

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 ACI 315R-80, Manual of Engineering and Placing Drawings for Reinforced Concrete.
- .2 American National Standards Institute/American Concrete Institute (ANSI/ACI).
 - .1 ANSI/ACI 315-80, Details and Detailing of Concrete Reinforcement.
- .3 American Society for Testing & Materials (ASTM).
 - .1 ASTM A143/A143M-07, Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement.
 - .2 ASTM-A123/A123M-09, Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.
- .4 Canadian Standards Association (CSA)
 - .1 CSA-A23.1-14, Concrete Materials and Methods of Concrete Construction.
 - .2 CSA A23.3-14, Design of Concrete Structures.
 - .3 CSA G30.3-M1983 (R1998), Cold Drawn Steel Wire for Concrete Reinforcement.
 - .4 CSA G30.5-M1983 (R1998), Welded

- Steel Wire Fabric for Concrete Reinforcement.
- .5 CSA G30.14-M1983 (R1998), Deformed Steel Wire for Concrete Reinforcement.
- .6 CSA G30.15-M1983 (R1991), Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- .7 CSA G30.18-M92 (R2007), Billet-Steel Bars for Concrete Reinforcement.
- .8 CSA G40.21-04, Structural Quality Steels.
- .9 CSA W186-M1990 (R2007), Welding of Reinforcing Bars in Reinforced Concrete Construction.

1.3 SHOP DRAWINGS

- .1 Submit shop drawings including placing of reinforcement in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare reinforcement drawings in accordance with RSIC Manual of Standard Practice and ACI 315.
- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by Professional Engineer licensed to practice in Newfoundland and Labrador.
 - .1 Indicate placing of reinforcement and:
 - .1 Bar bending details;
 - .2 Lists;
 - .3 Quantities of reinforcement;
 - .4 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;
.5 Indicate sizes,
spacings, and
locations of chairs,
spacers, and hangers.

1.4 WASTE
MANAGEMENT AND
DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and the Waste Reduction Plan.

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 Reinforcing steel: weldable low alloy steel deformed bars to CAN/CSA-30.18.
- .4 Cold-drawn annealed steel wire ties: to CSA G30.3.
- .5 Welded steel wire fabric: to CSA G30.5.
 - .1 Provide in flat sheets only.
- .6 Chairs, bolsters, bar supports, spacers: to CSA-A23.1/A23.2.
- .7 Mechanical splices: subject to

approval of Departmental Representative.

2.2 FABRICATION

- .1 Fabricate reinforcing steel in accordance with CSA-A23.1/A23.2, ANSI/ACI 315, and Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Canada. ACI 315R, Manual of Engineering and Placing Drawings for Reinforced Concrete Structures unless indicated otherwise.
- .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 Provide Departmental Representative with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis, a minimum of two (2) weeks prior to beginning reinforcing Work.
- .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 REINFORCING

- .1 Place reinforcing steel as indicated on reviewed placing drawings and in accordance with CSA-A23.1/A23.2.
- .2 Use approved type chairs to locate the reinforcing steel at the proper grade.
- .3 Tie reinforcement where spacing in each direction is:
 - .1 Less than 300 mm: tie at alternate intersections.
 - .2 300 mm or more: tie at each intersection.
- .4 Prior to placing concrete, obtain Departmental Representative's approval of reinforcing material and placement.
- .5 Ensure cover to reinforcement is maintained during concrete placement.

3.3 CLEANING

- .1 Clean reinforcing before placing in concrete to CSA-A23.1/A23.2.

END OF SECTION