

TECHNICAL SPECIFICATIONS AND GENERAL DOCK DETAILS

PART 1 - GENERAL

1.1 Description

- A. Work covered by this Section consists of furnishing and delivering floating dock components for steel truss dock sections necessary for the replacement of two floating docks at the Davis Hollow Marina. Each dock will be One Hundred Thirty Feet (130') in total length and six feet (6') in width. Dock sections are to be provided as twelve (12) twenty-foot sections (20') and two (2) ten-foot sections (10').

1.2 Work Included

- A. All floating dock materials including steel truss frame, dock connection hardware, floats, anchor guides, rub rails, cleats, and all other appurtenances as shown on the Drawing unless otherwise noted. Lumber materials and pipe anchors to be provided by others. Assembly and installation of dock also provided by others.

1.3 Submittals

- A. Design calculations shall be signed and sealed by a Pennsylvania Registered Professional Engineer that has a minimum of five years of experience in the design of floating docks. The design shall provide a minimum freeboard of 20-inches as measured from the water surface to the finished decking surface.
- B. The Contractor must submit certification for any steel products which will be used in the project pursuant with the provisions of the Steel Products Procurement Act (ACT of 1978, March 3, P.L. 6, No. 3 1-7) (73 P.S. 1881-87) which, in part, requires that if any steel products are to be used or supplied in the performance of a contract, only steel products, as defined by the ACT, that are made in the United States may be used.
- C. Certified Mill Reports for all materials
- D. Structural Steel Truss Frames - Shop drawings:
 - 1. Individual dock plans shall indicate the location of all joints, framing, cleat layout, anchorage system and other dock amenities.
 - 2. Typical sections of mail walk.
 - 3. Details of anchorage system.
 - 4. Rub rails and or moldings.
- E. Bills of lading for all materials

- F. Flotation – Product information, certification
- G. Cleats – Product information
- H. Vinyl Bumper – Product information
- I. Tread Plate and Hinge – Product information
- J. Float Warranty - The Contractor shall provide a minimum ten-year warranty from the date of acceptance of work, for the flotation for the subject dock system. This warranty shall exclude deterioration or wear due to normal aging and weathering of the floats. Warranty shall cover repair of any defects or damages which may develop within minimum of ten (10) years from the date of acceptance of material provided under this Contract provided the Department operates the facility in accordance with acceptable procedures. Any defective or damaged portion shall be replaced or repaired to its original condition or better at no expense to the Department.
- M. Access Ramps - park plans to reuse existing gangways, which rest on decking surface.
- N Anchorage System – Spud type anchorage system shall be installed. Spuds to be provided by others. Spud guide shall be capable of receiving a minimum 3 ½” diameter drill casing (3 ½” spud, Schedule 80, 4” outside diameter). Spacing of spuds shall be as shown on the drawings or as recommended by the manufacturer and/or supplier of the docks.

PART 2 - PRODUCTS

2.1 All Steel Products

- A. Steel Truss Frames shall be 12” high and constructed from 1.5” X 1.5” X 3/16” steel angle with ½” round bar separator. Truss Frame sections shall be 6’ wide X 10’ long and shall be bolted together with 1/2” X 1.5” bolts.
- B. All corner braces, any pile guides, plating, channels, angles, all ASTM A449 bolts, nuts and washers and any other steel product to be hot-dipped galvanized min 2 oz./ft² coating in accordance with ASTM A123 after fabrication.
- C. All wood dock hardware shall be 0.25” hot-dipped galvanized min 2 oz./ft² coating in accordance with ASTM A123 after fabrication.
- D. All welding shall be galvanized after fabrication according to ASTM A123.

2.2 Lumber

- A. Lumber components, including decking and rub rail mounting boards are to be supplied by others.
- B. Design spacing between joists shall be no more than 24 inches on center.

2.3 Connections

- A. Connections between docks shall be non-flexible, double tee design as indicated on drawings.
- B. Connections shall be made by male connectors with $\frac{3}{4}$ " tabs and female connectors with double $\frac{1}{2}$ " tabs. All inside corner hardware will have welded gussets.
- C. Connections shall not protrude above the level of the deck and shall provide a relatively smooth top surface.

2.4 Fasteners

- A. All $\frac{1}{2}$ " carriage bolts and fasteners will be hot dipped and galvanized in accordance with ASTM-53. All decking shall be attached using deck manufacturer recommended fasteners.

2.5 Flotation

- A. Flotation units shall be of seamless one piece polyethylene rotationally molded structure and shall have a solid mounting flange around the entire perimeter of float.
- B. Each unit shall be attached directly to structural frame using a minimum $\frac{3}{8}$ " bolt and fender washer. A minimum of four mounting fasteners are to be used; two per each opposite end.
- C. Flotation units shall be attached in such a manner as to allow easy removal or replacement of damaged floats.

2.6 Accessories

- A. Rub Rail – Single lip vinyl fender on top of rub rail with separate flat fender directly below on side of rub rail as depicted in C -101.
- B. Cleats – Dock cleats shall be 10" galvanized and attached to the framework with a minimum of 2 bolts. Bolts shall be galvanized. 104 cleats are to be provided.

2.7 Decking

- A. For design purposes: Deck boards shall be laid perpendicular to long axis of dock. Each board shall span the width of the dock without splices. A spacing of $\frac{1}{4}$ " shall be provided between the deck boards.

PART 3 - EXECUTION

3.1 Procedure

- A. The contractor shall furnish dock components as shown on the drawing. Dock components shall be delivered to the park.