what is necessary in the metal stud wall framing)

- A. General: If wood studs are used arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Install single bottom plate and double top plates using 2-inch thick members whose widths equal that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction.
 - 1. For interior partitions and wall install 2-inch by 4, 6 or 8 inch wood studs spaced 16 inches o.c.
 - 2. Install continuous horizontal blocking row at mid-height of single-story partitions over 8 feet high using 2-inch thick members of same width as wall or partitions.

3.03 SHEATHING

- A. (If Applicable) Install roof sheathing to simple span. Comply with applicable recommendations.
- B. Place building paper between underlayment and subflooring (if applicable).
- C. Secure wall sheathing with ends staggered, over firm bearing.
- D. Use sheathing clips between sheets between roof framing members when used.

- E. Install telephone and electrical panel back boards with plywood sheathing material where required. Size the back board by 12 inches beyond size of electrical panel.
- F. Install plywood sheathing material where toilet and bath accessories are to be mounted or any other mounted devices such as hand rails, equipment and heavy fixtures.
- G. Install gypsum sheathing to comply with manufacturer's instructions, GA-253 as required.

3.04 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment in accordance with manufacturer's instructions.
- B. Treat site-sawn cuts. Brush apply two coats of preservative treatment on untreated wood in contact with cementitious materials, roofing and related metal flashings and in areas as required.
- C. Allow preservative to cure prior to erecting members.

END OF SECTION - 06100

DIVISION 6 – WOOD AND PLASTICS

SECTION 06200

FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Finish carpentry, Exterior and Interior Architectural Woodwork, fabricated and site installed, other than shop prefabricated casework, hardware and attachment accessories.
 - 1. Exterior Architectural Woodwork
 - a. Exterior standing and running trim and mouldings (if applicable).
 - 2. Interior Architectural Woodwork
 - a. Door stiles, rails, panels, frames, muntins, casings, jambs, stops, trim and mouldings, unless otherwise called for on the plans.
 - b. Window sills, sashes, casings, jambs, stops, stools, trims and mouldings (if applicable).
 - c. Baseboards, and shoe bases.
 - d. Horizontal Clear Pine Wood wallboards.
 - e. Chair-rails (if applicable).
 - f. Clear Pine Tongue & Grooved “V” grooved Ceiling Boards
 - 3. All other interior architectural woodwork (millwork) required and not mentioned here:
 - a. Interior standing and running trim and rails.
 - b. Laminate clad cabinets (plastic-covered casework).
 - c. Cabinet tops (countertops)
 - d. Wood cabinets for opaque and transparent finish.
 - e. Cabinet hardware.
 - f. Miscellaneous mouldings.
 - g. Shelving
 - h. Built-in Desks and returns.
 - i. Wood Ceilings.
 - j. Wood Wainscotting (if applicable).
 - k. Horizontal Clear Pine Wall Boards.
 - l. Exhibit Cases (if applicable).
 - m. All other millwork that is included in the job.

1.02 SUBMITTALS

- A. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, finishes, and accessories.
- B. Samples: Submit two 18-inch long by applicable width size samples illustrating wood grain and specified finish.
- C. Qualification data for firms and persons specified in “Quality Assurance” article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, and other information specified. List all historic restoration or adaptive historic renovation work completed by firms and persons specified to do this work.

1.03 QUALITY ASSURANCE

- A. Perform work in accordance with AWI Premium quality.

- B. Demonstrate qualifications of firm experience in successfully producing and installing architectural woodwork similar to that indicated for this Project.

1.04 REGULATORY REQUIREMENTS

- A. Conform to applicable code for fire retardant requirements.

1.05. DELIVERY, STORAGE, AND HANDLING

- A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.
- B. Store all woodwork in enclosed conditioned space protected from the elements. Provide even room temperature to prevent wood from shrinking, cracking, expanding, warping, or damage from other trades working in the building. Insure that all woodwork including doors are covered and sealed tightly to prevent the intrusion of dirt, moisture, or stain.

1.06 PROJECT CONDITIONS

- A. Environmental Conditions: Obtain and comply with woodwork manufacturer's and installer's coordinated advice for optimum temperature and humidity conditions for wood work during its storage.
- B. Field Measurements: Where woodwork is indicated "to be fitted" to other construction by accurate field measurements before manufacturing woodwork; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of Work.
 - 1. When field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with manufacture of woodwork without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.

PART 2 PRODUCTS

2.01 LUMBER MATERIALS

- A. General: Provide material that comply with requirements of the AWI woodworking standard for each type of woodwork and quality grade indicated, where the following products are part of woodwork, with requirements of the referenced product standards, that apply to product characteristics indicated:
 - 1. Hardboard: ANSI/AHA A135.4
 - 2. High Pressure Laminate: NEMA LD 3.
 - 3. Medium Density Fiberboard: ANSI A208.2.
 - 4. Particleboard: ANSI A208.1.
 - 5. Softwood Plywood: PS-1.
 - 6. Formaldehyde Emission Levels: Comply with formaldehyde emission requirements of each voluntary standard referenced below:
 - a. Particleboard: NPA 8.
 - b. Medium Density Fiberboard: NPA 9.
 - c. Hardwood Plywood: HPMA FE.
- B. Softwood Lumber: PS 20; Graded in accordance with AWI Premium; species (as called for on plans), maximum moisture content of 6 percent, of quality suitable for transparent finish.
 - 1. For Wood Wall Boards: Tongue and Groove "V" Grooved Clear Yellow Pine (No Knots) or better.
- C. Hardwood Lumber: Graded in accordance with AWI Premium; species (as called for on plans as Premium Grade Rift Sawn Red Oak), maximum moisture content of 6 percent, of quality suitable for transparent finish.

1. For All other Wood Running Trim, Millwork, Window Sills, Doors, Etc.: Premium Grade Rift Sawn Red Oak.

2.02 SHEET MATERIALS

- A. Softwood Plywood: PS 1 Grade; Graded in accordance with AWI, veneer and lumber core; face species and cut as called for on drawings.
- B. Hardwood Plywood: Graded in accordance with AWI, veneer and lumber core, type of glue recommended for application; face species and cut as required.

2.03 FINISH MATERIALS

- A. Plastic Laminate: NEMA LD 3; 0.050 inch General Purpose quality; color, pattern, and surface texture as selected. Use .030 inch vertical grade for cabinet doors and exposed faces.
- B. Laminate Backing Sheet: 0.020 inch Backing Sheet grade, undecorated plastic laminate.
- C. Plastic Laminate Clad Casework: Use a Semi-exposed surface equal to thermo-fused melamine.
- D. Manufacturers:
 1. Pioneer Plastics Corp., Pionite
 2. Ralph Wilson Plastics Co., Wilsonart
 3. Formica Corp.
 4. Nevamar Corp.

2.04 WOOD TREATMENT PROCESSES (If Called For)

- A. Fire retardant (FR-S Type): Chemically treated and pressure impregnated; capable of providing a maximum flame spread/smoke development rating to meet all codes.
- B. Wood Preservative by Pressure Treatment (PT Type): AWPAC Treatment C2 using water borne preservative with 0.25 percent retainage.
- C. Wood Repellent Preservative Treatment by Dipping Method: NWMA I.S.4, with 0.25 percent retainage.
- D. Wood Preservative (Surface Application): Clear type.
- E. Refer to APA Technical Bulletin Number TB-200 for application of fire retardant treatment of material.

2.05 SHOP TREATMENT OF WOOD MATERIALS (If Called For)

- A. Shop pressure treat treatment to wood materials requiring UL fire rating preservatives to concealed wood blocking.
- B. Provide UL approved identification on fire retardant treated material.
- C. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.
- D. Re-dry wood after pressure treatment to maximum 6 percent moisture content.

2.06 FABRICATION

- A. Fabricate to AWI Premium Grade standards.

- B. Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber in relation to relative humidity conditions existing during time of fabrication and in installation areas.
- C. Fabricate woodwork to dimensions, profiles, and details indicated and to match existing details. Ease edges to radius indicated for the following:
 - 1. Edges of solid wood (lumber) members less than 1 inch in nominal thickness: 1/16 inch.
 - 2. Edges of rails and similar members 1 inch or more in nominal thickness: 1/8 inch.
 - 3. Factory cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges of cutouts and, where located in countertops and similar exposures, seal edges of cutouts with a water-resistant coating.
 - 4. Complete fabrication, including assembly, finishing and hardware application, before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming and fitting.
 - 5. Frameless construction of millwork cabinetry will be allowed.

2.07 SHOP OR ON-THE-JOB-FINISHING

- A. Exterior Standing and Running Trim for Opaque Finish: (If called for)
 - 1. Quality Standard: Comply with AWI Section 300.
 - 2. Backcut or groove backs of flat trim members, kerf backs of other wide flat members, except for members with ends exposed in finished work.
 - 3. Assemble casings in plant except where installation of access to place of installation require field assembly.
 - 4. Grade: Custom
 - 5. Lumber Species: Spanish Cedar.
- B. Interior Standing and Running Trim, Rails, Wallboards and Ceiling boards for Transparent Finish:
 - 1. Quality Standard: Comply with AWI Section 300.
 - 2. Backcut or groove backs of flat trim members, kerf backs of other wide flat members, except for members with ends exposed in finished work.
 - 3. Assemble casings in plant except where installation of access to place of installation require field assembly.
 - 4. Grade: Premium
 - 5. Lumber Species for Running Trim, Rails: Premium Grade Rift Sawn Red Oak or Clear Pine where called for on the plans in profiles indicated.
 - a. Flame Spread 100 as per ASTM 84.
 - b. Smoke Developed at less than 450.
 - 6. Lumber Species for Wood Ceiling Boards and Horizontal Wall Boards: tongue and grooved clear Yellow Pine (no knots) or better in profiles shown on the plans.
 - a. Flame Spread 100 as per ASTM 84
 - b. Smoke Developed at less than 450.
- C. Interior Standing and Running Trim and Rails for Opaque Finish:
 - 1. Quality Standard: Comply with AWI Section 300.
 - 2. Backcut or groove backs of flat trim members, kerf backs of other wide flat members, except for members with ends exposed in finished work.
 - 3. Grade: Custom.
 - 4. Lumber Species: Clear lin-dried poplar.
- D. Wood Cabinets (Casework) for Transparent Finish: (If Called For)
 - 1. Quality Standard: Comply with AWI Section 400 and its Division 400A "Wood Cabinets."
 - 2. Grade: Premium
 - 3. AWI Type of Cabinet Construction: Flush Overlay
 - 4. Species for Exposed surfaces: Premium Grade Rift Sawn Red Oak.
 - 5. Cabinet Door Grain Pattern: Rift Sawn.

6. Cabinet or Countertop Wood Edge Nosing Strip: Solid Rift Sawn Red Oak.

E. Wood Cabinets (Casework) for Opaque Finish: (If Called For)

1. Quality Standard: Comply with AWI Section 400 and its Division 400A "Wood Cabinets."
2. Grade: Custom.
3. AWI Type of Cabinet Construction: Flush Overlay
4. Species for Exposed Lumber Surfaces: Clear Kiln-dried poplar.
5. Panel Product for Exposed Surfaces: Clear lin-dried poplar
6. Materials for Semiexposed Surfaces: Match materials indicated for exposed surfaces.
7. Provide dust panels of ¼ inch plywood or tempered hardboard above compartments and drawers except where located directly under tops.

2.08 HARDWARE AND ACCESSORY MATERIALS.

- A. General: Provide cabinet hardware accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Finish Hardware." Match finish of Finish Hardware.
- B. Cabinet Hardware Schedule: Refer to schedule at end of this section for cabinet hardware required for architectural cabinets.
- C. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for BHMA code number indicated.
1. Mill finished Aluminum Extruded Handles for drawer and cabinet pulls as listed in item 3.07 Schedules.
- D. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of ANSI/BHMA A156.9.

2.09 ARCHITECTURAL CABINET TOPS (COUNTERTOPS) AND BASE AND UPPER CABINETS AND SHELVING USING PLASTIC LAMINATE

- A. Quality Standard: Comply with AWI Section 400 and its Division 400C.
- B. Type of Top: High pressure decorative laminate complying with the following:
1. Grade: Premium
 2. Laminate Cladding for Horizontal Surface: High pressure decorative laminate as follows:
 - a. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements.
 1. Pioneer Plastics Corp., Pionite
 2. Formica "Grafix Series".
 3. Wilsonart "Nebula Series".
 4. Nevamar "Matrix Series".
 - b. Grade: GP-50 (0.050-inch nominal thickness)
 3. Edge Treatment: Same as laminate cladding on horizontal surfaces.
 4. Edge Treatment: As indicated. (Premium Solid Rift Sawn Red Oak is to be used in some cases)
- C. Type of Top: Premium Grade Rift Sawn Solid Red Oak Complying with the following (If called for on plans):
1. Grade: Premium
 2. Edge Treatment: Rift sawn Premium grade Solid Red Oak.
- D. Grommets: The contractor shall provide as many grommets and grommet cover plates in locations as is necessary and as is requested by the Owner, Architect and Interior Designer after the millwork is installed.

2.10 INTERIOR MISCELLANEOUS ORNAMENTAL ITEMS FOR TRANSPARENT FINISH

- A. Quality Standard: Comply with AWI Section 700.
- B. Grade: Premium
- C. Lumber Species: Rift Sawn Red Oak or Clear Pine as called for on the plans.

2.11 INTERIOR MISCELLANEOUS ORNAMENTAL ITEMS FOR OPAQUE FINISH

- A. Quality Standard: Comply with AWI Section 700.
- B. Grade: Custom
- C. Lumber Species: Clear Kiln-dried poplar.

2.12 FASTENERS AND ANCHORS

- A. Screws: Select material, type, size and finish required for each use. Comply with FS FF-S-111 for applicable requirements.
 - 1. For metal framing supports, provide screws as recommended by metal framing manufacturer.
- B. Nails: Select material, type, size and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
- C. Anchors: Select material, type, size and finish required by each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Prime paint surfaces of items or assemblies in contact with cementitious materials, before installation.

3.02 INSTALLATION

- A. Install work in accordance with AWI Premium Quality Standard.
- B. Set and secure materials and components in place, plumb and level to a tolerance of 1/8 inch in 8'-0".
- C. Install trim by nails or screws as required.
- D. Cover exposed edges of shelving with 3/8-in. thick hardwood edging.
- E. Apply plastic laminate finishes with adhesive over entire surface.
- F. Install hardware supplied in accordance with manufacturer's instructions.

3.03 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment in accordance with manufacturer's instructions.
- B. Brush apply two coats of preservative treatment on wood in contact with cementitious materials roofing and related metal flashings. Treat site-sawn cuts.

- C. Allow preservative to dry prior to erecting members.

3.04 PREPARATION FOR FINISH

- A. Sand work smooth and set exposed fasteners. Apply wood filler in exposed fastener indentations.
- B. Site Finishing: Refer to Section 09900, Painting.

3.05 ADJUSTMENT AND CLEANING

- A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean woodwork on exposed and semiexposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.06 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensures that woodwork is being without damage or deterioration at time of Substantial Completion.

3.07 HARDWARE SCHEDULE

- A. Cabinet hardware as follows:
 - 1. 1 cabinet drawer and door pull shall be by Top Knob – M1284PN Polished Nickel – Nouveau III Collection. Or Equal.
 - 2. 1 set KV1300 slides each drawer. Or Equal.
 - 3. 1 Cylinder lock where called for in cabinet doors to match finish of other hardware, (masterkeyed).
 - 4. 1 2A92 elbow catch at each inactive leaf on each pair of doors where lock is indicated. Or Equal
 - 5. 1 pair Blum "Modul" 91A6500 concealed hinges for each door 3'-0" or less height where doors are indicated to open 170 degrees. Or Equal.
 - 6. 1 pair Blum "Modul" 95M3550 concealed hinges for each door 3'-0" or less in height to open 110 degrees. Or Equal.
 - 7. 1-1/2 pair Blum "Modul" 95M3550 concealed hinges for each door more than 3'-0" in height to open 110 degrees. Or Equal.

END OF SECTION - 06200