

10. STRUCTURAL - TECHNICAL

10.1 REGULATIONS

10.1.1 CODES AND STANDARDS

1. Provide a listing of codes and standards applicable to work in accordance with PEGNL “Guidelines for Structural Engineering Services, Latest Edition”.

10.1.2 AUTHORITIES HAVING JURISDICTION

1. Office of the Fire Commissioner
2. Service NL
3. Workplace Health, Safety and Compensation Commission
4. Municipality

10.2 SUBMISSION

1. Submissions are to follow Guidelines published by PEGNL, April 2011.

10.3 STRUCTURAL STEEL

1. Strength and serviceability limit states shall be utilized in the analysis and design of structural steel elements. In the design of structural steel to CSA G40.21M, steel with minimum yield strength of 300 MOA shall be used unless otherwise noted.

10.4 STRUCTURAL LUMBER

1. The usage of structural lumber shall be in accordance with the latest edition of the Canadian Wood Council Wood Design manual and applicable standards.
2. The preferred grades if sawn lumber for structural elements shall be No. 1 and No. 2 grade S-P-F, softwood S4S, moisture content of 19% or less unless otherwise indicated. Visual stress grades and machine stress-rated lumber are acceptable in wood construction.

10.5 REINFORCED CONCRETE

1. Concrete design strength is to be specified by the required compressive strengths at 28 days. In usual structural application, the concrete strength specified is in the range of 20-35 MPa for reinforced concrete and 35-45 MPa for prestressed concrete.
2. Reinforcing steel shall be billet steel grade 400 deformed bars. Welded wire fabric shall be provided in flat sheets only.
3. Concrete slabs on grade shall be designed in accordance with good engineering practice giving due consideration to subgrade and anticipated loading. The minimum compressive strength shall be 30 MPa and minimum thickness shall be 100 mm.

10.6 ENGINEERED MASONRY

1. The design of structural or load-bearing masonry walls, columns and pilasters shall be based on the twenty eight (28) day compressive strength of the concrete masonry,