

Hart Street Wastewater Pump Station Force Main Replacement

Sand Island, Honolulu, Hawaii

Jet grouted columns provide soil stabilization and support to piers piles, bearing 500-ton crane loads, during the construction of twin 48-inch diameter pipes.



The project

The Hart Street Wastewater Pump Station (WWPS) and force main were over 50 years old and undersized for Honolulu. The work took place specifically on Pier 52 of Honolulu Harbor. Work was undertaken within the main shipping terminal between Hawaii and the mainland.

The challenge

Work had to be performed on a pile-supported platform and over water along Honolulu Harbor.

The solution

In one area, jet grouting was performed at a depth of over 38 meters, along the alignment of two replacement, 1.2-meter sewer lines, to be installed below the terminal pier. Multiple, continuous rows of 2-meter diameter, interconnected columns were installed above and below the pipeline alignment to stabilize the soils and prevent foundation subsidence during the installation of the tunnels.

Jet grouting was also completed at micro-tunneling receiving and jacking pits to provide support to existing utilities and the surrounding ground, as well as for groundwater control during construction. Jet grouted columns at pits were installed to depths up to 16 meters, within fill materials, volcanic sands, and coral reef deposits.

Project facts

Owner(s)

City and County of Honolulu

Keller business unit(s)

Keller

Main contractor(s)

N/A

Engineer(s)

URS/Woodward Clyde

Solutions

Ground improvement

Groundwater control and dewatering

Markets

Infrastructure

Water, sewage and waste disposal

Ports and harbors

Techniques

Jet grouting

Email address

info@keller-na.com

Phone number

1 (800) 456-6548