SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

Typically the wall framing is constructed with metal studs, however for connection to or replacement of existing wood framing in walls and ceilings, this specification shall be utilized.

SUMMARY:

Types of work in this section include rough carpentry for:

Wood grounds, nailers and blocking .
Misc. wood Framing and furring.
Sheathing –Roof and Wall Sheathing as indicated on drawings.

Tile Backer board sheathing installation at tiled walls.

Finish carpentry is specified in another section within Division 6.

DEFINITIONS:

Rough carpentry includes carpentry work not specified as part of other sections and generally not exposed, unless otherwise specified.

SUBMITTALS:

Wood Treatment Data: Submit chemical treatment manufacturer's instructions for handling, storing, installation and finishing of treated material.

Preservative Treatment: For each type specified, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained and conformance with applicable standards.

For water-borne treatment, include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.

PRODUCT HANDLING:

Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

PROJECT CONDITIONS:

Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.

PART 2 - PRODUCTS

LUMBER, GENERAL:

Lumber Standards: Manufacture lumber 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.

Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:

SPIB - Southern Pine Inspection Bureau.

WWPA - Western Wood Products Association.

Grade Stamps: Provide lumber with each piece of lumber 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.

For exposed lumber apply grade stamps to ends or back of each piece, or omit grade stamps entirely and issue certificate of grade compliance from inspection agency in lieu of grade stamp.

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.

Provide dressed lumber, S4S, unless otherwise indicated.

Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

WOOD TREATMENT BY PRESSURE PROCESS:

Preservative Treatment: Where lumber or plywood is indicated as "Treated," or is specified herein to be treated, comply with applicable requirements of AWPA Standards.
AWPA U1; Use categories as follows:

Use Category UC2 - for interior construction not in contact with the ground.
Use Category UC3b - for exterior construction not in contact with the ground.
Use Category UC4a - for items in contact with the ground.

Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:

Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers and waterproofing.

Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.

Wood framing members less than 18" above grade.

Wood floor plates installed over concrete slabs directly in contact with earth.

Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Note, Coordinate appropriate type of fastener with type of “chemical pressure treatment”.

For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment and to comply with AWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

DIMENSION LUMBER

For light framing provide "Stud," "No. 3," or "Standard" grade lumber for stud 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.

For structural framing (2 to 4 inches thick, 5 inches and wider), provide the following grade and species:

No. 2 grade.
Southern Pine (SPIB).
Fb (minimum extreme fiber stress in bending); 1200 psi
E (minimum modulus of elasticity); 1,600,000.

BOARDS:

Concealed Boards: Where boards will be concealed by other work, provide lumber of 19% maximum moisture content (S-DRY) and of following species and grade:

Southern Pine.
Select Structural
No. 2 grade.

Board Sizes: Provide sizes indicated or, if not indicated (for sheathing, subflooring, trim boards - and similar uses), provide 1" x 8" boards.

Board Sizes: Provide sizes indicated or, if not indicated (for furring, blocking and similar uses), provide 1" x 4" boards.

Exposed Boards: Where boards will be exposed in the finished work, provide the following:

Moisture Content: 19 percent maximum, "S-DRY".

Stained and painted finishes typical: No. 1 Boards per SPIB rules, Select Merchantable Boards per WCLIB rules, or No. 2 Common Boards & Better per WWPA rules.

MISCELLANEOUS LUMBER:

Provide wood for support or attachment of other work including, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:

Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

Grade: Standard Grade light framing size lumber of any species or board size lumber as required. No. 3 Common or Standard grade boards per WCLIB or WWPA rules or No. 3 boards per SPIB rules.

For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

CONSTRUCTION PANELS:

Construction Panel Standards: Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood panels and, for products not manufactured under PS 1 provisions, with American Plywood Associates APA PRP-108.

Trademark: Factory-mark each construction panel with APA trademark evidencing compliance with grade requirements.

APA Performance-Rated Panels: Where construction panels will be used for the following types of applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designation, exposure durability classification, edge detail (where applicable) and thickness.

APA RATED PLYWOOD SHEATHING.
(See Drawings for Fire Rating, if any)

Exposure Durability Classification: EXTERIOR, EXP-1

Span Rating: As required to suit wall stud or roof truss spacing indicated **but no less than thickness shown on drawings.**

Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant treated plywood panels with grade designation, APA C-D PLUGGED INT with exterior glue, in thickness indicated, or, if not otherwise indicated, not less than 15/32".

MISCELLANEOUS MATERIALS:

Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).

MDO: Medium Density Overlay, exterior grade plywood refined by adding a resin impregnated fiber overlay to produce a dimensionally stable, **dense**, strong and smooth board product. Material shall conform to requirements of ANSI A208.2-1994 and as specified in this section. **Resin shall be formaldehyde free.**

Building Paper: ASTM D 226, Type I; asphalt saturated felt, non-perforated, 15-lb. type.

FASTENERS

General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.

Coordinate appropriate type of fastener with type (if any) of “chemical preservative-pressure treatment”.

If ACQ (Alkaline Copper Quat) or CA-B (Copper Azole) treated wood is used, fastenters must be stainless steel or have electro deposited organic coatings (E-Coat).

Nails, Wire, brads, staples: FS FF-N-105.

Power Driven Fasteners: National Evaluation Report NER-272.

Wood Screws: ANSI B18.6.1.

Lag Bolts: ANSI B18.2.1.

Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.

PART 3 - EXECUTION

INSTALLATION, GENERAL:

Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.

Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.

Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.

Countersink nail heads on exposed carpentry work and fill holes.

Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS:

Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

WOOD FURRING: (Most is metal furring with some exceptions)

Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

Firestop furred spaces on walls at each floor level and a ceiling line of top story, with wood blocking or noncombustible materials, accurately fitted to close furred spaces.

Furring to receive gypsum Drywall: Install 1-inch by 2 -inch furring at 16 inches o.c., vertically. (See drawings, furring may be indicated to be metal furring.)

WOOD FRAMING, GENERAL:

Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of "Manual for House Framing" of National Forest Products Association N.F.P.A). Do not splice structural members between supports.

Anchor and nail as shown, and to comply with "Recommended Nailing Schedule" of "Manual for House Framing" and "National Design Specifications for Wood Construction" published by of N.F.P.A.

STUD FRAMING:

General: Provide stud framing of size and spacing indicated or, if not otherwise indicated, of the following sizes and spacings. Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Provide single bottom plate and double

top plates using 2" thick members with widths equaling that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction.

For exterior walls provide 2" x 6" wood studs spaced 16" o.c. (**Unless Noted Otherwise on Drawings**)
For interior load bearing walls provide 2" x 6" wood studs spaced 16" o.c. **(Unless noted Otherwise on drawings)**
For interior partitions and walls provide 2" x 4" wood studs spaced 16" o.c. (**Unless Noted Otherwise on Drawings**

NOTE: SPACE STUDS TO ALIGN DIRECTLY UNDER FRAMING (i.e. joists, trusses, beams, rafters, etc.) CARRIED BY STUDS.

Construct corners and intersections with not less than 3 studs. Provide miscellaneous blocking and framing as shown and as required for support of facing materials, fixtures, specialty items and trim.

Provide continuous horizontal blocking row at mid-height of single-story partitions over 8' high and at midpoint of multi-story partitions, using 2" thick members of same width as wall or partitions.

Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Set headers on edge and support on jamb studs.

For non-bearing partitions, provide double-jamb studs and headers not less than 6" deep for openings 3' and less in width, and not less than 8" deep for wider openings.

For load-bearing partitions, provide double-jamb studs for openings 6' and less in width, and triple-jamb studs for wider openings. Provide headers of depth shown, or if not shown, provide as recommended by N.F.P.A. "Manual for House Framing".

Provide diagonal bracing in stud framing of exterior walls, except as otherwise indicated. Brace both walls at each external corner, full story height, at a 45 degree angle, using either a let-in 1 x 4 blocking.

FLOOR JOIST FRAMING (Some existing joist "sistering" required. See Alllowances Unit Prices)

General: Install floor joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists as follows:

Where supported on wood members, by toe nailing or by using metal framing anchors.

Where framed into wood supporting members, by using wood ledgers as shown or, if not shown, by using metal joist hangers.

Fire Cuts: At joists built into masonry, bevel cut ends 3 inches and do not embed more than 4 inches.

Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.

Do not notch in middle third of joists; limit notches to 1/6 depth of joist, 1/3 at ends. Do not bore holes larger than 1/3 depth of joist; do not locate closer than 2 inches from top or bottom.

Provide solid blocking of 2-inch nominal thickness by depth of joist at ends of joists unless nailed to header or band.

Lap members framing from opposite sides of beams, girders, or partitions not less than 4 inches or securely tie opposing members together. Provide solid blocking of 2-inch nominal thickness by depth of joist over supports.

Anchor members paralleling masonry with 1/4-by-1-1/4-inch (6-by-32-mm) metal strap anchors spaced not more than 96 inches (2438 mm) o.c. extending over and fastening to 3 joists. Embed anchors at least 4 inches (100 mm) into masonry with ends bent at right angles 4 inches (100 mm) into grouted masonry.

Under jamb studs at openings, provide solid blocking between joist.

Under non-load-bearing partitions, provide double joists separated by solid blocking equal to depth of studs above.

Provide bridging of type indicated below, at intervals of 96 inches o.c., between joists.

Diagonal wood bridging formed from bevel cut 1-by-3-inch nominal- size lumber, double-crossed and nailed both ends to joists.

Steel bridging installed to comply with bridging manufacturer's written instructions.

BACKER BOARD INSTALLATION

Use sufficient amount of Portland cement mortar under backer boards to establish a supporting plane and eliminate voids.

Fasten backer units with corrosion-resistant fasteners per manufacturer’s diections.

Leave 1/8” perimeter movement gap and 1/8” gap between sheets. Fill joints between sheets solid and tape with Portland cement mortar and 2” alkali-resistant glass fiber mesh tape. Do not fill perimeter joint.

Maximum allowable variation in the tile substrate – for tiles with all edges shorter than 15”, maximum allowable variation is ¼” in 10’ from the required plane, with no more than 1/16” variation in 12” when measured from the high points in the surface. For tiles with at least one edge 15” in length, maximum allowable variation is 1/16” variation in 24 “ when measured from the high points in the surface.

INSTALLATION OF CONSTRUCTION PANELS

General: Comply with applicable recommendations contained in Form No. E30, "APA Design/Construction Guide - Residential & Commercial," for types of construction panels and applications indicated.

Roof Deck Sheathing (exterior grade plywood) spaced a minumum of 1/8” at all edges and ends. Edge clips used to maintain edge spacing as necessary.

Protect installed plywood from damage until system is completed.

Fastening Methods: Fasten panels as indicated below:

Subflooring: SCREW to framing.
Sheathing: SCREW to cold-formed metal framing.
Underlayment: SCREW to framing.

END OF SECTION 06100

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK

Definition: Finish carpentry includes carpentry work which is exposed to view, is non-structural, and which is not specified as part of other sections.

Types of finish carpentry work in this section include:

Interior Finish Carpentry - running and standing trim. (varnished stained finish) (gold metal wrapped)
Crown molding – Painted gold.
1 x 6 shiplap siding for bar undercountertop finish

Rough carpentry is specified in another Division-6 section.
Architectural woodwork is specified in another Division-6 and 12 sections.

QUALITY ASSURANCE:

Factory-mark each piece of lumber and plywood with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.

PRODUCT DELIVERY, STORAGE AND HANDLING:

Protect finish carpentry materials during transit, delivery, storage and handling to prevent damage, soiling and deterioration.

Do not deliver finish carpentry materials, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, finish carpentry materials must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

JOB CONDITIONS:

Maintain temperature and humidity in installation area as required to maintain moisture content of installed finish carpentry within a 2.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. The fabricator of woodwork shall determine optimum moisture content and required temperature and humidity conditions.

PART 2 - PRODUCTS

WOOD PRODUCT QUALITY STANDARDS:

Softwood Lumber Standards: Comply with PS 20 and with applicable grading rules of the respective grading and inspecting agency for the species and product indicated.

Plywood Standard: Comply with PS 1/ANSI A199.

Woodworking Standard: Where indicated for a specific product comply with specified provision of the following:

Architectural Woodwork Institute (AWI) "Quality Standards."

MATERIALS:

General:

Nominal sizes are indicated, except as shown by detailed dimensions. Provide dressed or worked and dressed lumber, as applicable, manufactured to the actual sizes as required by PS 20 or to actual sizes and pattern as shown, unless otherwise indicated.

Moisture Content of Softwood Lumber: Provide kiln-dried (KD) lumber having a moisture content from time of manufacture until time of installation not greater than values required by the applicable grading rules of the respective grading and inspecting agency for the species and product indicated.

Moisture Content of Hardwood Lumber: Provide kiln-dried (KD) lumber having a moisture content from time of manufacture until time of installation within the ranges required in the referenced woodworking standard.

Lumber for Transparent Finish (Stained or Clear) : Use pieces made of solid lumber stock.

Plywood for Painted Finish: Any softwood species, Exterior type, Medium Density Overlay (MDO/EXT-APA).

Thickness: 3/4" thick unless noted otherwise on drawings.

INTERIOR FINISH CARPENTRY:

Standing and Running Trim (painted trim): For trim formed of boards and worked products, provide lumber manufactured to sizes and patterns (profile) shown from selected first grade lumber (NHLA); **(finger jointed trim is unacceptable)** complying with following grade requirements of referenced woodworking standard, for quality of materials and manufacture:

Species: White Pine kiln dried and dressed.
Grade: Mostly clear with small intact knots.no splits or checks.
Texture: ¾" thick smooth surfaced.
Finish: Stained and varnished in the retail bar and gold metal wrapped unless noted otherwise on drawings.

1x6 base boards and 6" shiplap (stained) in Retail/Bar area where indiated on the plans.

Wood Moulding Patterns: (Only for New Work not required to match existing) For stock patterns included in Wood Moulding and Millwork Producers association WM7 and graded under WM4, provide the following grade based on the finish indicated and fabricated from species specified:

Mouldings for transparent Finish: N-Grade 3" Crown Moulding at Gold Faux tin ceilings in Salon 101 and Retail Bar (Semi-Gloss- burnished Gold / brass) painted finish.

Gold Metal Cladding for wallbases to match existing Theatre wall bases: 1 x 6 wood or wood composite boards wrapped top and sides with polished gold,or polished brass sheet break metal; metal thickness .03 inch minimum, 24 guage. Top fold to be machine broken(folded) for a neat 90 degree bend.

Precision Brand Brass Sheeting
Wilsonart Metals Decoartive Metal #6255P (418) Polished Gold Aluminum (scored and bent)

Equals by others.

MISCELLANEOUS MATERIALS:

Fasteners and Anchorages: Provide nails, screws and other anchoring devices of the type, size, material and finish required for application indicated to provide secure attachment, concealed where possible, and complying with applicable Federal Specifications.

Where finish carpentry is exposed on exterior or in areas of high relative humidity, provide fasteners and anchorages with a hot-dipped zinc coating (ASTM A 153).

Inspect each piece of lumber and plywood or each unit of finish carpentry after drying; do not use twisted, warped, bowed or otherwise damaged or defective wood.

PART 3 - EXECUTION

PREPARATION:

Condition wood materials to average prevailing humidity conditions in installation areas prior to installing.

Back prime lumber for painted finish exposed on the exterior or, where indicated, to moisture and high relative humidities on the interior. Comply with requirements of section on painting within Division 9 for primers and their application.

INSTALLATION:

Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacturer with respect to surfaces, sizes or patterns.

Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims.

Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, to produce tight fitting joints with full surface contact throughout length of joint. Use scarf joints for end-to-end joints.

Anchor finish carpentry work to anchorage devices or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fasteners heads are required, use fine finishing nail for exposed nailinqs, countersunk and filled flush with finished surface, and matching final finish where transparent is indicated.

ADJUSTMENT, CLEANING, FINISHING AND PROTECTION:

Repair damaged and defective finish carpentry work wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.

Clean finish carpentry work on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

Refer to Division 9 sections for final finishing of installed finish carpentry work.

Protection: Installer of finish carpentry work shall advise Contractor of final protection and maintained conditions necessary to ensure that work will be without damage or deterioration at time of acceptance.

END OF SECTION 06200

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