

PART 1– GENERAL

1.1 RELATED WORK

- .1 Division 1: General Requirements.
- .2 Section 03 10 00: Concrete Forming and Accessories.
- .3 Section 03 30 00: Cast-in-Place Concrete.
- .4 Section 03 35 00: Concrete Finishing.

1.2 REFERENCE STANDARDS

- .1 American Society for Testing and Materials (ASTM International)
 - .1 ASTM A1064/A1064M – 15, Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
- .2 Canadian Standards Association (CSA International)
 - .1 CSA A23.1-14/A23.2-14, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete
 - .2 CSA A23.3-04 (R2010), Design of Concrete Structures
 - .3 CSA G30.18-09 (R2014), Carbon Steel Bars for Concrete Reinforcement
 - .4 CSA W186-M1990 (R2012), Welding of Reinforcing Bars in Reinforced Concrete Construction
- .3 Reinforcing Steel Institute of Canada (RSIC)
 - .1 Reinforcing Steel Manual of Standard Practice, 2004

1.3 SUBMITTALS

- .1 Provide Departmental Representative with certified copy of mill test report of steel supplied, showing physical and chemical analysis prior to commencing reinforcing work.

1.4 SHOPDRAWINGS

- .1 Submit shop drawings in accordance with Division 1.
- .2 Clearly indicate bar sizes, spacings, location and quantities of reinforcement, mesh, chairs, spacers and hangers with identifying code marks to permit correct placement without reference to structural drawings; to CSA A23.3, to Reinforcing Steel Manual of Standard Practice.
- .3 Detail placement of reinforcing where special conditions occur.
- .4 Use minimum lap lengths indicated on the structural drawings prepared as part of this project.

- .5 Each shop drawing shall bear the stamp and signature of a qualified professional Engineer registered or licensed to practice lawfully in the Province of Nova Scotia.
- .6 All shop drawings and material lists are to contain a blank area measuring 70 mm high by 100 mm long located near the bottom right hand corner of the drawing or page. This area is to be reserved for the Departmental Representative's review stamp.

1.5 SUBSTITUTES

- .1 Substitutions of different size bars are permitted only upon written approval of Departmental Representative.

PART 2 – PRODUCTS

2.1 MATERIALS

- .1 Reinforcing bars: billet steel, grade 400 deformed bars in accordance with CAN/CSA-G30.18 unless indicated otherwise.
- .2 Chairs, bolsters, bar supports, spacers: adequate for strength and support of reinforcing construction conditions
- .3 Tie Wires: Cold-drawn annealed steel wire ties in accordance with ASTM A82.
- .4 Architectural concrete surfaces: special chairs, bolsters, bar supports and spacers to be plastic coated, stainless steel or as indicated. All concrete surfaces exposed to view are architectural concrete surfaces.
- .5 Mechanical splices subject to approval of the Departmental Representative.
- .6 Dowel Bar Splicers: Threaded splicing system, Grade 400 reinforcing steel. Standard of Quality: Threaded splicing system by Dayton/Richmond

2.2 FABRICATION

- .1 Fabricate reinforcing to CSA A23.1.
- .2 Fabrication tolerances for reinforcing steel in accordance with Reinforcing Steel Manual of Standard Practice.
- .3 Obtain Departmental Representative's approval for locations of reinforcement splices.
- .4 Fabricate reinforcing steel within following tolerances:
 - .1 Sheared length: plus or minus 25 mm
 - .2 Depth of truss bar: plus 0, minus 12 mm
 - .3 Stirrups, ties and spirals: plus or minus 12 mm

.4 Other bends: plus or minus 25 mm

.5 Ship bundles of bar reinforcement, clearly identified in accordance with bar list.

PART 3– EXECUTION

3.1 FIELD BENDING

.1 Do not field bend 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 in accordance with CSA A23.1 and as indicated on reviewed shop drawings.

.2 Place, support and space reinforcing in alignment to position indicated and as follows:

.1 Concrete surfaces exposed to view: consider as architectural concrete and use non-staining supports and spacers.

.2 Walls: provide spacers each face at 1200 mm maximum centres. Provide 10M spreader bars between mats and in line with concrete spacers.

.3 Pilasters and columns: laterally support along height. Place and support in pairs on opposite faces.

.4 Slabs on grade: support all reinforcement on chairs to accurately maintain position and concrete cover over reinforcement.

.3 Do not cut reinforcement, either before or after concrete is placed, to permit incorporation of other work.

.4 Do not relocate bars without approval from Departmental Representative.

.5 Remove and replace reinforcement which is visibly damaged or cracked.

.6 Clean reinforcing before placing concrete.

.7 Obtain Departmental Representative's approval of reinforcing steel and placing before placing concrete.

.8 Place column and foundation wall footing reinforcing steel only after bearing surface has been inspected and approved by the Departmental Representative.

.9 Reinforce slabs on grade as detailed on the drawings.

- .10 Adjust reinforcement immediately before concrete is placed to ensure that bars are in correct position and are securely tied to maintain position.
- .11 Ensure that reinforcing steel foreman is present at all times concrete is placed to ensure that reinforcing remains in place as tied, and to take necessary remedial action.

3.3 ON-SITE STORAGE AND HANDLING

- .1 Reinforcing steel shall be handled and stored in such a manner to in such a manner to keep it free of dirt, mud and water.
- .2 Reinforcing steel shall be off loaded from the truck directly onto purpose made storage racks.
- .3 Any reinforcing steel which is dirty, muddy and/or rusty shall be cleaned with wire brushes and/or shot blasted to the satisfaction of the Departmental Representative.

END OF SECTION