



**Part 1        General**

**1.1            DESCRIPTION OF WORK**

- .1        The work described herein shall consist of the construction of a weather-tight wood frame building, including the provision of all material, tools, labour and services required.

**1.2            STANDARDS**

The following organizations publish Standards which have been referred to in this Section:

- .1        CSA International  
          178 Rexdale Boulevard  
          Toronto, ON M9W 1R3
- .2        ASTM – American Society for Testing and Material  
          100 Barr Harbor Drive  
          West Conshohocken, PA 19428-2959 USA
- .3        CGSB – Canadian General Standards Board  
          Lac Du Portage 111, 6B1  
          11 Laurier Street  
          Gatineau, QC K1A 1G6
- .4        NMCA – National Millwork Contractors’ Association  
          Ottawa, Ontario
- .5        NLGA – National Lumber Grades Authority  
          Ottawa, Ontario

The Standards referred to shall be the most recent edition.

The completed building shall conform in every respect to the current Manitoba Building Code.



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## **Part 2      Products**

### **2.1      SITE STORAGE**

- .1 All products shall be stored in original containers, in dry condition, with manufacturers' seal and labels intact. Damaged materials shall be rejected.

### **2.2      LUMBER**

- .1 Pressure treated lumber shall be supplied where indicated on the plans. Lumber shall conform to the following:
  - .1 GRADING – Lumber shall be graded in accordance with the current NLGA rules for dimension lumber.
  - .2 SAWN LUMBER – shall be Spruce, Pine, or Fir of the following NLGA grades:
    - .1 Structural light framing – No. 2 grade
    - .2 Light framing – Construction grade
  - .3 FINISH LUMBER – shall be appearance grade Douglas Fir or Hemlock with moisture content not exceeding 19 percent at the time finishes are applied.
  - .4 PLYWOOD – shall conform to the current CSA Standard O-121, Douglas Fir Plywood; Exterior sheathing Grade 1, good one side, medium density overlay for use as finish material.

### **2.3      FASTENERS**

- .1 NAILS – Conforming to the current CSA Standard B111, Wire Nails, Spikes and Staples.
- .2 SCREWS – Conforming to the current CSA Standard B35.4, Wood Screws; corrosion resistant, Robertson heads.
- .3 BOLTS – Conforming to the current CSA Standard B331, Square and Hexagon Bolts and Nuts.
- .4 FRAMING ANCHORS – 18-gauge zinc coated steel standard framing anchors with appropriate nails.
- .5 OTHER – shall be cadmium plated or galvanized.



## **2.4 MILLWORK**

- .1 Millwork and related work shall conform to the requirements of the current NMCA “Standards of Millwork”, and shall be custom grade. Shop drawings for casing work shall be submitted to the Engineer for review.

## **2.5 NON-STRUCTURAL HARDWARE**

- .1 Shop fabricated non-structural hardware shall be corrosion-resistant, electroplated, matching the millwork.

## **2.6 MISCELLANEOUS METAL**

- .1 Miscellaneous metal products shall conform to the details shown on the Plans. Shop drawings shall be submitted to the Engineer for review. All anchors, inserts, sleeves, nuts, bolts and washers required to complete the work shall be included.

## **2.7 DOORS**

- .1 **DOORS** – shall be of reinforced metal insulated construction. Doors shall be fabricated of steel not less than 1.2 mm (18 ga.) thick, complete with weather-stripping. Doors shall be provided with a raised metal threshold of no less than 12 mm (1/2 in.) in height and a latch cover plate (to protect lock). Frames shall be fabricated of steel not less than 1.25 mm (16 ga.) thick. Doors and frames shall be pre-finished by the manufacturer in sprayed grey enamel.  
  
Exterior doors shall be provided with vinyl CPS on top edge recesses of exterior doors.  
  
All voids in exterior doors shall be fully insulated with polyurethane insulation. Insulated doors shall have a core of material which shall provide an R factor of 12. The core material shall be securely bonded to the inside face of both surface sheets.
- .2 **CASING AND TRIM** – shall be as shown on the Plans, with edges 3 mm (1/8 in.) radius and with mitred corners.
- .3 **LOCK** – Each outside door shall be fitted with a Schlage Master Lock set supplied by the contractor with master key for all locksets.
- .4 **HINGES AND STRIKERS** – Each door shall have three hinges (BB 179 LA or approved equal) with ASA strikers.



- .5 CLOSER AND STOP – Each door shall have a closer (LCN 401S or approved equal) and bracket. Each outside door shall have a door stop (GJ 81 MHD or approved equal).

## **2.8 TRUSSES**

- .1 CHORD DEFLECTION – shall not exceed  $1/360$  of the span.
- .2 SPACING – shall be at 620 mm (24 in.) on centre or as otherwise shown on the Plans.
- .3 SLOPE – of top chords shall be as shown on the Plans.
- .4 LUMBER – shall be as follows:
  - .1 Bottom Chords – shall be No. 1 Grade Spruce
  - .2 Web Members – shall be No. 2 Grade Spruce
- .5 FASTENERS – shall be 75 mm (3 in.) common steel wire nails, staggered and clinched perpendicular to direction of plywood face grain, with solid blocking used under gusset plates during nailing.
- .6 PLYWOOD – used for gussets at both sides of all joints shall be 13 mm (1/2 in.) sheathing grade Douglas Fir, with grain direction of plywood faces to be parallel to bottom chord, excepting plates joining web to top chord at quarter points.

## **2.9 SEALANTS AND CAULKING**

- .1 Caulking shall be provided where required to prevent the entry of water into the structure.
- .2 Caulking shall be provided between masonry, siding or stucco and the adjacent door and window frames or trim, including sills unless such locations are completely protected from the entry of rain.
- .3 Caulking shall be provided at vertical joints between different cladding materials unless the joint is suitably lapped or flashed to prevent the entry of rain.
- .4 Caulking shall be of a non-hardening type suitable for exterior use, selected for its ability to resist the effects of weathering and shall be compatible with and adhere to the substrate to which it is applied. Caulking shall be neatly installed with a clean and tooled finish.



- .5 Caulking shall conform to:
  - .1 CGSB 19-GP-5M, “Sealing Compound, One Component, Acrylic Base, Solvent Curing,”
  - .2 CAN/CGSB-19.13, “Sealing Compound, Once Component, Elastomeric, Chemical Curing,”
  - .3 CGSB 19-GP-14M, “Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing,” or
  - .4 CAN/CGSB-19.24, “Multi-Component, Chemical Curing Sealing Compound.”

## **2.10 VAPOUR BARRIER**

- .1 The vapour barrier shall consist of 150 um (6 mil) polyethylene sheeting conforming to the current CGSB Standard 51-GP-33M, Standard for Sheet Vapour Barriers (for Above Grade Building Construction).

## **2.11 ROOF**

- .1 SHINGLES – shall be 95 kg (210 lb.) standard type 3, asphalt shingles or approved equal; conforming to the current CSA Standard A123.1, Asphalt Shingles Surfaced with Mineral Granules.
- .2 FLASHING – shall be 0.50 mm (24 gauge) galvanized metal flashing.
- .3 NAILS – shall be galvanized large head type roofing nails.
- .4 FELT PAPER– used under shingles shall be 7 kg (15 lbs.) asphalt impregnated conforming to the current CSA Standard A123.9, Asphalt Saturated Asbestos Felts.
- .5 SOFFIT – shall be 9.5 mm prefinished metal with continuous vent.
- .6 Metal utilized for roofing surface wall exterior sheathing shall be in accordance with Section 131260 Clause 2.3.

## **2.12 INSULATION**

- .1 Insulation for roof and walls shall be fibreglass batt insulation to a thickness as shown on the Plans, having a minimum guaranteed resistance of R40 in ceilings and R20 in walls, and conforming to the current CSA Standard A101, Mineral Fibre Thermal Building Insulation.



- .2 Rigid Insulation shall be placed at all locations below ground where shown on the plans.
- .3 Below ground insulation shall be 50 mm thickness and shall conform to current CSGB 51-GP-20M or CAN/ULC S701 Type 4 rigid extruded polystyrene foam HI-40 (blue in colour) with a compression strength of 275 kPa as manufactured by DOW Chemical or approved equal.

### **2.13 WALLBOARD**

- .1 WALLBOARD - shall conform to the current CSA Standard A82.27, Gypsum Board Products.
- .2 TAPE – shall be 50 mm (2 in.) wide perforated paper tape conforming to the requirements of the current CSA Standard A82.27, Gypsum Board Products.
- .3 FILLER AND ADHESIVE – shall be cementitious material specifically prepared for the treatment of joints and the covering of nail heads, and shall be as supplied by the wallboard manufacturer.
- .4 CORNER BEADS AND CASING HEADS – shall be corrosion resistant metal beads.
- .5 SCREWS – for attaching wallboard to wood studs shall be galvanized, cadmium plated or approved equal for corrosion resistance, in accordance with the current CSA Standard A82.31, Gypsum Board Application.

### **2.14 WINDOWS**

- .1 Windows shall be awning type of PVC construction, complete with screen. Glass shall be triple glazed clear plate no less than 6.36 mm thick; Approximately 900 x 900 mm (3 ft. x 3 ft.) size.

### **2.15 PAINT**

- .1 Paint and primer shall be first line brands brought to the job in the original containers with seals intact. Products of one manufacturer shall be used throughout the building. The interior shall be painted in accordance with the current CGSB Standard 1-GP-38M, Standard for Interior Enamel Undercoats, and shall receive two coats of dairy (white) enamel paint conforming to the current CGSB Standard 1-GP-76M, Standard for Interior and Exterior Heat Resistant Enamel. The exterior paint and prime coat shall be good quality latex paint, cream or off-white, conforming to the current CGSB Standard 1-GP-28M,



Standard for White and Tinted Exterior House Paint. Doors and exterior trim (gutters, downspouts, around windows, etc., as may be shown on the Plans) shall be painted dark blue or as otherwise directed by the Engineer.

### **Part 3 Execution**

#### **3.1 GENERAL**

- .1 The Contractor shall execute the work under this contract in accordance with the plans and specifications and to the satisfaction of the Engineer and as required by all respective codes and regulations.

#### **3.2 PERMITS**

- .1 The Contractor shall obtain all the required building permits for the project.

#### **3.3 WORKMANSHIP**

- .1 Workmanship shall be of the highest quality in accordance with best industry practice, and in strict accordance with the product manufacturers' recommendations. Only competent tradesmen, proficient in their respective trades, with sufficient experience, and first class equipment shall be employed to complete the work.

#### **3.4 STANDARD**

- .1 Construction procedures shall conform to the Manitoba Building Code.

#### **3.5 CARPENTRY AND WOODWORK**

- .1 Work shall be set to the required lines and levels and shall be secured rigidly in place. Nailers, bottom plates, and other items in contact with masonry or concrete shall be underlain with 2 plies of 20 kg (45 lb.) tar paper and fixed to the masonry or concrete with 16 mm (5/8 in.) diameter anchor bolts at not more than 1.5 metre (5 ft.) centres unless shown otherwise on the plans. Top plates shall be doubled and lapped at corners and intersections. Splices in top plates shall be staggered at least 1.2 m (4 ft.). Sheathing shall have all joints supported. Exterior joints shall be caulked where shown on the plans. The ceiling shall be finished at the junction with the walls with a 19 mm (3/4 in.) molding neatly joined at all corners. Exterior materials and interior faces exposed to humid conditions shall be nailed with corrosion-resistant nails. Rough framing and bucks shall be installed where indicated on the plans, or as required by the Engineer. Rough hardware shall be



supplied and installed. Fastening to hollow units shall be done with approved anchors. Fastening to solid masonry shall be done with screws. Finishing hardware excluding cabinet hardware shall be checked and unpacked, ensuring all mechanical parts are in working order, and shall be installed. Speciality items shall be cut carefully to size, scribed to fit, and all millwork supplied items shall be secured anchors and wall plugs, as required. Electrical and mechanical work shall be installed as shown and detailed on the plans. Door frames shall be well nailed to the opening framework. Access panels shall be flush with wall surfaces.

### **3.6 WEATHER PROOFING**

- .1 The Contractor shall use all necessary caulking, flashing and weather-stripping to make the building weathertight. Particular attention shall be given to flashing and caulking at the base of panels, eaves, ridges, doors, ventilators, etc., and at all places where panels of different sections meet and join. Backing material shall be used as required. Caulking shall be provided as detailed on the plans or herein specified. Joint surfaces to be sealed shall be sound and free from wax, dust, grease, corrosion, rust, oil, and paint, and shall be wiped clean with an approved cleaner. All concrete surfaces shall be fully cured, free of moisture and foreign material. Seals shall be provided at locations shown on the plans and shall include all seals to openings generally in concrete, steel and aluminium. Mixing and application shall be in accordance with the manufacturer's recommendations. All sealant shall be tooled to a finished neat appearance after gun application leaving joint surfaces with a slightly concave profile. Adjacent surfaces which have been sealed shall be cleaned immediately and left in a neat, clean condition. The joint width shall be as indicated on the plans, or as recommended by the manufacturer. The depth of the sealant shall allow the correct action of the material through changes in climate conditions and joint movement.

### **3.7 MOISTURE PROTECTION**

- .1 A vapour barrier shall be installed in all walls and ceilings, as shown on the plans, according to the manufacturer's recommendations. The vapour barrier shall consist of 150 um (6 mil) polyethylene, caulked at all joints and openings.

### **3.8 ROOFING AND INSULATION**

- .1 Flashing, felts, shingles and insulation shall be installed in accordance with approved building trade practice and to appropriate CSA International and MBC standards.





### **3.9 WALLBOARD**

- .1 Wallboard shall be installed in accordance with the current CSA Standard A82.31, Gypsum Board Application. Work shall not be carried out at interior temperatures below 10°C (50°F). Boards shall be applied with the long dimension parallel to the vertical framing. Edge joints shall be butted at the frame members. All walls shall be even and uniform.

### **3.10 PAINTING**

- .1 Paint shall be stored in a weathertight building, raised clear of the ground so that it is protected from weather, dampness, and deterioration. Paint, which has been damaged by exposure to moisture or contaminated with any foreign matter, shall not be used. Adequate ventilation and heating facilities shall be provided for the painting work. Adjacent surfaces shall be protected from damage and paint splashes. Equipment shall be protected by suitable masking and fire resistant drop cloths approved by the Engineer. Underwriters and other labels shall be protected and shall not be painted over. Cloths, rags and other materials, which may constitute a fire hazard, shall be kept in closed metal containers. The Contractor shall examine all surfaces prior to painting, repairing any defects. All materials shall be applied in a workmanlike manner (thoroughly mix materials before application and apply evenly) free from sags, runs, crawls and other defects. All cutting-in shall be done neatly.

### **3.11 MISCELLANEOUS ITEMS**

- .1 All work not specifically covered in this Specification shall be installed according to the plans and in accordance with approved trade practice.

### **3.12 CLEANUP**

- .1 When the work is completed, the Contractor shall remove all surplus materials and debris of all trades and leave the works clean and in good order.