
Part 1 General

1.1 SUMMARY

- .1 Supply all labour, materials, equipment, services and perform all operations required to complete all rough carpentry work to the full intent of the drawings and as herein specified.

1.2 RELATED REQUIREMENTS

- .1 Section 05 40 00: Cold Formed Metal Framing
- .2 Section 06 20 00: Finish Carpentry
- .3 Section 07 21 00: Building Insulation and Vapour Barriers
- .4 Section 07 24 00: Exterior Insulation and Finish System
- .5 Section 07 51 00: Built-Up Bituminous Roofing and Sheet Metal
- .6 Section 09 21 16: Gypsum Wallboard
- .7 Section 09 90 00: Painting

1.3 DELIVERY, STORAGE, HANDLING AND PROTECTION

- .1 Co-ordinate deliveries to comply with construction schedule and arrange ahead for off-the-ground, under cover storage location. Do not load any area beyond the design limits.
- .2 Materials shall be carefully checked, unloaded, stored and handled to prevent damage. Protect materials with suitable non-staining waterproof coverings.
- .3 Do not store seasoned materials under conditions that will cause their moisture content to increase.
- .4 Protect edges and corners of sheet materials from damage during handling and storage.
- .5 Store preservative-treated materials under cover, off the ground and protected from moisture.

Part 2 Products

2.1 MATERIALS

- .1 Framing Lumber:
 - .1 Lumber for structural components shall be of species and grade specified, well seasoned, processed and stamped at same mill with appropriate grade markings. Conform to requirements of Standard Grading Rules for Canadian Lumber of National Lumber Grades Authority the (NLGA) with latest supplements, approved by the Canadian Lumber Standards Administrative Board.
- .2 Framing, Furring, Strapping, Blocking:
 - .1 Spruce, 122c, "Standard" light framing, except as otherwise specified.
- .3 Plywood Sheathing:

- .1 Shall be 3/4" thick and/or thickness as indicated on drawings, exterior grade at exterior locations, Douglas Fir plywood, veneer core, Select Sheathing - Tight Face, unsanded, "B" faces and conforming to CSA 0121-08.
- .4 Plywood Roof Sheathing:
 - .1 Shall be minimum 1/2" thick, exterior grade Douglas fir plywood, veneer core, tongue and groove edges, Select Sheathing - Tight Face, unsanded with non-slip surface one side, 'B' faces and conforming to CSA 0121-08.
- .5 Rough Hardware:
 - .1 Provide rough hardware such as nails, spikes, staples, H-clips, bolts, nuts, washers, screws, clips, strap iron and including hardware for temporary enclosures. Nails for plywood shall be annular or spiral type, all other nails shall be spiral type. All nails, spikes and staples shall conform to CSA B111. All rough hardware shall be galvanized unless otherwise noted. Galvanizing shall conform to CAN/CSA-G164.
- .6 All Other Materials and Hardware:
 - .1 Shall be as noted on drawings.

2.2 PRESSURE PRESERVATIVE TREADED MATERIALS

- .1 Pressure Preservative Treated Lumber: Lumber graded and stamped in accordance with applicable grading rules and standards of associations or agencies approved to grade lumber by Canadian Lumber Standards Accreditation Board in accordance with CAN/CSA O80 Series -08.
 - .1 Species: Pine or Spruce-Pine
 - .2 Grade: No.2 or better structural posts and lumber, pieces may be grade stamped or shipment certified by letter of compliance.
 - .3 Grading authority: NLGA, paragraph 131CC
 - .4 Material having twisted grain or structural defects affecting integrity of lumber will not be acceptable for this project.
 - .5 Use only material with radius edges, minimum 6 mm.
 - .6 Kiln dry lumber materials to 8% moisture content or less.
- .2 Pressure Preservative Treated Plywood: Treated in accordance with CAN/CSA O80 Series -08 using water-borne preservative to obtain minimum net retention of 4 kg/m³ of wood. Plywood or laminated materials shall be manufactured with exterior grade adhesives. After treatment, plywood shall be kiln dried to moisture content of 8% or less.

Part 3 Execution

3.1 INSTALLATION-GENERAL

- .1 Consult with and co-operate with other Sections in advance and build-in or make provisions for installation of other work.
- .2 Provide and fit in place all furring, strapping, battens, nailers, sleepers, grounds and blocking required to provide adequate properly placed fixing for all wood finishes, fitments and as required for the work of others trades.

- .3 Blocking, strapping and other rough carpentry indicated shall not be regarded as complete or exact. Provide all rough carpentry work required, whether specifically shown or not. Grounds shall be of a thickness to provide for application of finishes. Room side surfaces of grounds shall be plumb and in true plane throughout.
- .4 All nails shall be long enough so that at least half their length penetrate in to the second member. Splitting of wood members shall be minimized by staggering the nails in the direction of the grain and by keeping nails well in from edges.
- .5 Blocking shall be through-bolted to structure.
- .6 Anchor rough bucks to concrete or masonry with 3/8" diameter expansion bolts and shields or Drummond and Reeves security buck anchors, minimum three per jamb.

3.2 WOOD BLOCKING, CANTS AND NAILERS

- .1 Provide wood blocking, cants and nailers, where shown to be required as detailed. Bolt securely in place. Block under cants same thickness as installed roof insulation.
- .2 Check mechanical, electrical, architectural drawings and provide all blocking, cants, nailers etc. required. Leave work ready for built-up bituminous roofing and prefinished sheet metal flashings.

3.3 PLYWOOD PANELS

- .1 Provide plywood panels required for electrical/telephone mounting of equipment and in other locations as indicated on drawings.

3.4 ROOF SHEATHING

- .1 Install roof sheathing with surface grain at right angles to the roof framing underneath with 3/32" gap between adjacent panels to allow for expansion.
- .2 All roof sheathing panel edges that are not tongue and groove require supports of minimum 1-1/2" x 1-1/2" wood blocking securely fastened between roof framing members or use 'H' clips in conformance with O.B.C. article 9.23.15.1 and .2.
- .3 Install roof sheathing to prefabricated wood trusses and framing using minimum 2" long annular or spiral type nails spaced 6" O.C. at edges and 12" O.C. along intermediate supports.
- .4 Install roof sheathing to cold formed metal joist trusses and framing using minimum 6 x 1-5/8" long "bulge head" type drywall screws spaced 6" O.C. at edges and 12" O.C. along intermediate supports.

3.5 PRESSURE PRESERVATIVE TREADED WOOD INSTALLATION

- .1 Comply with AWP A M4.
- .2 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation. Allow first coating to fully soak into grain before applying second coating in accordance with manufacturer's instructions.
- .3 Remove with fine sandpaper, chemical deposits on treated wood to receive applied finish.
- .4 Use only hot-dipped galvanized, corrosion resistant nail or screw fasteners. Staples are not acceptable for installation of preservative treated materials.

- .5 Use oil-borne preservative treated wood for:
 - .1 Wood in contact with the ground,
 - .2 Wood in contact with freshwater,
 - .3 Landscaping timbers,
 - .4 Retaining walls,
 - .5 Pilings,
 - .6 Bases of utility poles,
 - .7 Bases of fence posts.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 07 21 16 Blanket Insulation: Insulation for wood framed cavities.
- .2 Section 07 26 00 Vapour Retarders: Vapour retarder installation in wood framed assemblies.
- .3 Section 07 27 00 Air Barriers: Air barrier installation in wood framed assemblies.

1.2 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .2 ASTM F1667 Standard Specification for Driven Fasteners: Nails, Spikes and Staples.
- .2 CSA Group (CSA)
 - .1 CAN/CSA-A123.2, Asphalt Coated Roofing Sheets.
 - .2 CSA B111, Wire Nails, Spikes and Staples.
 - .3 CSA O141, Softwood Lumber.
 - .4 CSA O151, Canadian Softwood Plywood.
 - .5 CSA O325, Construction Sheathing.
 - .6 CAN/CSA-Z809, Sustainable Forest Management.
- .3 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001, FSC Principle and Criteria for Forest Stewardship.
- .4 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber.
- .5 National Research Council Canada (NRC)
 - .1 National Building Code of Canada 2015 (NBC).
- .6 Sustainable Forestry Initiative (SFI)
 - .1 SFI- Standard.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit manufacturer's installation instructions.

1.4 SUSTAINABLE DESIGN SUBMITTALS

- .1 Submit evidence that:
 - .1 Engineered wood products contain specified percentage of recycled content.
- .2 Submit vendor's Chain-of-Custody Certificate number for CAN/CSA-Z809 or FSC or SFI certified wood.
- .3 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants used in building, showing compliance with VOC and chemical component limits or restriction requirements.
 - .2 Submit listing of composite wood products used in building, stating that they contain no added urea-formaldehyde resins, laminating adhesives used in building, stating that they contain no urea-formaldehyde.
 - .3 Include MSDS sheets indicating resin type for structural composite lumber and agrifibre materials.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00- Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store materials off ground with moisture barrier at both ground level and as a cover forming a well-ventilated enclosure, with drainage to prevent standing water.
 - .3 Replace defective or damaged materials with new.
 - .4 Store separated reusable wood waste convenient to cutting station and work areas.

Part 2 Products

2.1 STRUCTURAL FRAMING

- .1 Lumber: softwood, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
 - .1 CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Glued end-jointed (finger-jointed) lumber SPS, are acceptable for studs.
- .3 Framing and board lumber: in accordance with NBC.

2.2 FURRING AND BLOCKING

- .1 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.
 - .3 Post and timbers sizes: "Standard" or better grade.
- .2 Where indicated, provide pressure treated materials for furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers.

2.3 PANEL MATERIALS AND APPLICATION

- .1 Exterior wall sheathing:
 - .1 Plywood, DFP or CSP sheathing grade or PP standard sheathing grade, square edge,
 - .2 Construction sheathing product: end use mark W24.
- .2 Electrical equipment mounting boards:
 - .1 Plywood, DFP or CSP.
 - .2 Fire retardant treated.
- .3 Where indicated, provide pressure treated panel.

2.4 ACCESSORIES

- .1 General purpose adhesive: to CSA O112.9.
- .2 Nails, spikes and staples: to ASTM F1667.
- .3 Bolts: diameter as indicated, complete with nuts and washers.
- .4 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, explosive actuated fastening devices, recommended for purpose by manufacturer.
- .5 Fastener Finishes:
 - .1 Proprietary corrosion resistant fasteners for treated lumber: as recommended by manufacturer for material and service conditions.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative unacceptable conditions immediately upon discovery.

- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 SYSTEMS INTEGRATION

- .1 Install air barrier and vapour retarder sheeting around framing members to ensure continuity of protection and to lap and seal to main sheets.
- .2 Install insulation in exterior wall framing cavities that will not be accessible after completion of framing.

3.3 FRAMING INSTALLATION

- .1 Install members true to line, levels and elevations, square and plumb.
- .2 Construct continuous members from pieces of longest practical length.
- .3 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .4 Countersink bolts where necessary to provide clearance for other work.
- .5 Install specified panel product for each application.

3.4 FURRING AND BLOCKING

- .1 Install furring and blocking as required to space-out and support, fascia, soffit, siding electrical equipment mounting boards, and other work as required.
- .2 Install rough bucks, nailers, and linings to rough openings as required to provide backing for frames and other work.
- .3 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized fasteners.

3.5 CLEANING

- .1 Progress Cleaning:
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

3.6 WASTE MANAGEMENT

- .1 Separate waste materials for recycling in accordance with Section 01 74 19- Waste Management and Disposal.
- .2 Re-use scrap lumber to the greatest extent possible. Separate scrap lumber for use on site as accessory components, including: shims, bracing, and blocking.
- .3 Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill. Prevent saw dust and wood shavings from entering the storm drainage system.
- .4 Do not burn scrap lumber that has been pressure treated.
- .5 Do not send lumber treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.

3.7 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by rough carpentry installation.

END OF SECTION