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# EXPLANATION OF SIGNIFICANT DIFFERENCE



Department of  
Environmental  
Conservation

## 737 4<sup>TH</sup> AVENUE SITE

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City of New York / Kings County / Site No. C224332 / August 2023

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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 737 4<sup>th</sup> Avenue Site and to inform you about a change in the Site remedy. The Site is located at 731-747 4<sup>th</sup> Avenue, Brooklyn, NY (see Figure 1). On March 7, 2023, the New York State Department of Environmental Conservation (“NYSDEC”) issued a Decision Document (“DD”) which selected a remedy to clean up the Site. The selected Track 2 remedy presented in the DD consisted, in part, of the following:

- Excavation and off-site disposal of all on-site soils which exceed restricted residential soil cleanup objectives in the upper 15 feet.
- Implementation of in-situ chemical oxidation (ISCO) in two small areas near the southeastern and southwestern boundaries of the site to treat contaminants in groundwater and soil below the groundwater table.

Based on evaluations conducted during the design phase of the project, it was determined that ISCO would also be implemented as a way to treat the contaminated soil above the water table in the southeastern and southwestern portions of the site, where soils cannot be safely removed without causing structural risk to adjacent and subsurface structures. Soil vapor extraction (SVE) is also included as a contingency if post-ISCO soil sampling results do not meet the protection of groundwater soil cleanup objectives (PGWSCOs) for the applicable contaminants. SVE is proven to be an effective remedial technology for removing contaminants, such as the VOCs present at the site, from the subsurface. If SVE is required to be implemented, VOCs will be physically removed from the soil by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well. The extracted air from the SVE wells is then treated as necessary, prior to being discharged to the atmosphere. The effectiveness of the SVE system will be measured by monitoring the concentration of VOCs in the effluent. Since the achievement of PGWSCOs cannot be directly verified by measuring the SVE system’s effluent, those areas (as shown on Figure 2) would achieve a Track 4 restricted residential cleanup and require a site cover as an engineering control. Although not presented in the DD, a Track 4 remedy, including a site cover, was evaluated in the publicly noticed Remedial Action Work Plan (“RAWP”).

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 – Sunset Library Branch**  
4201 4<sup>th</sup> Avenue  
Brooklyn, NY 11232  
Call for hours: (718) 435-3648

**Brooklyn Community Board 7**  
4201 4<sup>th</sup> Avenue  
Brooklyn, NY 11232  
Call in advance: (718) 854-0003

Although this is not a request for comments, 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 0.46-acre site is bounded by: 24<sup>th</sup> Street and mixed residential and commercial properties to the north; industrial and manufacturing properties to the east; 25<sup>th</sup> Street, commercial, industrial and manufacturing properties, and office buildings to the south; and 4<sup>th</sup> Avenue, residential, commercial, industrial and manufacturing properties to the west. The site is currently vacant following building demolition. Historically, the site had been used for residential purposes, metals manufacturing, as a gas station, as a junk yard, and more recently, restaurants and an auto body repair shop.

**Summary of the Investigation:** The primary contaminants of concern at the site are semi-volatile organic compounds (“SVOCs”) and metals in soil, petroleum-related VOCs, SVOCs, and metals in groundwater, and petroleum-related VOCs in soil vapor.

#### **Elements of the Selected Remedy:**

- Removal of petroleum product through pumping from recovery wells and off-site disposal and installation of a barrier wall as part of an Interim Remedial Measure;
- Excavation and off-site disposal of contaminated soil exceeding Track 2 restricted residential use and/or applicable PGWSCOs;
- Collection and analysis of confirmation samples to evaluate the effectiveness of the remedy;
- Treatment of contaminated groundwater and soil below the water table through injection of chemical oxidants into the groundwater in the southern portion of the site;
- Installation of a vapor barrier as part of the foundation of the planned new building;
- Performance of a soil vapor intrusion evaluation to determine whether mitigation would be necessary (the Applicant elected to install a passive SSDS that could be converted to an active system if deemed necessary by the evaluation);
- Importation of clean soil that meets established SCOs for use as backfill;
- Implementation of a Health and Safety Plan and Community Air Monitoring Plan during all ground-intrusive activities;
- Implementation of the Site Management Plan (“SMP”) to ensure the remedy remains effective; and
- An Environment Easement (“EE”) will be filed to ensure the proper use of the site.

## **3.0 CURRENT STATUS**

The Remedial Action is ongoing and includes soil excavation and in-situ ground water treatment. NYSDEC is in receipt of a proposed Remedial Design document detailing the proposed changes discussed

here and is reviewing the document in consultation with the NYS Department of Health (DOH). NYSDEC is awaiting submittal of the draft SMP, Final Engineering Report (“FER”) and EE by the Applicant.

## **4.0 DESCRIPTION OF SIGNIFICANT DIFFERENCE**

### **4.1 New Information**

Due to the structural risk to adjacent and subsurface structures in two small areas of the southwestern and southeastern portions of the site, it is not feasible to excavate contaminated soil to the necessary depths in these areas. These areas include a 0.016-acre (700 ft<sup>2</sup>) area in the southeast corner of the site and a 0.01-acre (430 ft<sup>2</sup>) area in the southwest corner of the site. Based on information gathered during the design phase, an attempt to treat the soil above the groundwater table using ISCO in these areas will be made, as ISCO is already being implemented in these areas to treat groundwater and soil below the groundwater table. However, ISCO is not proven effective for treating soil above the groundwater table. Therefore, a contingency will be provided to implement soil vapor extraction (SVE) if post-ISCO soil sampling indicates PGWSCOs have not be met. Contingent SVE will be accomplished through two SVE wells, one installed in each of the areas. Effectiveness of the SVE system would be measured by monitoring the concentration of VOCs in the system effluent.

### **4.2 Comparison of Changes with Original Remedy**

The changes from the original remedy presented in the DD apply only to two small areas of the site, totaling in 0.026-acres, and are as follows:

- Treating soil above the groundwater table in these areas by implementing ISCO, which is already being implemented at the site to treat groundwater and soil below the groundwater table;
- Adding a contingency for SVE if post-ISCO soil sampling results do not meet PGWSCOs;
- If SVE is implemented, a Track 4 remedy will be achieved when the VOC concentration levels in the system effluent reach asymptotic levels at less than 0.5 pounds per hour. A Track 2 cannot be achieved since meeting PGWSCOs in soil cannot be verified under this scenario; and
- Constructing a site cover as an engineering control in the Track 4 areas.

The original remedy called for a Track 2 cleanup for the entire site which included institutional controls in the form of an EE and SMP but no engineering controls. The revised remedy still includes an unchanged Track 2 remedy for the majority (0.43 acres) of the site with a small portion (0.026 acres) potentially being a Track 4 remedy if SVE is implemented. Unlike the Track 2 area, the Track 4 areas will require an engineering control in the form of a site cover to limit direct exposures to remaining contamination in subsurface soils. The site cover will include either pavement, cement, paved surface parking areas, sidewalks, building foundations and building slabs comprising the site development, or a soil cover consisting of two feet of clean fill in areas where the upper two feet of exposed surface soils exceed the applicable SCOs. The Track 4 areas will also require an EE and SMP. However, those items were included in the DD for the Track 2 remedy, and therefore, do not represent a change.

All other aspects of the revised remedy remain the same as the original remedy except for the engineering control which would be described in the SMP. Controls would include requirements for properly handling any contaminated soil which may be excavated in the Track 4 areas during future construction activity.

From this point forward, the following will be occurring at the site:

- Completion of Remedial Action including contaminated soil excavation;
- Collection of confirmation samples to evaluate the effectiveness of the remedy;
- Implementing ISCO for groundwater and soil treatment (above and below the water table);
- Collection of one round of post-injection soil samples from within the Track 4 areas;
- If post-ISCO soil sample results do not meet PGWSCOs, installation of an SVE system in two small areas to treat soil above the water table. Effectiveness of the SVE system will be measured by monitoring the concentrations of VOCs in the system effluent;
- Continued removal of petroleum product through pumping and off-site disposal, in accordance with the IRM;
- Importation of clean soil and/or re-use of on-site soils that meet established SCOs for use as backfill;
- If SVE is implemented, installation of a cover system consisting of two feet of clean fill, pavement or concrete in these (Track 4) areas.
- Development of an SMP to address proper handling of contaminated soils which may be excavated at the site during future development;
- Performance of a soil vapor intrusion evaluation to determine whether the mitigation measures are necessary;
- Preparation of an FER;
- The imposition of institutional controls in the form an EE that would require compliance with the SMP;
- Implementation of a long-term maintenance program;
- The property owner will certify periodically to NYSDEC that the institutional and engineering controls are still in place, have not been altered, and are still effective.

## 5.0 SCHEDULE AND MORE INFORMATION


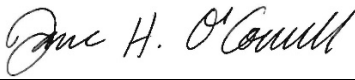
Essential remedial work associated with this project is still ongoing.

If you have questions or need additional information you may contact any of the following:

Ronnie Lee, Project Manager  
NYSDEC Central Office  
625 Broadway, 12<sup>th</sup> Floor  
Albany, NY 12233-7016  
(518) 402-9615  
[ronnie.lee@dec.ny.gov](mailto:ronnie.lee@dec.ny.gov)

Thomas Panzone, Public Participation Specialist  
NYSDEC Region 2 Office  
47-40 21<sup>st</sup> Street  
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(718) 482-4953  
[thomas.panzone@dec.ny.gov](mailto:thomas.panzone@dec.ny.gov)

James Sullivan, Project Manager  
NYSDOH  
Bureau of Environmental Exposure Investigation  
Empire State Plaza, Corning Tower  
Albany, NY 12237  
[beei@health.ny.gov](mailto:beei@health.ny.gov)

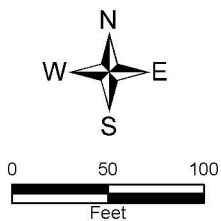
<u>8/8/23</u> Date	<u>Ronnie Lee</u> Ronnie Lee, Project Manager Remedial Section C Remedial Bureau B
<u>8/9/2023</u> Date	 <hr/> Sarah Quandt, Section Chief Remedial Section C Remedial Bureau B
<u>8/9/23</u> Date	 <hr/> Jane O'Connell, Regional Remediation Engineer Region 2
<u>8/13/23</u> Date	<u>Andrew Guglielmi</u> <hr/> Andrew Guglielmi, Director Division of Environmental Remediation

**DECLARATION**

The selected remedy is protective of public health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.



**Legend**  
 Property Line



**Figure 1**  
**Site Location Map**  
 737 4th Avenue Site  
 Brooklyn, Kings County  
 Site No. C224332



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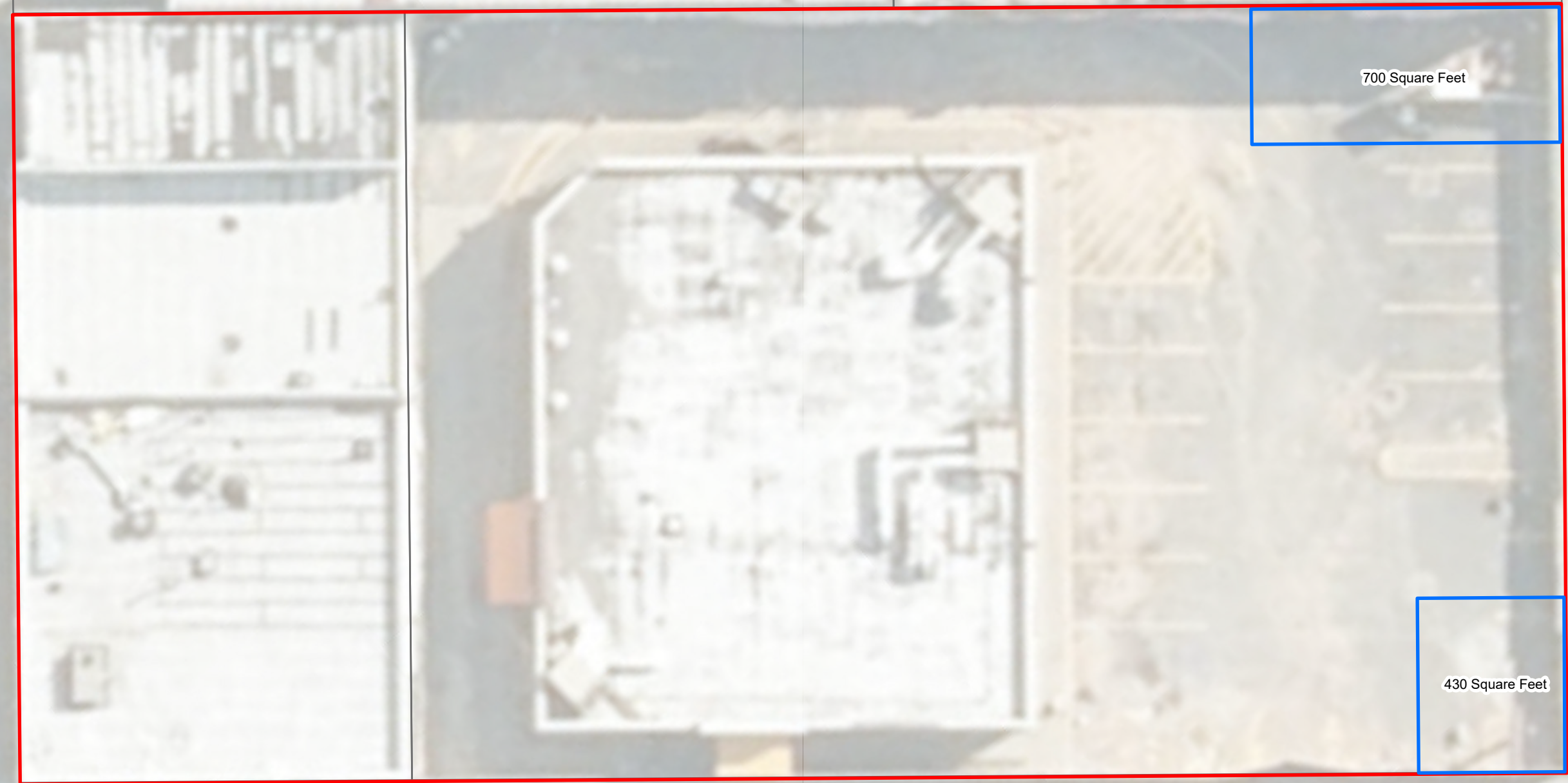
DRAWING INFORMATION:


Project:	TOT2202	Designed by:	JL
Date:	7/21/2023	Drawn by:	PH
Scale:	AS SHOWN	Approved by:	JL


### Proposed Track 4 Areas

731-747 4th Ave  
Brooklyn, NY

FIGURE NO:  
2



 Site Boundary

 Proposed Track 4 Areas

