

December 4, 2023

Gino Cresta
Director of Public Works
Town of Swampscott

Re: Fisherman's Beach Floating Dock Replacement (**Amendment 1**)

Dear Mr. Cresta,

Amendment 1 has been issued for the Fisherman's Beach Floating Dock Replacement Specifications:

- Replace Part 1D Design Criteria bullet 1 with the following: *The new timber floating docks, including anchorage connections and timber float to timber float connections, shall be constructed to withstand and transmit the specified loads and, at a minimum, shall be constructed of members and components that are greater than or equal to those shown on the design drawings.*

If you have any questions, please feel free to contact us.

Respectfully,



Derek T. Gallagher, P.E.
Project Manager
Tel: (603) 340-7069
dgallagher@collinsengr.com

Enclosures: Amended Specifications

January 2, 2024

Gino Cresta
Director of Public Works
Town of Swampscott

Re: Fisherman's Beach Floating Dock Replacement (**Amendment 2**)

Dear Mr. Cresta,

Amendment 2 has been issued for the Fisherman's Beach Floating Dock Replacement Specifications:

- Add the following to Part 1A Description bullet 1.d: *Contractor shall supervise the Town during initial installation of the floating docks to ensure proper fit-up.*

If you have any questions, please feel free to contact us.

Respectfully,



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Project Manager
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Enclosures: Amended Specifications

FLOATING DOCK SPECIFICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. DESCRIPTION**
- B. SUBMITTALS**
- C. REFERENCE STANDARDS**
- D. DESIGN CRITERIA**
- E. PERFORMANCE**

PART 2 PRODUCTS

2.1 SECTION INCLUDES

- A. TIMBER**
- B. COMPOSITE DECKING**
- C. HARDWARE AND FASTENINGS**
- D. BOUYANCY MATERIAL**
- E. MOORING CLEATS**

PART 3 EXECUTION

A. DESCRIPTION

1. Contractor shall furnish all labor, equipment, materials, tools, supervision, and transportation necessary to perform all operations necessary to complete the Work associated with procuring the materials for, constructing, and delivering new timber floating docks for the Town of Swampscott's (Town), Town Fishing Pier, consistent with this Section and as shown on the Drawings. These activities include, but are not limited to, the following:

- a. Contractor shall construct and provide two (2) new 15-foot square timber floating docks and four (4) new 15-foot long x 10-foot wide timber floating docks. The new floating docks shall include all required connections and shall match the existing floating dock configuration and overall dimensions as indicated on the Drawings and specifications herein.
- b. Dock modules shall be constructed offsite, at the Contractor's yard or another workspace, owned or leased by the Contractor (at the Contractor's expense). It is the Contractor's responsibility to protect the materials and the constructed floating docks from damage or weather until final delivery at the project site.
- c. Contractor shall be responsible for transportation of the floating docks to the project site and off-loading the floating docks at the project site. Contractor shall take necessary precautions during handling, transportation, and off-loading of the floating docks to prevent damage of overstressing of the floating dock members.



d. The Town will be responsible for floating the dock modulus into place and securing them to the existing guide piles. Contractor shall supervise the Town during initial installation of the floating docks to ensure proper fit-up.

B. SUBMITALLS

1. At least 30 days prior to fabrication, Contractor shall provide detailed shop drawings for the new timber floating docks.
 - a. Shop drawings shall illustrate timber dock layout, timber framing, floatation material and size, cleats, timber float to timber float connection, pile guide assemblies, fendering, and connections.
2. Certificates: Contractor shall provide certification that materials are new and meet or exceed specification requirements outlined on the Drawings and specified herein. Certifications can include notarized copies of chemical and physical test results attesting that:
 - a. All timber is free from decay.
 - b. All timber has been treated in conformance with these Specifications.
 - c. All timber is of the grade and quality specified herein.
3. Product information for composite decking, all hardware, fastenings, flotation drums, fenders and mooring cleats.

C. REFERENCE STANDARDS

1. The most current edition of the industry standards referenced below are an integral part of these specifications:
 - a. American Forest & Paper Association, AF & PA
 - b. American Society for Testing Materials, ASTM
 - c. American Wood Preservers Association, AWPA
 - d. American Wood Council, "National Design Specifications," (NDS), 2012 Edition

**D. DESIGN CRITERIA**

1. The new timber floating docks, including anchorage connections and timber float to timber float connections, shall be constructed to withstand and transmit the specified loads and, at a minimum, shall be constructed of members and components that are greater than or equal to those shown on the design drawings. Loads include, but are not limited to:

- a. Wind: 70 mph in any direction (Seasonal 3-second gust)
- b. Wave: Up to 5-foot height over a range of wave lengths so as to produce maximum stresses in the floating dock system
- c. Vertical Load
Dead load to include floating dock system self-weight plus all permanently attached hardware and equipment

Live load of 40 pounds per square foot uniformly distributed and a concentrated load, as specified under the “performance section”, for the structural capacity of members.

Live load of 25 pounds per square foot uniformly distributed and a concentrated load, as specified under the “performance section”, for the buoyancy performance of the floating docks.
- d. Horizontal Load: Sum of loads due to environmental conditions acting on moored vessels; berthing impact from a vessel; but no less than 300 pounds per linear foot acting horizontally in any direction at deck level along the entire length of float
- e. Pile guide connections: Consistent with horizontal loads computed as specified above, but not less than 4,000 pounds in any direction
- f. Cleats: 500 pounds from any direction and inclined at up to 45 degrees from horizontal

E. PERFORMANCE

1. The timber floating docks shall be of sound construction capable of structurally supporting the design loads and distributing the loads to the floatation units and guide pile system.
2. The timber floating docks shall float level under dead load. Maximum out of level tolerance for transverse slope is 1 inch per 10 feet.
3. The floating dock framing, deck system and buoyancy units shall act together to resist and transmit all imposed loads and vessel berthing and float mooring forces to the guide piles. The float shall possess adequate hull girder strength and diagonal bracing as required to resist torsion and wracking for the design wave indicated.
4. Floatation units shall be located within the structure so as to be capable of supporting a 300-pound moving point load in any area on a module without causing excessive rolling or tilting of the floating dock.
5. The floating dock system shall be capable of supporting a 400-pound point load at one foot from its end and lose no more than 4 inches of freeboard; and supporting a 300-pound point load applied to the corner of the dock and lose no more than 2 inches of freeboard differential per three foot of dock width.
6. The new timber floating docks shall be connected to the existing timber guide piles via connections as shown on the drawings.

PART 2 PRODUCTS

A. TIMBER

1. Timber shall be number 2 or higher grade Southern Yellow Pine as rated and identified by the grade mark of a recognized association or independent inspection agency using the specific grading requirements of an association recognized as covering the species used. The association or independent inspection agency shall be certified by the Board of Review, American Lumber Standards Committee.
2. All timber decking, if applicable, shall be treated to a minimum retention of 0.6 pounds per cubic foot per the requirements of Use Category 4B (UC4B), in accordance with AWPAs Standard U1.
3. All other timber shall be treated with chromated copper arsenate (CCA) to a minimum retention of 1.5 pounds per cubic foot of Use Category 5A (UC5A), in accordance with AWPAs Standard U1.

B. COMPOSITE DECKING

1. Composite decking shall be TREX select decking boards 0.875”x5.5” or equal (bending strength must meet or exceed 500 psi in accordance with ASTM D198).

C. HARDWARE AND FASTENINGS

1. All hardware and fastenings shall be hot dipped galvanized in accordance with ASTM A-123 or A-153, as applicable, to a minimum weight of zinc coating of 2.0 ounces per square foot of coated surface.

D. BUOYANCY MATERIAL

1. Floatation units shall be of prime grade polyethylene, filled with molded in-place expanded polystyrene conforming to ASTM C578.

Buoyancy Range: 1800-1900 pounds per 16”x72”x48” drum
2000-2100 pounds per 16”x84”x48” drum

E. MOORING CLEATS

1. Shall be of cast steel, hot-dipped galvanized, 12-inch long nominal size

PART 3 EXECUTION

- A. Contractor shall perform a site visit, prior to producing shop drawings and ordering materials, to field-verify existing floating dock configurations and dimension, including but not limited to guide pile locations and sizes, gangway landing, and floating module connection locations, and adjust hardware locations as necessary to ensure even contact and distribution between the guide piles and floating dock modules, and operation of the gangway over the complete extreme tidal range. Discrepancies between the design drawings and field measurements shall be brought to the Town's attention for approval.

- B. Timber framing and composite decking shall be accurately set in place and rigidly secured and bearing full and flush at connection points. Bolt-holes shall be neat size and bored straight and true, and installed to prevent catch points and hazardous conditions to users. Additional ballast, if required to meet the requirements herein, shall be added as directed by the Town.

END OF SECTION