

SECTION 462 -TIMBER BOARDWALK

462.01 DESCRIPTION

This work shall consist of furnishing all materials and constructing timber boardwalk to the lines and grades designated on the construction drawings or as directed by the Commission, including fabricating, erecting, treating and coating of the timber elements as specified in the construction drawings. Work shall be in accordance with the relevant sections of the latest version of MSHA Standard Specifications for Construction Materials Section 462 – Timber Structures (January 2008 or later), except as clarified within this section.

462.02 MATERIALS

Timbers shall be pressure treated southern yellow pine or coastal Douglas Fir, grade 1 or better with a minimum Fc of 1200 psi, and shall conform to AASHTO Standard M 168 for Wood Products. Preservatives and Pressure Treatment Process shall be in accordance with AASHTO Standard M 133 and American Wood-Preservers' Association (AWPA) standards. All pressure treated timber components shall be free of arsenic and shall be an appropriate Alkaline Copper Quaternary (ACQ) formation for the selected wood materials with minimum retentions of 4 kg/m³ (0.25 lbs/ft³) or 6.4 kg/m³ (0.4 lbs/ft³) for wood used above ground or in ground contact, respectively. All timber should be select structural material dressed cut S4S (surfaced four sides), except timber decking shall be cut S1S2E with rough face placed upward to improve traction. Where adjacent to a pedestrian bridge, timber decking materials shall match materials used for pedestrian bridge decking.

All Fasteners to be in accordance with AASHTO Standard M 253 and shall be appropriate for selected timber and associated treatment methods.

462.03 CONSTRUCTION

Equipment shall operate within the Limits of Disturbance in a manner to minimize impacts to root systems of adjacent existing trees to remain. When clearing for boardwalk construction, trees are to be cut off flush with finished grade. Grubbing under the boardwalk is not required.

Construction shall be in accordance with the relevant sections of the latest version of MSHA Standard Specifications for Construction Materials Section 462.03 (January 2008

or later), and with all details and notes outlined on the construction drawings

DELETE: MSHA SECTIONS:

- 462.03.05 Protection of Ends of Caps, Wales and Planks
- 462.03.11 Sills
- 462.03.15 Floor Planking
- 462.03.16 Bridge Railings and Wheel Guards

Decking shall be fastened to stringers with #10 galvanized wood screws, with a minimum of 3 ½” length or at least 1 ½” longer than the thickness of the deck board; 3 screws per board per stringer.

Railings shall be installed wherever the vertical drop from the finished deck elevation to the adjacent finished grade exceeds 30”, or as otherwise directed by the Commission. Where railings are not installed, timber curbs shall be installed along edges and considered incidental to unit price of boardwalk. Contractor that field adjust all connections and terminations to ensure smooth transitions into adjacent features.

462.04 FOOTINGS & FOUNDATIONS

Helical piers shall be designed and installed as foundations to support the boardwalk in accordance with the design loads specified on the approved construction drawings. The Contractor shall submit signed shop drawings, including material sizing, design calculations, and installation procedures from manufacturer, for approval prior to installation. The helical piers shall conform to the manufacturer’s specifications, as approved by the Commission. Skewed helical piers shall be provided for stability in accordance with manufacturer’s recommendations. The piers shall be mechanically driven to provide for design loads as specified in the contract documents. Pile tip shall extend a minimum of four feet below existing grade, unless otherwise approved by the Commission. In the event that rock material is encountered prior to achieving full depth, the contractor shall adjust pier placement and/or dowel the vertical support into the rock in a manner acceptable to the Commission.

The installation of all helical piers shall be performed under the observations of the manufacturer’s authorized representative. Upon completion of the installation, the representative must submit a signed and sealed report certifying the piers were constructed in accordance with the plans and manufacturer’s specifications and any accepted modifications.

462.05 MEASUREMENT AND PAYMENT

Payment will be full compensation for all material, labor, equipment, tools and incidental items necessary to complete the work. Payment shall be made on a unit rate per linear foot of timber boardwalk and/or railing installed. Payment for helical piers (both vertical

and skewed) shall be for each helical pier including additional bracing, hardware, and appurtenances (assuming an average height of ten feet from the underground tip of the pier to the bottom of the boardwalk support timber). In the event that field conditions require additional pier heights, the payment will be for each additional vertical foot, as directed by the Commission.