



PROJECT:

1510 Broadway

LOCATION:

Brooklyn, NY

DEVELOPER:

Macquesten

SERVICES:

Geotechnical
Environmental

PROJECT SUMMARY:

Remediation completion of the 1510 Broadway Dry Cleaner site (the “Site”) paved the way for development of a new, transit-based affordable housing development in the Bedford-Stuyvesant area of Brooklyn. Owned by the city of New York, the property had sat vacant since approximately 1987. At one time, it was home to a dry cleaner, and an initial investigation identified historic fill at the Site. During the remedial investigation contaminants including pesticides and polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs) and metals were identified above the New York Restricted Residential Soil Cleanup Objectives (RRSCOs). In addition, hazardous lead levels were found in soils with underlying hazardous compounds. Chlorinated volatile organic compounds (CVOCs) (e.g. PCE and chloroform) and metals were identified in groundwater. The aquifer consists of ≥ 100 -foot-thick sandy layer overlain with 10-15 ft of historic fill. CVOCs¹ were also identified in the Site’s soil vapor.

During the remedial action, two underground storage tanks were identified. The tanks were cut open, cleaned, removed, and investigation of the soil beneath them revealed PAHs, metals, pesticides, and VOCs. The soil remedy consisted of excavation and off-site disposal of all contaminated soils to achieve a NY Track 1 clean-up to unrestricted soil cleanup objectives. A support of excavation system in the form of king piles and lagging was installed along the sidewalls for structural stability of the excavation and to prevent impact to off-Site structures.

To remediate the groundwater, a permeable reactive barrier (PRB) consisting of in-situ chemical reduction process was installed. To address PCE and chloroform impacts migrating onto the site from the northeast and leaving the site from the southwest, SESI drilled borings, injected a solution of S-MicroZVI to form a PRB along the upgradient and downgradient boundaries of the Site to destroy contaminants entering and leaving the Site. Post-injection testing identified a decrease in groundwater concentrations of PCE and chloroform, demonstrating the positive impact of the treatment. Groundwater monitoring activities to assess the effectiveness of the S-MicroZVI will continue until residual groundwater concentrations are consistently below the Ambient Water Quality Standards. In addition, SESI designed a sub-slab depressurization system that was installed under the building foundations.

April 2023, the project site was awarded the 2023 Big Apple Brownfield Award for Innovative Remediation. This award acknowledges a brownfield project that has had the most significant improvement in public health and environmental protection and used or developed innovative means in conducting a brownfield remediation by utilizing creative remedial technology, project financing and/or project marketing techniques.

¹ 1,3-butadiene, acetone, benzene, carbon disulfide, chloroform, chloromethane, cyclohexane, methyl ethyl ketone, n-heptane, n-hexane, tetrachloroethylene, toluene, trichloroethene, and trichlorofluoromethane

