1. GENERAL

1.1 References

.1 American Wood-Protection Association (AWPA)

.1 AWPA M2, Standard for Inspection of Treated Wood Products.

.2 AWPA M4, Standard for the Care of Preservative-Treated Wood Products.

.2 Canadian Standards Association (CSA)

.1 CSA O80 Series - O80S2, Wood Preservation.

1.2 Action and Informational Submittals

.1 Submit Submittal submissions: in accordance with Section E4 –Shop Drawings.

.2 Quality assurance submittals:

.1 Submit certificates in accordance with Section E4 –Shop Drawings.

.2 For products treated with preservative by pressure impregnation submit following information certified by authorized signing officer of treatment plant:

.1 Information listed in AWPA M2 and revisions specified in CSA O80 Series, Supplementary Requirement to AWPA M2 applicable to specified treatment.

.2 Moisture content after drying following treatment with water-borne preservative.

.3 Acceptable types of paint, stain, and clear finishes that may be used over treated materials to be finished after treatment.

2. PRODUCTS

2.1 Materials

.1 Preservative: to CSA-O80 Series, water-borne, for stained finish.

3. EXECUTION

3.1 Application: Preservative

.1 Treat dimensional lumber and plywood panels to CSA O80 Series using waterborne preservative to obtain minimum net retention of 0.30%.

3.2 Application: Field Treatment

.1 Apply preservative treatment in accordance with CSA O80M Manufacturer’s instructions.

.2 Treat Site-sawn ends.

.3 Allow preservative to cure prior to erecting members.

END OF SECTION

1. GENERAL

1.1 References

.1 American National Standards Institute/National Particleboard Association (ANSI/NPA)

.1 ANSI/NPA A208.1, Particleboard.

.2 Canadian Standards Association (CSA)

.1 CSA B111, Wire Nails, Spikes and Staples.

.2 CSA O80, Wood Preservation.

.3 CSA O121, Douglas Fir Plywood.

.4 CSA O141, Softwood Lumber.

.5 CSA O151, Canadian Softwood Plywood.

.6 CSA O437 Series, Standards on OSB and Waferboard.

.3 National Lumber Grades Authority (NLGA)

.1 Standard Grading Rules for Canadian Lumber.

1.2 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.

2. PRODUCTS

2.1 Materials

.1 Softwood lumber: CSA O141, non-structural light grading 19% maximum moisture content.

.2 Plywood: CSA O121 - Douglas fir CSA O151 - softwood type, with waterproof glue.

.3 Galvanizing for steel shapes: to ASTM A123/A123M.

.4 Galvanizing for steel fasteners: to ASTM A153/A153M.

2.2 Wood Treatment

.1 Wood preservative pressure treatment: CSA O80 using waterborne preservative with 0.30% retainage.

3. EXECUTION

3.1 Preparation

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

.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 on Drawings.

.5 Allow preservative to cure prior to erecting members.

3.2 Installation

.1 Install members true to line, levels and elevations, square and plumb.

.2 Construct continuous members from pieces of longest practical length.

.3 Install spanning members with "crown-edge" up.

.4 Select exposed framing for appearance. Install materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.

.5 Place sheathing with end joints staggered. Secure sheets over firm bearing. Maintain minimum 1.5 mm and maximum 3 mm spacing between joints on walls. Place perpendicular to framing members.

.6 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.

.7 Install furring to support siding applied vertically where sheathing is not suitable for direct nailing.

.8 Align and plumb faces of furring and blocking to tolerance of 1:600.

.9 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

.10 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.

.11 Install sleepers as indicated.

.12 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.

.13 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.

.14 Countersink bolts where necessary to provide clearance for other work.

.15 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

.16 Utilize galvanized (hot-dip) fasteners in contact with pressure treated lumber.

END OF SECTION

1. GENERAL

1.1 References

.1 Canadian Standards Association (CSA)

.1 CAN/CSA O80 Series, Wood Preservation.

.2 CSA O86 Consolidation, Engineering Design in Wood.

.3 CSA O141, 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 Standard Grading Rules for Canadian Lumber 2010.

.3 National Research Council (NRC)/Institute for Research in Construction (IRC) - Canadian Construction Materials Centre (CCMC)

.1 Registry of Product Evaluations.

.4 Truss Plate Institute of Canada (TPIC)

.1 Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses (Limit States Design).

1.2 Action and Informational Submittals

.1 Submit in accordance with Section E4 –Shop Drawings.

.2 Product Data:

.1 Submit Manufacturer's instructions, printed product literature and data sheets for wood trusses 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 Manitoba.

.2 Include erection Drawings, elevations, and details where applicable.

.3 Indicate special structural application and specification as according to local Authorities Having Jurisdiction.

.4 Indicate TPIC Truss Design Procedure and CSA O86 Engineering Design in Wood and specific CCMC Product Registry number of the truss plates

.5 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.

.6 Submit stress diagram or print-out of computer design indicating design load for truss members. Indicate allowable load and stress increase.

.7 Indicate arrangement of webs or other members to accommodate ducts and other specialties.

.8 Show location of lateral bracing for compression members.

.4 Test reports: submit certified test reports for prefabricated wood trusses from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.

.5 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.6 Instructions: submit Manufacturer's installation instructions.

2. PRODUCTS

2.1 Design Criteria

.1 Design roof trusses, bracing and bridging to requirements of CAN/CSA O86.1 “Engineering Design in Wood (Limit States Design), for snow loads for buildings as indicated. Design for additional bottom chord loading in accordance with NBC and as amended by the Manitoba Building Code.

.2 Design roof trusses to incorporate snow and ice loading as required to meet the requirements of the Snow and Ice Fence System indicated in Section 07 61 00 - Sheet Metal Roofing.

.3 Use loads, load combinations, and stress levels in accordance with the NBC.

.4 Deflection under live load only shall not exceed L/500th of span.

2.2 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 CSA O86.

.2 Design light metal plate connected wood trusses in accordance with TPIC truss design procedures for truss joint designs to test engineering properties in accordance with CSA S347 and listed in CCMC Registry of Product Evaluations.

.3 Design trusses, bracing and bridging in accordance with CSA O86.1 for building locality as ascertained by NBC, Climatic Information for Building Design in Canada and minimum uniform and minimum concentrated loadings stipulated in NBC commentary.

.4 Design trusses to incorporate snow and ice loading as required to meet the requirements of the Snow and Ice Fence System indicated in Section 07 61 00 - Sheet Metal Roofing.

.5 Design trusses, bracing and bridging for additional bottom chord loading in accordance with NBC and as amended by the Manitoba Building Code.

.6 Limit live load deflection to 1/360th of span unless otherwise specified or indicated.

.7 Limit deflection under total live and dead load to 30 mm.

.8 Provide camber for trusses as indicated.

2.3 Materials

.1 Lumber: to CSA O141; maximum moisture content of 15% at time of fabrication.

.2 Fastenings: to CSA O86.

.1 Galvanizing for steel shapes: conforming to ASTM A123/A123M.

.2 Galvanizing for steel fasteners: conforming to ASTM A153/A153M.

2.4 Fabrication

.1 Fabricate wood trusses in accordance with reviewed Shop Drawings.

.2 Provide for design camber when positioning truss members.

.3 Cut truss members to accurate length, angle, and size to provide tight joints on finished trusses.

.4 Assemble truss members in design configuration by securing tightly in jigs or with clamps.

.5 Connect members using metal connector plates. Connector plates shall be applied under uniform pressure, using mechanical presses; manual application of plates will not be allowed unless approved in writing by the Contract Administrator.

.6 Supply for erection all pre-cut blocking, bridging, and tie-down framing anchors.

2.5 Source Quality Control

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

3. EXECUTION

3.1 Erection

.1 Erect wood trusses in accordance with reviewed Shop Drawings.

.2 Handling, installation, erection, bracing and lifting in accordance with Manufacturer's 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 reviewed Shop Drawings, prior to application of loads to trusses.

.7 Do not cut or remove any truss material without approval of Contract Administrator.

.8 Anchor trusses securely against wind uplift, using galvanized steel framing anchors. Toe-nailing of trusses will not be acceptable for this purpose.

END OF SECTION