

Harbour Improvements**Shag Harbour, Shelburne County, NS****R.118063.001**

Miscellaneous Items

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PART 1 - GENERAL

1.1 Description
of Work

.1 This section specifies requirements for the following items:

- .1 Ladders
- .2 Concrete Guard Repairs

1.2 Reference
Standards

- .1 ASTM A48/A48M-03 (R2016) (or latest edition), Standard Specification for Grey Iron Castings.
- .2 ASTM A123 / A123M-17, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .3 ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- .4 ASTM A307-14 (or latest edition), Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
- .5 CAN/CSA G40.20-13/G40.21-13 - General Requirements for Rolled or Welded Structural Quality Steel / Structural Quality Steel
- .6 CSA G164-18 (or latest edition), Hot Dipped Galvanizing of Irregularly Shaped Articles.
- .7 CSA W59-13, Welded Steel Construction (Metal Arc Welding).
- .8 CAN/CGSB-1.61-2004 - Exterior and Interior Marine Alkyd Enamel.

1.3 Related Work

.1 Refer to other Specification Sections for related information.

1.4 Submissions

- .1 Shop Drawings:
 - .1 Clearly indicate the following items:
 - .1 General arrangements, dimensions, clearance locations and directions of assemblies as installed on structures.

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- .2 Locations, sizes and installation tolerances of anchor bolts and embedded parts.
 - .3 Types of materials used, finishes and core thickness.
 - .4 All other pertinent details and accessories.
 - .2 Product Data/Samples:
 - .1 Provide product data and manufacturers brochures for the mooring cleats.
 - .3 Submissions
 - .1 Provide submissions in accordance with Section 01 33 00.
 - 1.5 Measurement for Payment
 - .1 Supply and installation of ladders, including timber, rungs, and fasteners will be measured in accordance with Section 01 29 00.
 - .3 Concrete guard repairs will be measured in accordance with Section 01 29 00.

PART 2 - PRODUCTS

- 2.1 Materials
 - .1 Timber: Any timber supplied by Contractor must conform to **Section 06 05 73** Dimension Timber.
 - .2 Hardware and miscellaneous items must meet the following specifications:
 - .1 Machine bolts, lag bolts, drift bolts, anchor bolts, nuts, washers to ASTM A307.
 - .2 Steel plates, ladder rungs, holdfasts and miscellaneous steel: to CSA G40.21, Grade 300W.
 - .3 Do not use items manufactured or fabricated from scrap steel of unknown chemical composition or physical properties.
 - .4 Hot dip galvanize bolts, anchor bolts, nuts, washers, pipe sleeves, steel plates, rungs, holdfasts U-bolts and any other miscellaneous steel to ASTM

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A123 or CSA G164 with minimum zinc coating of 705 g/m².

.6 Hot dip galvanize bolts, anchor bolts, nuts, washers, and any other miscellaneous hardware to ASTM A153M.

.7 Fibre reinforced concrete to meet the requirements of Section 03 30 00.

PART 3 - EXECUTION

- 3.1 Ladders
- .1 Assemble ladder units and install completed units in locations shown on plan or as indicated by *Departmental Representative*.
 - .2 Countersink bolts on exterior face of ladder.
 - .3 Apply preservative to areas of unprotected wood exposed during course of work in accordance with Section 06 05 73.
- 3.3 Concrete Guard Repairs
- .1 Limits for concrete guard repairs to be identified by *Departmental Representative*.
 - .2 Remove deteriorated concrete as indicated on the drawing. Existing guard reinforcing steel to remain.
 - .3 Sawcut removal limits. Prepare existing concrete surface for new concrete with approved bonding agent. Protect existing steel reinforcing and guard channel with corrosion inhibitor.
- 3.4 Installation General
- .1 Boreholes for drift bolts in timber connections to be 1.5mm smaller in diameter than bolt and for full length of bolt. Boreholes for machine bolts to be same diameter as bolts. Boreholes for lag bolts to be same diameter as shank for unthreaded portion and 0.70 times the shank diameter for the threaded portion. Threaded portion of lag bolts will be installed using a wrench, not by driving.

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- .2 Contain all debris and leachates (films on water surface) within the area of the work by using containment facilities such as floating booms or screens.

END OF SECTION