EXPLANATION OF SIGNIFICANT DIFFERENCE
Tomat Service Station

New York City / Kings County / Site No. C224217 / November 2019
Prepared by the New York State Department of Environmental Conservation
Division of Environmental Remediation

1.0 INTRODUCTION

The purpose of this notice is to describe the progress of the cleanup at the Tomat Service Station, Brownfield Cleanup Program Site C224217 and to inform you about a change in the site remedy. The site is located at 1815-1825 Ocean Avenue, Brooklyn, NY 11230. On August 30, 2017, the New York State Department of Environmental Conservation (the Department) issued a Decision Document which selected a remedy to clean up the site. The Decision Document stated that the selected remedy is a Track 2: Restricted Residential use remedy. Under the Track 2 remedy described in the approved Remedial Action Work Plan (RAWP) and documented in the August 2017 Decision Document, the selected remedy would ensure that on-site soils achieve Restricted Residential (RRSCO) and Protection of Groundwater, Soil Cleanup Objectives (PGSCOs). However, the Final Engineering Report (FER) prepared by AMC Engineering PLLC indicates that the soil at the water table still exceeds PGSCOs, and therefore that source material is still present. As a result, a Track 2 cleanup was not achieved. With the soil contamination remaining above PGSCOs at the site, the remedy achieved a Track 4 cleanup. The Air Sparge/Soil Vapor Extraction (AS/SVE) remedial system has reduced the groundwater contaminant concentrations at the site. The Track 4 restricted use clean-up will require maintenance of the existing cover system and continued operation of the AS/SVE system until its shutdown is approved by the Department.

This Explanation of Significant Difference (ESD) will become part of the Administrative Record for this Site. The information here is a summary of what can be found in greater detail in documents that have been placed in the following repositories:

Brooklyn Public Library – Kings Highway
2115 Ocean Avenue
Brooklyn, NY 11229
Call for hours: (718) 375-3037

Brooklyn Community Board #14
Attn: Alvin Berk
810 East 16th Street
Brooklyn, NY 11230
Call in advance: (718) 859-6357

DEC Central Office
Richard P. Mustico, Project Manager
625 Broadway
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Interested persons are invited to contact the Department's Project Manager for this site to obtain more

information or have questions answered.

2.0 SITE DESCRIPTION AND ORIGINAL REMEDY

2.1 Site History, Contamination, and Selected Remedy

Site Description: The site is located at 1815-1825 Ocean Avenue in Brooklyn. The site consists of two parcels, lot 55 and lot 58, located on the east side of Ocean Avenue between Avenue M and Avenue N. The site is identified as Block 7656 lots 55 and 58 on the Brooklyn County Tax Map. The site is in an urban area and is 0.38 acres in size. The site is currently redeveloped as an apartment building. The site was used as a gasoline service station and auto repair shop from the 1920s until 2015.

Summary of the Investigation: Sampling identified petroleum-related VOCs including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, naphthalene and xylene, and the metals barium, copper and lead. These contaminants are consistent with the previous use of the site as an auto repair shop and gasoline service station. The metals were found in the site soils, while the petroleum-related VOCs were found in the soil and groundwater.

Elements of the Original Selected Remedy:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the
design, implementation, and site management of the remedy as per DER-31. The major green
remediation components are as follows;
a. Considering the environmental impacts of treatment technologies and remedy
stewardship over the long term;
b. Reducing direct and indirect greenhouse gases and other emissions;
c. Increasing energy efficiency and minimizing use of non-renewable energy;
d. Conserving and efficiently managing resources and materials;
e. Reducing waste, increasing recycling and increasing reuse of materials which would
otherwise be considered a waste;
f. Maximizing habitat value and creating habitat when possible;
g. Fostering green and healthy communities and working landscapes which balance
ecological, economic and social goals; and
h. Integrating the remedy with the end use where possible and encouraging green and
sustainable re-development.

2. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are to be placed as part of site redevelopment. Such components may include, but are not

necessarily limited to: pavement, cement, paved surface parking areas, sidewalks, building foundations and building slabs.

3. Air Sparge with Soil Vapor Extraction

Air sparging will be implemented to address the groundwater contaminated by volatile organic compounds (VOCs). VOCs will be physically removed from the groundwater and soil below the water table (saturated soil) by injecting air into the subsurface. The injected air rising through the groundwater will volatilize and transfer the VOCs from the groundwater and/or soil into the injected air. The VOCs are carried with the injected air into the vadose zone (the area below the ground surface but above the water table) where a soil vapor extraction (SVE) system designed to remove the injected air will be installed. The SVE system will apply a vacuum to wells that have been installed into the vadose zone to remove the VOCs along with the air introduced by the sparging process. The SVE system will also remove VOCs from soil in the vadose zone. The air extracted from the SVE wells will be treated as necessary prior to being discharged to the atmosphere.

At this site it is estimated eight air injection wells will be installed in the western portion of the site to a depth of approximately 38 feet, which is 14 feet below the water table. To capture the volatilized contaminants, it is estimated two SVE wells will be installed in the vadose zone at a depth of approximately 22 feet below ground surface. The air containing VOCs extracted from the SVE wells will be treated by passing the air stream through activated carbon which removes the VOCs from the air prior to it being discharged to the atmosphere.

4. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:
a. require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
b. allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
c. restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
d. require compliance with the Department approved Site Management Plan.

5. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

Engineering Controls: The site cover discussed in Paragraph 2 and the air sparge/soil vapor extraction system discussed in Paragraph 3 above.

This plan includes, but may not be limited to:

• an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
• descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
• a provision for evaluation of the potential for soil vapor intrusion for any buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
• a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
• provisions for the management and inspection of the identified engineering controls;
• maintaining site access controls and Department notification; and
• the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

• monitoring of groundwater to assess the performance and effectiveness of the remedy;
• a schedule of monitoring and frequency of submittals to the Department;
• monitoring for vapor intrusion for any future buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

• procedures for operating and maintaining the remedy;
• compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
• maintaining site access controls and Department notification; and
• providing the Department access to the site and O&M records.

3.0 CURRENT STATUS

Remedial action at the site is complete. The cover system is in place and the AS/SVE system continues to operate. Remaining contamination is being managed under a Site Management Plan. Based on the post-excavation soil sampling results, the volunteer proposes a Track 4 clean-up in lieu of the Track 2 cleanup established in the August 2017 Decision Document.

4.0 DESCRIPTION OF SIGNIFICANT DIFFERENCE

4.1 New Information

Recent groundwater sampling results indicate that the currently operating AS/SVE remedial system has not yet achieved the Track 2 requirement of source removal. While the remedial system improved groundwater quality, the contaminant levels in soil remain above the protection of groundwater standards.

4.2 Comparison of Changes with Original Remedy

The change from Track 2 to Track 4 cleanup will have minimal impact on the scope of the selected remedy.

Under the Track 2 remedy described in the April 2017 RAWP and August 2017 Decision Document, the proposed AS/SVE remedial system was expected to have remediated all soil exceeding the applicable protection of groundwater and restricted residential use SCOs by November 2019, prior to the issuance of a Certificate of Completion. The Track 4 cleanup will continue the operation of the existing AS/SVE system, and will include groundwater monitoring and reporting under the Site Management Plan.

The Track 4 clean-up rather than a Track 2 cleanup will allow the Brownfield Cleanup Program Applicant to achieve a Certificate of Completion in 2019.

5.0 SCHEDULE AND MORE INFORMATION

This Explanation of Significant Difference is subject to a thirty (30) day comment period to the public, from November 27 through December 27, 2019. If you have any questions or need additional information you may contact any of the following:

Project-Related Questions:
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