

Bayonne, NJ

Channel Deepening & PVSC Tunnel Protection (PJ-4)



Owner/Client: U.S. Army Corps of Engineers

Engineer: Parsons Brinkerhoff

Year Complete: 2012

Scope of Work: Channel Dredging, Stone Placement, Plate Installation

Project Cost: \$25.7 Million

Contract with the USACE for channel dredging, stone placement, and installation of steel plate protection measures above an outfall tunnel in Port Jersey Channel. Also included the installation of two Coast Guard range towers. Dredged 55,000 CY non-HARS and 86,000 CY HARS material using Weeks Marine's W-500 clamshell dredge, and a CAT 5110B excavator equipped with a custom long reach arm. Non HARS material dredged with an environmental bucket and material was transported and disposed of at a combined disposal facility in Newark Bay. Placed and screeded 72,500 SF of 3/4" stone with the excavator to a level bed with tolerances of less than 2 inches in water depths exceeding 50 feet. Hydraulic clamshell bucket attachment on the excavator used to place stone and a rake attachment used to screed the stone. 426 EA steel plates (30'x4'x5", 12.25 tons each) installed over the stone bed utilizing a custom lifting frame attachment on the excavator equipped with hydraulically actuated permanent lifting magnets. Plates installed continuously across the channel, over the footprint of the tunnel with a maximum gap of 4 inches between plates. Underwater cameras installed on the frame and an underwater ROV used to assist with placement.