PROJECT HIGHLIGHT

LEAKING GROUND WATER TREATMENT VAULTS REQUIRING REPAIRS, IMPACTED SOILS REMOVAL, ENGINEERING CAP INSTALLATION, AND PROACTIVE PROJECT MANAGEMENT

Repairs to Ground Water Treatment Vaults (GWTVs), impacted soils removal, and installation of a vegetative engineering cap came with unexpected challenges, including shallow groundwater, property issues, and coordination between multiple public and private stakeholders.

LOCATION: Dover, New Jersey

PROJECT: Groundwater Treatment Vaults

SERVICE: Repairs to GWTVs, Removal of Impacted Soils and Installation of an Enginnering Cap

PROJECT OVERVIEW

Previously installed concrete GWTVs were not watertight, and groundwater entered through manufactured seams, displacing equipment used to filter groundwater appropriately. Dense nonaqueous phase liquids (DNAPL) and light nonaqueous phase liquids (LNAPL) recovery platforms had shifted, small doors prevented cleaning and repair, and water gathered in the secondary storage area for recovered DNAPL drums, creating more impacted liquids. In addition, the New Jersey Department of Environmental Protection (NJDEP) requested the removal of Manufactured Gas Plant (MGP) tar and coal tar impacted soils from the Site, as well as the installation of a necessary engineering cap, which would be comprised of new vegetative and impervious areas.

AECOM Engineering retained Cascade on behalf of First Energy (JCP&L) to expose, grind, repair, and waterproof the GWTVs; to excavate, transport, and dispose of impacted soils; and to replace soils, grade and seed imported material, and create a vegetative engineering cap.

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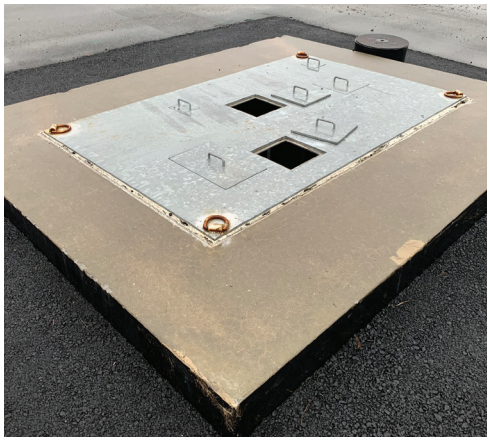
PROJECT HIGHLIGHT

PROJECT OVERVIEW

Unexpected challenges included shallow groundwater levels which made excavation and repairs difficult. Cascade addressed water levels through selectively dewatering excavations and storing impacted waters in fractional tanks on-site. Other unforeseen obstacles were created by the discovery of the encroachment of municipal and county roads onto private property. Because the intersection at the Site encroached onto the property, pedestrians and drivers were inadvertently entering the impacted soils area. The county and local governments requested that if JCP&L were to reclaim the area which had become an exposed shoulder lane, that they install an appropriate guard rail to prevent trespassing drivers from inadvertently degrading the deed notice area. The NJDEP and Morris County Road engineers met with Cascade on-site to establish a safe and legal option to protect the future engineering cap as well as local drivers. Cascade then expanded the initial scope of work, sourcing and installing an appropriate guardrail, curb, and fence.

The number of municipalities and players involved – town, township, county, engineer, and property owner/client – also led to an unexpected increase in meetings and necessary permitting and communication, remedied by Cascade through constant communication, proactive relationship management, and excellent project management.



RESULTS

Although the scope of work and schedule was extended, Cascade completed the project expediently. The engineer was satisfied with the end results and as of October 2023, the waterproofed GWTVs have prevented water infiltration issues. The guardrail has also reportedly safely protected the site fence and engineering cap from multiple potential collisions.

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