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**Washroom Buildings Recapitalization  
Buildings 32, 34 & 38  
Newman Sound Campground  
Terra Nova National Park, NL  
Proj. No.: R.079272.001**

Issued April 4, 2016

Section 03 20 00 – Concrete Reinforcing

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**PART 1      GENERAL**

**1.1            RELATED SECTIONS**

- .1      Section 03 10 00 – Concrete Forming and Accessories.
- .2      Section 03 30 00 - Cast-in-Place Concrete.

**1.2            REFERENCES**

- .1      American Concrete Institute (ACI)
  - .1      ANSI/ACI 315, Details and Detailing of Concrete Reinforcement.
  - .2      ACI 315R, Manual of Engineering and Placing Drawings for Reinforced Concrete Structure.
- .2      American Society for Testing and Materials International (ASTM)
  - .1      ASTM A185/A185M, Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
  - .2      ASTM A497/A497M, Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
- .3      Canadian Standards Association (CSA)
  - .1      CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of test and Standard Practices for Concrete.
  - .2      CSA-A23.3, Design of Concrete Structures.
  - .3      CAN/CSA-G30.18, Billet-Steel Bars for Concrete Reinforcement, A National Standard of Canada.
  - .4      CSA-G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel /Structural Quality Steel.
  - .5      CAN/CSA-G164, Hot Dip Galvanizing of Irregularly Shaped Articles.
  - .6      CSA W186, Welding of Reinforcing Bars in Reinforced Concrete Construction.

**1.3            SUBMITTALS**

- .1      Indicate on shop drawings, bar bending details, lists, quantities of reinforcement, sizes, spacings, locations of reinforcement and mechanical splices if approved by Departmental Representative, with identifying code marks to permit correct placement without reference to structural drawings. Indicate sizes, spacings and locations of chairs, spacers and hangers. Prepare reinforcement drawings in accordance with Reinforcing Steel Manual of Standard Practice - by Reinforcing Steel Institute of Canada . ANSI/ACI 315 and ACI 315R, Manual of Engineering and Placing Drawings for Reinforced Concrete Structure.

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- .2 Detail lap lengths and bar development lengths to CSA-A23.3, unless otherwise indicated.

**PART 2      PRODUCTS**

**2.1      MATERIALS**

- .1 Substitute different size bars only if permitted in writing by Departmental Representative.
- .2 Reinforcing steel: billet steel, grade 400, deformed bars to CAN/CSA-G30.18, unless indicated otherwise.
- .3 Cold-drawn annealed steel wire ties: to ASTM A497/A497M.
- .4 Welded steel wire fabric: to ASTM A185/A185M. Provide in flat sheets only.
- .5 Chairs, bolsters, bar supports, spacers: to CSA-A23.1/A23.2.
- .6 Mechanical splices: subject to approval of Departmental Representative.
- .7 Plain round bars: to CSA-G40.20/G40.21.

**2.2      FABRICATION**

- .1 Fabricate reinforcing steel in accordance with CSA-A23.1A23.2, ACI 315, and Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Canada.
- .2 Obtain Departmental Representative's approval for locations of reinforcement splices other than those shown on placing drawings.
- .3 Upon approval of Departmental Representative, weld reinforcement in accordance with CSA W186.
- .4 Ship bundles of bar reinforcement, clearly identified in accordance with bar bending details and lists.

**2.3      SOURCE QUALITY CONTROL**

- .1 Upon request, provide Departmental Representative with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis, minimum 4 weeks prior to commencing reinforcing work.

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- .2 Upon request inform Departmental Representative of proposed source of material to be supplied.

**PART 3      EXECUTION**

**3.1      FIELD BENDING**

- .1 Do not field bend or field weld reinforcement except where indicated or authorized by Departmental Representative.
- .2 When field bending is authorized, bend without heat, applying a slow and steady pressure.
- .3 Replace bars which develop cracks or splits.

**3.2      PLACING REINFORCEMENT**

- .1 Place reinforcing steel as indicated on reviewed placing drawings and in accordance with CSA-A23.1/A23.2.
- .2 Use plain round bars as slip dowels in concrete. Paint portion of dowel intended to move within hardened concrete with one coat of asphalt paint. When paint is dry, apply a thick even film of mineral lubricating grease.
- .3 Prior to placing concrete, obtain Departmental Representative approval of reinforcing material and placement.
- .4 Ensure cover to reinforcement is maintained during concrete pour.

**END OF SECTION**