

## **1 General**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 06 08 99 - Rough Carpentry, for Minor Works.

### **1.2 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CSA O80 Series-97, Wood Preservation.
  - .2 CAN/CSA-O86-01, Engineering Design in Wood.
  - .3 CAN/CSA-O141-91, Softwood Lumber.
  - .4 CSA S307, Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings.
  - .5 CSA S347, Method of Test for Evaluation of Truss Plates Used in Lumber Joints.
  - .6 CSA W47.1, Certification of Companies for Fusion Welding of Steel.
- .2 National Lumber Grades Authority (NLGA)
  - .1 NLGA-03, Standard Grading Rules for Canadian Lumber.
- .3 Truss Plate Institute of Canada (TPIC)
  - .1 TPIC, Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses (Limit States Design).

### **1.3 DESIGN REQUIREMENTS**

- .1 Design light metal plate connected wood trusses in accordance with TPIC truss design procedures for wood truss chords and webs in accordance with engineering properties in CAN/CSA-O86 and design roof trusses, bracing, bridging and connectors and roof joists in accordance with CAN3-086.1, to safely carry live loads, snow and drift loads for building locality as ascertained by NBC Climatic Information for Building Design in Canada, and minimum uniform and minimum concentrated loading stipulated in NBC commentary.
- .2 Design trusses, bracing in accordance with CAN/CSA-O86.1 and/or for loads indicated.
- .3 Limit live load deflection to 1/360th of span where plaster ceilings are hung directly from trusses.
- .4 Limit live load deflections to 1/180th of span unless otherwise specified or indicated.
- .5 Design for transportation, lifting and final design requirements.

### **1.4 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Fabricator for trusses to show evidence of quality control program such as provided by regional wood truss associations, or equivalent.
  - .2 Fabricator for welded steel connections to be certified in accordance with CSA W47.1.
- .2 Pre-Installation Meeting:
  - .1 Attend pre-installation meeting one week prior to beginning work of this Section.
    - .1 Verify project requirements.
    - .2 Review installation and substrate conditions.
    - .3 Co-ordination with other building subtrades.
- .3 Health and Safety:
  - .1 Do construction in accordance with Section 01 35 29.06 - Health and Safety Procedures.

### **1.5 SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
-

- .2 Shop Drawings:
  - .1 Each shop drawing submission showing connection details to be signed and stamped by professional engineer registered or licensed in provinces of Newfoundland and Labrador, Canada.
  - .2 Indicate special structural application and specification as according to local authorities having jurisdiction.
  - .3 Indicate species, sizes, and stress grades of lumber used as truss members. Show pitch, span, camber, configuration and spacing of trusses. Indicate connector types, thicknesses, sizes, locations and design value. Show bearing details. Indicate design load for members.
  - .4 Submit stress diagram or print-out of computer design indicating design load for truss members. Indicate allowable load and stress increase.
  - .5 Indicate arrangement of webs or other members to accommodate ducts and other specialties.
  - .6 Show location of lateral bracing for compression members.
  - .7 Show lifting points for handling and erection.

## **1.6 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Store trusses on job site in accordance with manufacturer's instructions. Provide bearing supports and bracings. Prevent bending, warping and overturning of trusses.

## **1.7 WASTE MANAGEMENT AND DISPOSAL**

- .1 Collect and separate for disposal waste material generated by this Section.
- .2 Place in appropriate on-site bins in accordance with Waste Management Plan.
- .3 A clean worksite is mandatory at all times. Failure to maintain the site in a clean, safe condition shall result in the Owner initiating a clean-up and related costs being deducted from progress claims.

## **2 Products**

### **2.1 MATERIALS**

- .1 Lumber: spruce species, No 1 grade, softwood, S4S, with maximum moisture content of 19% at time of fabrication and to following standards:
  - .1 CAN/CSA-O141.
  - .2 NLGA (National Lumber Grading Association), Standard Grading Rules for Canadian Lumber.
- .2 Fastenings: to CAN/CSA-O86.
- .3 Roof truss anchors:
  - .1 Purpose-made for securing roof truss to a double plate, hot-dip galvanized steel, 1.2mm base thickness, pre-drilled for nails.

### **2.2 FABRICATION**

- .1 Fabricate wood trusses in accordance with reviewed shop drawings.
- .2 Provide for design camber and roof slopes when positioning truss members.
- .3 Connect members using galvanized metal connector plates.
- .4 Provide web stiffeners in accordance with joist manufacturer's recommendations. Nail in place in accordance with joist manufacturer's recommendations.

### **2.3 SOURCE QUALITY CONTROL**

- .1 Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards
-

Administration Board.

- .2 Certify by agency accredited by Standards Council of Canada that preservative treated wood is in accordance with CSA O80 Series.

### **3 Execution**

#### **3.1 ERECTION**

- .1 Erect wood trusses as indicated.
- .2 Handling, installation, erection, bracing and lifting in accordance with manufacturers instructions.
- .3 Make adequate provisions for handling and erection stresses.
- .4 Exercise care to prevent out-of-plane bending of trusses.
- .5 Install temporary horizontal and cross bracing to hold trusses plumb and in safe condition until permanent bracing and decking are installed.
- .6 Install permanent bracing in accordance with approved shop drawings, prior to application of loads to trusses.
- .7 Do not cut or remove any truss material.

#### **3.2 CLEANING**

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment on completion of installation.

**END OF SECTION**

---