



# Army Divers Conduct a Pier Rehabilitation Mission



*By First Lieutenant Timothy M. Mitroka*

**I**n July 2006, fifteen divers from the 86th Engineer Team (Dive) traveled to Jersey City, New Jersey, to conduct a mission for the United States Army Corps of Engineers® New York District. The team spent three weeks rehabilitating the docking piers and quay walls at the Caven Point Marine Terminal where numerous Corps vessels—that travel through New York and New Jersey waterways collecting or salvaging debris or wreckage and conducting surveys—are docked.

The mission focus was replacing 98 damaged cross brace support boards under the piers. The average size of the boards was 8 feet long by 3 inches thick by 10 inches wide. The removal process consisted of divers in the water using an underwater hydraulic impact wrench to loosen and remove hardware, which was usually covered with barnacles and rust. Once freed, a line was tied around the board and a team on the surface lifted it out of the water. Because some of the hardware was corroded, an underwater hydraulic grinding



**A dive supervisor inspects a surface-supplied diving helmet before deploying a diver into the water to remove debris from under a boat lift.**





**One diver uses a hydraulic impact wrench to tighten a board in place while another holds the hardware in place from the other side.**

tool or cutting torch was used to cut boards free. Once the boards were removed and on the surface, another team cut and drilled holes in new boards to match the old ones. The new boards were attached using new hardware to keep them in place for the next few years.



**A hydraulic grinder is used to cut off rusted bolts before removing a support board.**

Other tasks included replacing a 40-foot wooden bumper. The bumper is replaced annually because it functions as a pivot point on a quay wall for one of the larger vessels. In a year's time, the bumper becomes severely chipped, and the bolts securing it in place begin to protrude and scrape up against the vessel when it's docked. The team used a small crane to recover a submerged 90-foot section of a horizontal brace that broke off from its support piles. Using the crane, the team repositioned this large section and secured it so it would not break off again. Divers, using their surface-supplied diving gear, sprayed out debris from underneath the boat lift. The team also installed a buoy 75 feet out from one of the terminal's quay walls to warn off boat traffic from a shallow area that's piled with rubble from an old demolished building.

The mission was a success, and the repairs significantly increased the structural integrity of the piers and quay walls. This pier rehabilitation mission has been an annual mission for the past few years, and the team always looks forward to working with Caven Point Marine Terminal. Not only does it provide an opportunity for the Soldiers to train and increase their proficiency in using underwater hydraulic tools, but they are able to conduct small-scale underwater construction operations as well.

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