Wood Frame Construction

- All lumber shall be spruce-pine-fir No. 1 & 2, and shall be identified by a grade stamp
- Maximum moisture content 19% at time of installation
- Wood framing members which are supported on concrete in direct contact with soil shall be separated from the concrete with 0.05mm polyethylene or type 'S' roll roofing

Walls

- Exterior walls shall consist of:
  - cladding
  - air barrier system lapped 100mm at joints
  - lumber, plywood, OSB or gypsum sheathing
  - 38x140 studs @ 400mm o.c.
  - RSI 3.34 insulation
  - 38x140 bottom plate
  - 38x140 double top plate
- Interior loadbearing walls shall consist of:
  - 38x89 studs @ 400mm o.c.
  - 38x98 bottom plate and double 38x89 top plate
  - 38x89 mid-girts if not sheathed
  - 12.7mm gypsum board sheathing

Floors

- See 501d for floor joist size and spacing requirements
- Joists to have minimum 38mm of end bearing
- Joists shall bear on a sill plate fixed to foundation with 12.7mm anchor bolts @ 2400mm o.c
- Header joists between 1200mm and 3200mm in length shall be doubled. Header joists exceeding 3200mm shall be sized by calculations
- Trimmer joists shall be doubled when supported header is between 800mm and 2000mm. Trimmer joists shall be sized by calculations when supported header exceeds 2000mm
- 38x38 cross bridging required not more than 2100mm from each support and from other rows of bridging
- Joists shall be supported on joist hangers at all flush beams, trimmers, and headers.
- Non-loadbearing partitions shall be supported on a joist or on blocking between joists.
- See 501d for subflooring requirements

Roof & Ceilings

- See 501d for rafter, roof joist and ceiling joist size and spacing requirements
- Hip and valley rafter shall be 38mm deeper than common rafters
- 38x89 collar ties @ rafter spacing with 19x89 continuous brace at mid span if collar tie exceeds 2400mm in length
- See 501d for roof sheathing requirements

Notching & Drilling of Trusses, Joists, Rafters

- Holes in floor, roof and ceiling members to be not larger than 1/4 the actual depth of member and not less than 50mm from edges
- Notches in floor, roof and ceiling members to be located on top of the member within 1/2 the actual depth from the edge of bearing and not greater than 1/3 the joist depth
- Wall studs may be notched or drilled provided that no less than 2/3 the depth of the stud remains, if load bearing, and 40mm if non-load bearing
- Roof truss members shall not be notched, drilled or weakened unless accommodated in the design

Roofing

- Fasteners for roofing shall be corrosion resistant. Roofing nails shall penetrate through or at least 12mm into roof sheathing
- Every asphalt shingle shall be fastened with at least 4 nails for 1000mm wide shingle (or 6 11mm staples)
- Eave protection shall extend 900mm up the roof slope from the edge, and at least 300mm from the inside face of the exterior wall, and shall consist of Type M or Type S Roll Roofing laid with minimum 100mm head and end laps cemented together, **or** glass Fibre or Polyester Fibre coated base sheets, **or** self sealing composite membranes consisting of modified bituminous coated material or NO.15 saturated felt lapped and cemented. Eave protection is not required for unheated buildings, for roofs exceeding a slope of 1 in 1.5, or where a low slope asphalt shingle application is provided
- Open valleys shall be flashed with 2 layers of roll roofing, or 1 layer of sheet metal min. 600mm wide
- Flashing shall be provided at the intersection of shingle roofs with exterior walls and chimneys
- Sheet metal flashing shall consist of not less than 1.73mm sheet lead, 0.33mm galvanized steel, 0.33mm copper, 0.35mm zinc, or 0.48mm aluminum

Columns, Beams & Lintels

- Steel beams and columns shall be shop primed 350W steel.
- Minimum 89mm end bearing for wood and steel beams, with 190mm solid masonry beneath the beam.
- Steel columns to have minimum outside diameter of 73mm and minimum wall thickness of 4.76mm
- Wood columns for carports and garages shall be minimum 89mm x 89mm; in all other cases either 140mm x 140mm or 184mm round, unless calculations based on actual loads show lesser sizes are adequate. All columns shall be not less than the width of the supported member
- Masonry columns shall be a minimum of 290mm x 290mm or 240mm x 380mm
- Provide solid blocking the full width of the supported member under all concentrated loads

Insulation & Weatherproofing

Ceiling with attic		RSI 8.81
Roof without attic		RSI 5.46
Exterior Wall		RSI 4.23
Foundation Wall		RSI 3.52
Foundation > 50% exposed		RSI 4.23
Exposed Floor		RSI 5.46
Slabs on Grade	(unheated)	RSI 1.76
	(heated)	RSI 1.76
Supply Ducts in unheated space		RSI 2.11

- Insulation shall be protected with gypsum board or an equivalent interior finish, except for unfinished basements where 0.15mm poly is sufficient for fibreglass type insulations
- Ducts passing through unheated space shall be made airtight with tape or sealant
- Caulking shall be provided for all exterior doors and windows between the frame and the exterior cladding
- Weatherstripping shall be provided on all doors and access hatches to the exterior, except doors from a garage to the exterior
- Exterior walls, ceilings and floors shall be constructed so as to provide a continuous barrier to the passage of water vapour from the interior and to the leakage of air from the exterior

TACBOC
STANDARD DETAIL

TITLE
SPECIFICATION - BUILDING CODE STANDARDS
WOOD FRAME CONSTRUCTION & INSULATION

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