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## **Maher Terminal Modernization at Elizabeth Marine Terminal**

*Elizabeth, NJ*

Mueser Rutledge Consulting Engineers (MRCE) is currently performing and has performed many modernization projects at the Port Authority of New York and New Jersey's existing Elizabeth Marine Terminal facility operated by Maher Terminals to accommodate deep draft vessels and increased capacity container cranes.

Our current project includes the design of new container crane foundations; berth reinforcement for increased draft; and new resilient rubber fender system to accommodate post-panamax size container vessels. designed structural reinforcement for Berth 64, an 1100 foot long berth used by Maher Terminals. The depth of this timber pile supported container berth was increased from 35 feet to 45 feet below mean low water using a steel master pile wall to retain the underwater embankment below the wharf.

Previous projects included an emergency inspection of damage to Berth 64 which had been damaged due to barge impact. MRCE services included performing a diver and boat inspection, and making recommendations for repairs. MRCE performed analyses and developed the design of emergency repairs to restore support of the crane rail foundations, thereby minimizing the crane rails interruption of service.

In 1999, MRCE performed a feasibility study for constructing a high capacity crane rail foundation. Study included an analysis and conceptual design of the crane rail beam and upland drainage, and cost estimate.



In another Port Authority project involving the construction of New Crane Rails, Utility Services, Berth Reinforcement, and Berth Deepening for the Maher Terminal, MRCE performed analysis and design of new crane rail foundations to accommodate new 100 ft gauge container cranes, including the analysis, design new berth reinforcement, and design of a new outboard bulkhead for deepening the berths to accommodate deeper draft vessels. MRCE provided a construction Inspection Resident Engineer for the Client.

In 1996, MRCE designed structural reinforcement for Berth 64, an 1100 foot long berth used by Maher Terminals. The depth of this timber pile supported container berth was increased from 35 feet to 45 feet below mean low water using a steel master pile wall to retain the underwater embankment below the wharf.

### **Client Contact**

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