PROJECT DESCRIPTION

Site Name: Coventry House Apartments
Project Location: Melrose Park, PA
Project Type: Remediation and Act 2 Land Recycling Completion
Purpose: Remediation of Historical Fuel Oil Release
Project Cost: Approximately $150,000
Date Completed: Ongoing
Client / Developer: Coventry House Condominium Association

Land Recycling Solutions, LLC, was contracted by Coventry House Apartments to complete remediation activities at the site associated with the historical release of fuel oil from an onsite underground storage tank (UST) used for building heating. The activities are being completed under the Pennsylvania Land Recycling and Remediation Standards Act (Act 2) for the eventual obtainment of a release of liability afforded by the Act.

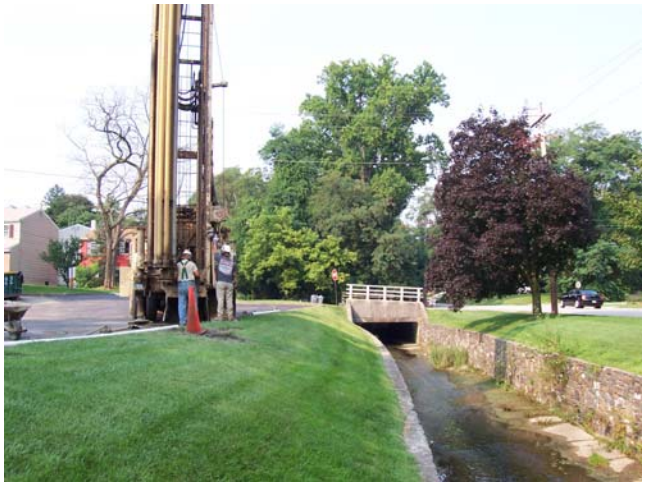
The site was the subject of a fuel oil release that was initially discovered by the Pennsylvania Department of Environmental Protection (PADEP) during inspection of a neighboring stream. Petroleum hydrocarbons were observed by PADEP personnel to be discharging into Mill Creek, which traverses along the northern extent of the site property. The petroleum hydrocarbons were observed to be leaching into the creek at several localized seeps at the base of the masonry retaining wall located along the creek's southern bank. Results of subsequent investigative activities completed at the site confirmed the presence of subsurface petroleum hydrocarbon impact and identified the source of the impact to be the former UST used for the bulk storage of heating oil.

Subject Site & Adjacent Creek

Petroleum Seepage Into Creek

Remediation efforts at the site incorporated the use of high vacuum (HIVAC) extraction techniques to recover liquid phase hydrocarbons (LPH) in the site subsurface, and was followed by an in-situ bioremediation injection program to remediate dissolved phase hydrocarbons throughout the extent of the plume. The HIVAC and bioremediation programs utilized an array of seventy-two (72) injection points that are located across the area of subsurface impact. Subsequent groundwater attainment monitoring was completed from a site wide monitoring well array to demonstrate attainment of Statewide Health Standards in accordance with Act 2 regulations. The site received 100% funding eligibility and reimbursement under the Underground Storage Tank Indemnification Fund (USTIF) program.

Injector Point Installation



Injector Point Installation

LRS's approach to the project incorporated the use of innovative remediation technologies coupled with natural processes of attenuation and biodegradation to provide a complete turnkey solution to the existing contaminant plume at the site. LRS utilized in-situ bioremediation technologies to remediate the subsurface plume as the single most feasible, aggressive, and cost effective solution for the site.

The rationale for the use of this innovative remediation technology was as follows:

- Aggressive and proven *in-situ* remediation technology that uses natural microbial degradation processes to remediate subsurface contaminants;
- Ability to inject and treat discrete zones and/or fractures in the subsurface;
- Ability to treat a wide variety of organic contaminants;
- Remediation processes are sustained and continue in the site subsurface **after** injection process is completed;
- The absence or need for ongoing maintenance and operation of mechanical equipment;
- Elimination of need to treat effluent process discharge (air, water); and
- Extremely cost effective remediation technology.

HVAC Extraction

Microbe and Nutrient Injection