Mechanical and Marine Construction Inc.

Project Management / Engineering / High-Rise Services / Commercial Diving / Co-Gen A Certified Women's Business Enterprise www.m-mcinc.com

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New Jersey Department of Transportation: Newark Bay Bridge

Project Site:	Project Duration:	Description:
Newark Bay Bridge	July 2013 –	Fender System Replacement
Bayonne, New Jersey 07002	September 2013	Pile Reattachment
		Underwater Horizontal Wailer Replacement
		Underwater Lightning Rod Installation

Project Summary:

Provided specialized commercial divers, equipment, marine work vessels and barges, to remove and replace portions of the underwater marine fender system associated with the Newark Bay Bridge.

The fenders were broken, damaged and missing from years of barges and storms hitting the sacrificial timber system. The fenders are critical because they protect the bridge piers from marine collision and structural damage. Over the years of tides, currents and severe weather, a portion of the bolts between the battered piles and the upper whalers failed. Commercial divers and dock builders were tasked with the removal and replacement of the damaged hardware.

As discovered by our initial inspection, the structural wailer had fallen off. Our engineering staff designed a cost effective solution to repair the existing timber structure. Our team replaced the timber wailers with new wood and repaired the fender system. The reconstructed fender system was found to function at its original strength.





An electrical engineer assisted in installing a lightning protection system spanning from the top of the bridge to the bridge pier. Commercial divers anchored the conduit to the concrete pile cap and buried a combination of ground rods and grounding plates underwater into the subsurface mud to disperse a direct hit of lightning to the bridge.

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