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PART 1 - GENERAL1.1 RELATED  
REQUIREMENTS

- .1 Section 01 74 19.

1.2 REFERENCES

- .1 American National Standards Institute / National Particleboard Association (ANSI/NPA)  
.1 ANSI/NPA A208.1-2009, Particleboard.
- .2 ASTM International  
.1 ASTM A123/A123M-13, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.  
.2 ASTM A653/A653M-13, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process.  
.3 ASTM C578-14a, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.  
.4 ASTM C1289-14a, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.  
.5 ASTM C1396/C1396M-13, Standard Specification for Gypsum Board.  
.6 ASTM D1761-12, Standard Test Methods for Mechanical Fasteners in Wood.  
.7 ASTM D5055-13e1, Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.  
.8 ASTM D5456-14b, Standard Specification for Evaluation of Structural Composite Lumber Products.
- .3 American Wood Protection Association (AWPA):  
.1 AWPA P5-14, Standard for Waterborne Preservatives.  
.2 AWPA P8-14, Standard for Oil-Borne Preservatives.
- .4 Canadian General Standards Board (CGSB)  
.1 CGSB 19-GP-5M(1984), Sealing Compound, One Component, Acrylic Base, Solvent Curing (Incorporating Amendment No. 1).  
.2 CAN/CGSB-11.3-M87, Hardboard.  
.3 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.  
.4 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction

and amendment.

.5 CAN/CGSB-71.26-M88 Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems.

.5 CSA International

.1 CAN/CSA-A123.2-03 (R2013, Asphalt Coated Roofing Sheets.

.2 CAN/CSA-A247-M86(R1996), Insulating Fiberboard.

.3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

.4 CAN/CSA-O80 SERIES-08 (R2012) CONSOLIDATED, Wood Preservation.

.5 CAN/CSA-O86-09, Engineering Design in Wood.

.6 O121-08 (R2013), Douglas Fir Plywood.

.7 CAN/CSA-O122-06 (R2011), Structural Glued-Laminated Timber.

.8 CSA O141-05 (R2014), Softwood Lumber.

.9 CSA O151-09 (R2014), Canadian Softwood Plywood.

.10 CSA O153-13, Poplar Plywood.

.11 CSA O325-07 (R2012), Construction Sheathing.

.12 CSA O437 Series-93(R2006), Standards on OSB and Waferboard.

.6 Forest Stewardship Council (FSC)

.1 FSC-STD-01-001 V4-0 FSC Principle and Criteria for Forest Stewardship.

.2 FSC-STD-20-002 (V3-0) En Structure, Content And Local Adaptation Of Generic Forest Stewardship Standards

.7 National Lumber Grades Authority (NLGA)

.1 Standard Grading Rules for Canadian Lumber 20014.

.8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1113-A 2007, Architectural Coatings.

.2 SCAQMD Rule 1168-A 2005, Adhesives and Sealants Applications.

.9 The Truss Plate Institute of Canada

.1 Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses 2014.

.10 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC S706-09, Standard for Wood Fibre Insulating Boards for Buildings.

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- 1.3 ACTION AND INFORMATIONAL SUBMITTALS
- .1 Submit in accordance with Section 01 33 00.
  - .2 Product Data:
    - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories (including anchors and fasteners) and include product characteristics, performance criteria, physical size, finish and limitations.
  - .3 Shop Drawings:
    - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada.
- 1.4 QUALITY ASSURANCE
- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
  - .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.
- 1.5 DELIVERY, STORAGE AND HANDLING
- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
  - .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 and protect wood from nicks, scratches, and blemishes.
    - .3 Replace defective or damaged materials with new.

## PART 2 - PRODUCTS

- 2.1 FRAMING STRUCTURAL AND PANEL MATERIALS
- .1 Description:
    - .1 Sustainability Characteristics:
      - .1 Lumber FSC Certified.
      - .2 Plywood, OSB urea-formaldehyde free,

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FSC Certified.

- .2 Lumber: softwood, S4S, moisture content S-DRY graded and stamped in accordance with following standards:
  - .1 CSA O141.
  - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .3 Glulam in accordance with Structural Glued-Laminated Timber CAN/CSA-O122.
- .4 Light-frame trusses in accordance with "Truss Design and Procedures for Light Metal Connected Wood Trusses", The Truss Plate Institute of Canada.
- .5 Structural Composite Lumber (SCL) in accordance with ASTM D5456.
- .6 Framing and board lumber: in accordance with NBC, except as follows:
  - .1 Studs: spruce, pine or fir (SPF), 121c. "STUD".
  - .2 Joists, lintels, beams, collar tie, and plates: spruce, pine or fir (SPF), 124b. "No. 1" STRUCTURAL, STRUCTURAL LIGHT FRAMING AND STRUCTURAL JOISTS AND PLANKS.
  - .3 Exterior wood oil tank base, benches, porches, steps, stairs, and handrails: wood species and grades as specified above in paragraphs 2.1.1 and 2.1.2; pressure treated with CCA to CAN/CSA-O80-Series-08, minimum retention 4.0 kg/m<sup>3</sup> by assay.
    - .1 Preservative: chromated copper arsenate (CCA) to AWWA P5 as amended by CAN/CSA-O80-Series.
- .7 Furring, blocking, nailing strips, strapping, grounds, rough bucks, bracing, bridging, cants, curbs, fascia backing and sleepers: NLGA spruce, pine or fir (SPF), 121c. and pine, 113d.
- .8 Douglas fir plywood: to CSA 0121, urea formaldehyde free.
  - .1 Subfloor: SHG Sheathing Grade. Nominal thickness 15.5 mm, unsanded surfaces to Tables E-1 and E-2, square edge.
- .9 Eastern white spruce plywood: to CSA 0151, urea formaldehyde free, CSP, Class II.
  - .1 Roof sheathing: SHG Sheathing Grade, unsanded. Nominal thickness 15.5mm, square edge.
  - .2 Wall sheathing: SHG Sheathing Grade, unsanded. Nominal thickness 12.5mm square edge.

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- .10 Poplar plywood (PP): to CSA 0153, standard construction.
  - .11 Preservative treated plywood: Douglas Fir to CSA 0121, G1S good one side, pressure treated with CCA to CAN/CSA 080.9, minimum retention 4.0 kg/m<sup>3</sup> by assay.
    - .1 Preservative: chromated copper arsenate (CCA) to AWPA P5 as amended by CAN/CSA- 080-Series.
  - .12 Field applied wood preservative: copper naphthenate to AWPA P8, green colour.
  - .13 Interior mat-formed wood particleboard: to ANSI/NPA 208.1.
  - .14 Mat-formed structural panelboards (OSB wafer): to CAN 0437.
  - .15 Glass fibre board sheathing: non-structural, rigid, faced, fiberglass, insulating exterior sheathing board.
  - .16 Expanded polystyrene sheathing: to ASTM C578.
  - .17 Gypsum sheathing: to ASTM C1396/C1396M.

## 2.2 ACCESSORIES

- .1 Polyethylene film: to CAN/CGSB-51.34, Type 1, 0.15 mm thick.
- .2 Roll roofing: to CAN/CSA A123.2, Type S.
- .3 Air seal: closed cell polyurethane or polyethylene.
- .4 Sealants: in accordance with Section 07 92 00.
  - .1 Sealants: VOC limit 250 g/L maximum to SCAQMD Rule 1168.
- .5 Subflooring adhesive: to CAN/CGSB-71.26, cartridge loaded.
- .6 General purpose adhesive: to CSA 0112 Series.
- .7 Nails, spikes and staples: to CSA B111. All galvanized.
- .8 Bolts: min 12.5 mm diameter unless indicated otherwise, complete with nuts and washers, all to be Hot Dipped Galvanized.

- .9 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, no explosive actuated fastening devices, recommended for purpose by manufacturer.
- .10 Joist hangers: minimum 1 mm thick sheet steel, galvanized ZF001 coating designation.
- .11 Nailing discs: flat caps, minimum 25 mm diameter, minimum 0.4 mm thick, fibre, formed to prevent dishing. Bell or cup shapes not acceptable.
- .12 Roof sheathing H-Clips: formed "H" shape, thickness to suit panel material, extruded 6063-T6 aluminum alloy type approved by Departmental Representative.
- .13 Fastener Finishes:
  - .1 Galvanizing: to ASTM A123/A123M use galvanized fasteners for all areas.
- .14 Wood Preservative: Not used
  - .1 Preservative: VOC limit 350 g/L maximum to SCAQMD Rule 1113.
  - .2 Coatings: VOC limit 100 g/L maximum to SCAQMD Rule 1113.

### 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 of 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 PREPARATION

- .1 Treat surfaces of material with wood preservative, before installation.

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- .2 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
  - .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
  - .4 Treat material :as indicated
    - .1 Wood cants, fascia backing, curbs, nailers, sleepers on roof deck.
    - .2 Wood furring on outside surface of exterior masonry and concrete walls.
    - .3 Wood sleepers supporting wood subflooring over concrete slabs in contact with ground or fill.

### 3.3 MATERIAL USAGE

- .1 Roof sheathing: in accordance with paragraph 2.1.11.1
- .2 Exterior wall sheathing: in accordance with paragraph 2.1.11.12.
  - .1 Construction sheathing product: end use mark W24.
  - .2 Mat-formed structural panelboard, grade .R-1
  - .3 Construction sheathing product: end use mark 2F16.
  - .4 Mat-formed OSB structural panelboard, grade O-1.

### 3.4 INSTALLATION

- .1 Apply sill plate gasket over concrete or masonry on which wood framing bears.
- .2 Apply wood preservative to wood in contact with roofing, concrete, and masonry as noted on drawings.
- .3 Treat surfaces of pressure treated wood and plywood which are cut or bored after pressure treatment with field applied wood preservative.
- .4 Wood frame construction to National Building Code of Canada 2010, Division B, Part 9.
- .5 Do interior and exterior millwork to AWI/AWMAC/ WI

## AWS Section 6.

- .6 Install members true to line, levels and elevations, square and plumb to a tolerance of 1:600 and rigidly secure in place.
- .7 Construct continuous members from pieces of longest practical length.
- .8 Install spanning members with "crown-edge" up.
- .9 Select exposed framing for appearance. Install lumber and panel materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .10 Install subflooring and combined subfloor and underlay with panel end-joints located on solid bearing, staggered at least 800 mm.
  - .1 In addition to mechanical fasteners, apply subflooring adhesive under panels installed on wood joists. Place continuous adhesive bead in accordance with manufacturer's instructions, single-bead on each joist and double-bead on joists where panel ends butt. When weather conditions are unsuitable for adhesive, use drywall screws for mechanical fasteners.
- .11 Install wall sheathing in accordance with manufacturer's printed instructions as noted on drawings.
- .12 Install roof sheathing perpendicular to framing; stagger end joints, locate ends over framing. Install in accordance with requirements of NBC.
- .13 Install screen over soffit vent opening.
- .14 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding electrical equipment mounting boards, and other work as required.
- .15 Install furring to support siding applied vertically where there is no blocking and where sheathing is not suitable for direct nailing.
  - .1 Align and plumb faces of furring and blocking to tolerance of 1:600.
- .16 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

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- .17 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
  - .18 Install sleepers as indicated.
  - .19 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.
  - .20 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
  - .21 Countersink bolts where necessary to provide clearance for other work.
  - .22 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.
  - .23 Secure exterior work with galvanized fasteners.
  - .24 Apply continuous bead of sealant at junction between sill plate and concrete at exterior walls, roof deck and abutting parapet wall.
  - .25 Insert loose insulation in space between roof cant and blocking and parapet wall.

### 3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11.
- .3 Waste Management: separate waste materials for recycling in accordance with Section 01 74 21.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### 3.6 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