1.0 GENERAL

1.1 SECTION INCLUDES

.1 Structural wall and roof framing.

.2 Built-up structural beams and columns.

.3 Wall and roof sheathing.

.4 Sill gaskets.

.5 Preservative treatment of wood.

.6 Miscellaneous framing and sheathing.

.7 Telephone and electrical panel back boards.

.8 Concealed wood blocking for support of wall cabinets, accessories and fitments.

1.2 REFERENCES

.1 CSA O86-09, Engineering Design in Wood

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

.3 CAN/CSA-G164-M92 (R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.

.4 CSA O80 Series-08, Wood Preservation.

.5 CSA O121-M1978 (R2003), Douglas Fir Plywood.

.6 CAN/CSA-O141-05, Softwood Lumber.

.7 CSA O151-04, Canadian Softwood Plywood.

.8 CAN/CSA-O325-07, Construction Sheathing.

.9 National Lumber Grades Authority Standard Grading Rules for Canadian Lumber 2005

1.3 SUBMITTALS FOR REVIEW

.1 Section 01330: Submittal

.2 Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.

.3 Shop Drawings For Site Fabricated Truss Frame: Indicate dimensions, wood species and grades, component profiles, drilled holes, fasteners, connectors, erection details and sequence.

1.4 QUALITY ASSURANCE

.1 Perform Work in accordance with the following agencies:

.1 Lumber Grading Agency: Certified by NLGA.

.2 Plywood Grading Agency: Certified by CAN/CSA-O325-07.

2.0 PRODUCTS

2.1 LUMBER MATERIALS

.1 Lumber: unless specified otherwise, softwood, S4S, kiln-dried to moisture content of 19% or less in accordance with following standards:

.1 CAN/CSA-O141.

.2 NLGA Standard Grading Rules for Canadian Lumber.

.2 Wall studs and built up columns to be minimum #2 SPF or better unless noted otherwise on drawings.

.3 Joists, lintels and built up beams to be minimum #2 SPF or better unless noted otherwise on drawings.

.4 Furring, blocking, nailing strips, grounds, rough bucks, curbs, fascia backing and sleepers:

.1 Board sizes: "Standard" or better grade.

.2 Dimension sizes: "Standard" light framing or better grade.

2.2 SHEATHING MATERIALS

.1 Douglas fir plywood (DFP): to CSA O121, standard construction.

.2 Canadian softwood plywood (CSP): to CSA O151, standard construction.

.3 Sheathing panels: to CAN/CSA-O325.

2.3 FABRICATED TRUSSES

.1 The wood truss supplier shall be responsible for the design and supply of all roof trusses, gable end trusses, bridging and hardware required for the connections.

.2 The wood truss supplier shall submit drawings bearing the seal of an engineer, registered in the Province of Manitoba for review of:

.1 Fabrication drawings of each truss type c/w member sizes, dimensions, and design information.

.2 An erection drawing, showing the location of all truss and other information required by the contractor for the proper installation of the trusses.

.3 Truss layout indicated on drawings is for diagrammatic purposes only. Actual truss layout to be determined by supplier.

2.4 ACCESSORIES

.1 Nails, spikes and staples: to CSA B111.

.2 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.

.3 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.

2.5 FACTORY WOOD TREATMENT

.1 Wood Preservative (Pressure Treatment): to CSA O80 Series, using water borne preservative with 0.25 percent retainage.

.2 Surface-applied wood preservative: clear or copper naphthenate water repellent preservative.

3.0 EXECUTION

3.1 FRAMING

.1 All wood framing shall be in accordance with CSA O86-09

.2 Set structural members level and plumb, in correct position.

.3 Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.

.4 Place horizontal members, crown side up.

.5 Construct load bearing framing members full length without splices.

.6 All built-up wood columns and post to be continuously blocked down to foundation.

.7 Provide additional studs (cripples) below bearing points of built-up beams and lintels. Number of studs to equal number of plies of beam or lintel unless noted otherwise. Space short studs over and under opening to stud spacing.

.8 Provide continuous horizontal solid blocking @ maximum 4'-0" o/c vertically in all exterior stud walls.

.9 Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists. Frame rigidly into joists.

.10 Bridge framing in excess of 2.3 m span at mid-span. Fit solid blocking at ends of members.

.11 Minimum lintels for stud bearing walls unless noted on drawings:

.1 Openings up to 1m use 2-2x8 SPF

.2 Openings up to 1.5m use 2-2x10 SPF

.12 Place sill gasket directly concrete slab. Puncture gasket clean and fit tight to protruding foundation anchor bolts.

3.2 PREFABRICATED TRUSSES

.1 No site modifications to be made to trusses without prior approval of supplier and Contract Administrator.

.2 All repairs made to damaged trusses to be approved by supplier and Contract Administrator.

3.3 SHEATHING

.1 Secure roof sheathing with longer edge perpendicular to framing members and with ends staggered and sheet ends over bearing.

.2 All wall and roof sheathing to be nailed secure in a controlled random pattern as follows:

.1	Panel edges	3” common wire nails @ 6” o.c.
.2	Intermediate supports & blocking	3” common wire nails @ 10” o.c.

.3 Use sheathing clips between sheets between roof framing members.

.4 Secure wall sheathing with long dimension parallel to wall studs, with ends over firm bearing and staggered.

.5 Install telephone and electrical panel back boards with plywood sheathing material where required. Size the back board by 300 mm beyond size of electrical panel.

3.4 STEEL DOOR & FRAME

.1 Prepare rough opening and set steel door frame into opening plum and square.

3.5 BLOCKING, AND STRAPPING

.1 Coordinate and provide wood blocking as required for fitments / equipment / accessories mounting. Anchor blocking securely in place.

3.6 TOLERANCES

.1 Framing Members: 6 mm from true position, maximum.

.2 Surface Flatness of Floor: 2 mm/m maximum.

END OF SECTION

1.0 GENERAL

1.1 SECTION INCLUDES

.1 Shop fabricated wood trusses for roof framing.

.2 Bridging, bracing, and anchorage.

.3 Preservative treatment of wood.

1.2 REFERENCES

.1 Codes and standards referenced in this section refer to the latest edition thereof.

.2 Canadian Standards Association (CSA)

.1 CAN/CSA-O80 Series, Wood Preservation.

.2 CAN/CSA-O86.1, Engineering Design in Wood.

.3 CAN/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.

.3 National Lumber Grades Authority (NLGA)

.1 NLGA, Standard Grading Rules for Canadian Lumber.

.4 Truss Plate Institute of Canada (TPIC)

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

1.3 DESIGN REQUIREMENTS

.1 Design trusses, bracing and bridging in accordance with CAN/CSA-O86.1 for loads indicated and minimum uniform and minimum concentrated loadings stipulated in NBC commentary.

.2 Limit live load deflection to 1/360th of span.

.3 Provide camber for trusses as indicated.

1.4 SOURCE QUALITY CONTROL

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

.2 Certify preservative and fire retardant treated wood in accordance with CAN/CSA-O80 Series.

1.5 QUALIFICATION OF MANUFACTURERS

.1 Fabricator for welded steel connections to be certified in accordance with CSA W47.1.

1.6 QUALITY ASSURANCE

.1 Provide Certificate of Quality Compliance from truss manufacturer upon completion of fabrication.

.2 Provide Certificate of Quality Compliance upon satisfactory completion of installation.

1.7 SUBMITTALS

.1 Each shop drawing submission shall bear signature and stamp of professional Engineer/Architect registered or licensed in Province of Manitoba.

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

.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 lifting points for storage, handling and erection.

.7 Show location of lateral bracing for compression members.

1.8 DELIVERY AND STORAGE

.1 Deliver, handle, store and protect materials in accordance with Section 01300 – Submittal.

.2 Store trusses on job site in accordance with manufacturer's instructions. Provide bearing supports and bracings. Prevent bending, warping and overturning of trusses.

2.0 PRODUCTS

2.1 MATERIALS

.1 Lumber: Spruce (S-P-F) species, No. 2 grade or better, 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.

.3 Fastenings: to CAN/CSA-O86.1.

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 metal connector plates.

3.0 EXECUTION

3.1 ERECTION

.1 Erect wood trusses in accordance with reviewed erection drawings.

.2 Indicated lifting points to be used to hoist trusses into position.

.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 Remove chemical and other surface deposits on treated wood, in preparation for applied finishes.

3.2 CLEANING

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

- END OF SECTION -