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PART 1 - GENERAL

- 1.1 Description of Work
- .1 This section specifies requirements for the following items:
    - .1 Ladders
    - .2 Mooring Rings
- 1.2 Reference Standards
- .1 ASTM A48/A48M-03 (R2016) (or latest edition), Standard Specification for Gray 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
- 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.
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.4 All other pertinent details and accessories.

.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 Ladders will be measured in accordance with Section 01 29 00.

.2 Mooring rings 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 Mooring cleats: cast iron to ASTM A48, Class 25, with approximate weight of 41kg (90 lb.) each.

.4 Do not use items manufactured or fabricated from scrap steel of unknown chemical composition or physical properties.

.5 Hot dip galvanize bolts, anchor bolts, nuts, washers, pipe sleeves, steel

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plates, rungs, holdfasts U-bolts and any other miscellaneous steel to ASTM A123M with minimum zinc coating of 600 g/m<sup>2</sup>.

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

### 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.

#### 3.2 Mooring Rings

- .1 Install mooring rings as shown on drawings and fasten to timber deck and curb using anchor bolts as indicated on drawings.
- .2 Do not make alternations to any components without written permission of Departmental Representative.

#### 3.3 Installation

- .1 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.
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