

**Floating Wharf Installation****Gunning Cove DFO-SCH****Shelburne County, Nova Scotia****Project No. R.098182.001**

Miscellaneous

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PART 1 - GENERAL1.1 Description  
of Work

- .1 This section specifies requirements for the following items:
  - .1 Fenders
  - .2 Access Ramps
  - .3 Floating Wharves
  - .4 Buoyancy Billets
  - .5 Chains

1.2 Reference  
Standards

- .1 ASTM A307-14 (or latest edition), Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
- .2 CAN/CSA G40.20-13/G40.21-13 - General Requirements for Rolled or Welded Structural Quality Steel / Structural Quality Steel
- .3 ASTM A123 / A123M-17, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .4 ASTM A48/A48M-03 (R2016) (or latest edition), Standard Specification for Gray Iron Castings.

1.3 Related Work

- .1 Refer to other Specification Sections for related information.
- .2 Refer to **Section 01 33 00** for Shop Drawing/Submissions requirements.

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.
    - .2 Locations, sizes and installation tolerances of anchor bolts, eye bolts and embedded parts.
    - .3 Types of materials used, finishes and core thickness.
    - .4 All other pertinent details and accessories.

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- .2 Product Data/Samples:
    - .1 Provide product data and manufacturers brochures for the mooring cleats.
  - .3 Test Results:
    - .1 Provide test results for the galvanized items.
  - .4 Submissions
    - .1 Provide submissions in accordance with **Section 01 33 00.**
- 1.5 Measurement for Payment
- .1 Fenders, including fastenings, will be measured in accordance with Section 01 29 00.
  - .5 Access Ramps, including fastenings, will be measured in accordance with Section 01 29 00.
  - .6 Floating Wharves, including timber, buoyancy billets and fasteners, will be measured in accordance with Section 01 29 00.
  - .4 Chains, including shackles as required for connection 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 Buoyancy Billets must meet the following specifications:
    - .1 Buoyancy Billets formed from expanded Polystyrene Type II foam.
    - .2 Billets to be coated with Poly Urethane Plastic Coating 1.27mm (50 mil) thickness.
  - .2 Hardware and miscellaneous items must meet the following specifications:

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- .1 Machine bolts, lag bolts, drift bolts, anchor bolts, nuts, washers to ASTM A307.
- .2 Steel plates, miscellaneous steel: to CSA G40.21, Grade 350W.
- .3 Chains: to be 20mm Grade 30 Regular Link Hot Dipped Galvanized Marine Chain. Minimum working load of chains and shackles to be 4808 kg (10,600 lbs) with 4:1 design factor.
- .4 Shackles: Bolt type complete with cotter pins to suit chain working load, design factor, and finish. Provide minimum 20mm bolt type shackle.
- .5 Do not use items manufactured or fabricated from scrap steel, scrap or of unknown chemical composition or physical properties.
- .6 Hot dip galvanize bolts, anchor bolts, nuts, washers, steel plates, chains, shackles and any other miscellaneous steel to CSA ASTM A123/A123M with minimum zinc coating of 610 g/m<sup>2</sup>.

PART 3 - EXECUTION3.4 Fenders

- .1 Fasten treated fenders to floating wharves and to wheel guard with machine bolts.
- .2 Bevel top of each fender to 4 horizontal to 1 vertical, and bottom of each is to extend 300 mm below chart datum. Treat tops per Section 06 05 73.
- .3 Countersink bolts on exterior face of fenders.

3.6 Access Ramps

- .1 Supply aluminium access ramps (slider plates) and install completed units in locations shown on plan or as indicated by *Departmental Representative*.
- .2 Do not make alterations to any components without written permission of *Departmental Representative*.

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- 3.7 Floating Wharves .1 Supply floating wharf and install completed units in locations shown on plan or as indicated by *Departmental Representative*.
- .2 Do not make alterations to any components without written permission of *Departmental Representative*.
- .3 Installation of anti-slip material on the deck of floats considered incidental to the work and will not be paid for separately.
- 3.8 Buoyancy Billets .1 Install buoyancy billets to dimensions and details as shown on project drawings.
- .2 Ensure coating is not damaged. Repair any damages to satisfaction of *Departmental Representative*.
- 3.9 Chains .1 Supply and install chains, complete with shackles and other connecting hardware as required, to connect floating wharves and piles as shown on drawings.
- .2 Ensure chains are supplied of sufficient length that pile connections may be adjusted to ensure support as shown on drawings and as indicated by the departmental representative. Ensure floating wharf system does not bind at connections under all tidal ranges.
- .2 Do not make alterations to any components without written permission of the *Departmental Representative*.
- 3.9 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.