SECTION 06 10 00 – rough carpentry

1. General
   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.
   2. Reference standards
      1. American Society for Testing and Materials (ASTM):
         1. ASTM A307-04e1, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
         2. ASTM C954-00, Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness
         3. ASTM D6007-02 Standard Test Method for Determining Formaldehyde Concentration in Air from Wood Products Using a Small-Scale Chamber.
         4. ASTM D6330-98(2003) Standard Practice for Determination of Volatile Organic Compounds (Excluding Formaldehyde) Emissions from Wood-Based Panels Using Small Environmental Chambers Under Defined Test Conditions
         5. ASTM E1333-96(2002) Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber
      2. Underwriters Laboratories of Canada (ULC):
         1. CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of building Materials and Assemblies
      3. American Wood Preservers Association (AWPA):
         1. AWPA Book of Standards, Latest edition.
      4. Canadian General Standards Board (CGSB):
         1. CAN/CGSB 71.26‑M88, Standard for Adhesives for Field‑gluing Plywood to Lumber Framing for Floor Systems.
      5. Canadian Standards Association ([CSA](http://www.csa.ca/)):
         1. CSA B111‑1974 (R2003), Wire Nails, Spikes and Staples.
         2. CSA G164‑M92 (R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
         3. CAN/CSA O80 Series‑97 (R2002), Wood Preservation.
         4. CSA O86‑01, Engineering Design in Wood.
         5. CSA O112 Series‑M1977(R2001), Adhesives for Wood.
         6. CSA O121‑M1978 (R2003), Douglas Fir Plywood.
         7. CAN/CSA‑O141‑M91(R1999), Softwood Lumber.
         8. CSA O151‑M1978(R2003), Canadian Softwood Plywood.
         9. CSA O325.0‑92(R2003), Construction Sheathing.
         10. CSA O437 Series 93 (R2003) OSB and Waferboard.
         11. CSA O452 Series 94 (R2001), Design Rated OSB.
      6. National Lumber Grading Association (NLGA):
         1. NLGA SPS2‑2000 Special Products Standards on Machine Stress‑Rated Lumber.
         2. NLGA Canadian Lumber Grading Rules.
   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.
2. Products
   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. 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.
      4. All Other Materials and Hardware:
         1. Shall be as noted on drawings.
   2. PRESSURE FIRE RETARDANT TREATED MATERIALS
      1. Treat by pressure impregnation with fire‑retardant chemicals in accordance with CAN/CSA O80 Series -08 to provide classification for flame spread of not more than 25, smoke developed of not more than 75 in accordance with CAN/ULC S102.
      2. All fire-retardant wood must comply with the requirements in AWPA Standard C20 for lumber and C27 for plywood.
         1. AWPA C20: Structural Lumber, Fire‑Retardant Pressure Treatment, lumber materials shall only be of species listed. After treatment, lumber 50 mm or less in thickness shall be kiln dried to moisture content of 8% or less.
         2. AWPA C27: Plywood, Fire‑Retardant Pressure Treatment, 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.
         3. All species to comply with CAN/ULC S102 for surface‑burning characteristics and shall bear identification showing classification and type of fire retardant.
      3. Each piece or bundle of fire‑retardant treated material or panel to bear ULC inspection label or stamp attesting to FRS rating indicating flame spread, smoke developed, and fuel contributed classification meeting AWPA standard C20 and C27 for Type A Use.
      4. Fire retardant chemicals used to treat lumber must comply with FR‑1 of AWPA Standard P17 and shall be free of halogens, sulphates, and ammonium phosphate.
      5. Acceptable materials: Plywood and lumber materials treated by licensed applicators with fire retardant materials from the following:
         1. Hickson Corporation – Dricon FRTW.
         2. Hoover Treated Wood Products Inc. – Pyro‑Guard.
         3. Chemical Specialties Inc. – D‑Blaze.
3. Execution
   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 other 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.
   2. WOOD BLOCKING, CANTS AND NAILERS
      1. Provide wood blocking, 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, etc. required.
   3. PRESSURE FIRE RETARDANT TREATED WOOD INSTALLATION
      1. Field Cuts:
         1. Do not rip, mill, or conduct extensive surfacing of fire-retardant treated lumber, label will be voided.
         2. Only end cuts, drilling holes and joining cuts are permitted.
         3. All cuts on plywood will be considered end cuts.
         4. Fire‑retardant lumber and plywood can be given a light sanding for cosmetic cleaning after treatment.
         5. Pre‑cut to the greatest extent possible before treating.
      2. Fire retardant treated plywood used in structural applications shall be graded or span‑rated material.
      3. Use only hot‑dipped galvanized, corrosion resistant nail or screw fasteners. Staples are not acceptable for installation of fire-resistant treated materials.
      4. Where humidity conditions are such that moisture may condense between hardware and treated wood, hardware shall be back‑primed with a corrosive‑inhibitive paint.
      5. Back‑prime at contact points and fasteners to prevent electrolysis when fire retardant framing members are used in metal buildings.

END OF SECTION