

Easterly Tunnel Dewatering Pump Station (TDPS) Northeast Ohio Regional Sewer District

Location: Cleveland, OH

Date: 2013

Structure: Pump Station

Length: 150 ft (45 m)

Cross-Section: 56 ft x 67 ft (17 m x 20 m)

Geology: Glacial Till, Chagrin Shale

Cost: \$73 million

Client: Northeast Ohio Regional Sewer District (NEORS)

Owner: Northeast Ohio Regional Sewer District (NEORS)

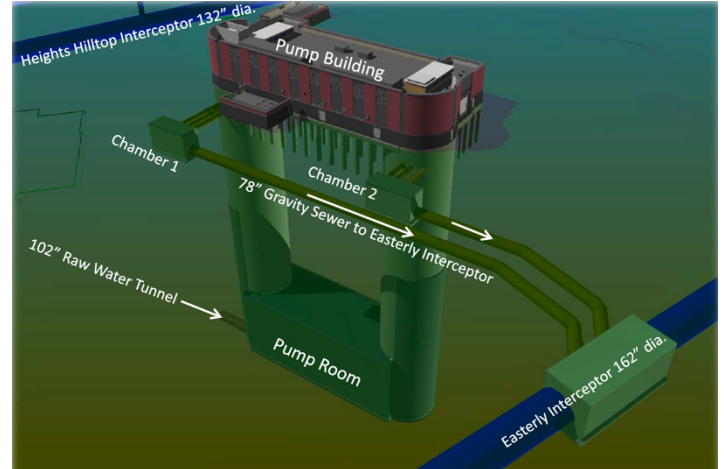


Figure 1. Overview of Below Ground Facilities (Courtesy of MWH).

Independent Expert Advisory Services:

The Easterly Tunnel Dewatering Pump Station (TDPS) project is owned by the Northeast Ohio Regional Sewer District (NEORS). The pump station is part of NEORS's Easterly Combined Sewage Overflow (CSO) Long-Term Control Plan. It will be used to dewater storage/conveyance tunnels of the Easterly System and will have a total design pumping capacity of 160 MGD.

Gall Zeidler Consultants (GZ) provided expert design and construction review services for the construction of the Pump Station that implemented Sequential Excavation Method (SEM) techniques. This included independent finite element modeling to compare with the analysis that was provided by the Contractor. These efforts were undertaken to determine the root cause of undue roof deformations in the mined Pump Room chamber during construction. Based on monitoring data and numerical analysis the roof support was enhanced utilizing long anchors and additional rock reinforcement.



Figure 2. Pump Station Structure (Courtesy of MWH).