

DECISION DOCUMENT

Former Motor Freight Garage
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224202
June 2015



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

Former Motor Freight Garage
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224202
June 2015

Statement of Purpose and Basis

This document presents the remedy for the Former Motor Freight Garage site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Former Motor Freight Garage site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

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;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

The on-site building(s) will be demolished and materials will be taken off-site for recycling or proper disposal. Site excavation will include removal of all underground storage tanks (USTs) and associated underground piping. Petroleum contaminated soils within the tank area which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those petroleum-related contaminants found in site groundwater, will be excavated to a depth of 15 feet below ground surface (bgs) and transported off-site for disposal. End-point soil sampling will be conducted following all excavations. All remaining on-site soils exceeding restricted residential SCOs (RRSCOs), as defined by 6 NYCRR Part 375-6.8, will be excavated to a depth of 6 feet bgs.

Based on soil analysis, on-site soil which does not exceed RRSCOs or PGWSCOs as appropriate may be used to backfill the excavation to the extent that a sufficient volume of on-site soil is available. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) may also be brought in to complete backfilling of the excavation and establish the designed grades at the site.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. If soil is placed as part of the cover system, it will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d). If a Track 2 restricted residential cleanup is achieved, a cover system will not be a required element of the remedy.

4. In-Situ Treatment

In-situ Chemical Oxidation (ISCO) and/or Enhanced Bioremediation will be implemented to treat site-related petroleum contamination in site groundwater. A treatment agent will be applied via injection points straddling the water table. The number of injection points and volume of treatment agent will be determined during design.

Periodic groundwater monitoring will be performed to determine the effectiveness of the treatment and whether additional injections will be required.

5. Soil Vapor Extraction

Soil Vapor Extraction (SVE) will be implemented to remove petroleum-related volatile organic compounds (VOCs) from impacted subsurface soils that are not excavated in order to achieve PGWSCOs. 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 air extracted from the SVE wells is then treated as by passing the air stream through activated carbon to remove the VOCs as necessary prior to being discharged to the atmosphere. Periodic vapor monitoring will be performed to determine the effectiveness of the treatment.

6. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires 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);
- allows the use and development of the controlled property for restricted residential as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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
- requires compliance with the Department approved Site Management Plan.

7. 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 Item #5 above.

Engineering Controls: The Cover System discussed in Item #3 above and the SVE system discussed in Item #4 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, or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- 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 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 soil vapor and 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 buildings re-occupied or developed 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:

- 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.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

June 3, 2015



Date

Robert Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

Former Motor Freight Garage
Brooklyn, Kings County
Site No. C224202
June 2015

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

Brooklyn Public Library - Macon Branch
361 Lewis Avenue at Macon Street
Brooklyn, NY 11233
Phone: 718-573-5606

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email

listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:

The Former Motor Freight Garage site is located in the Bedford Stuyvesant section of Brooklyn, New York. The site is listed as Block 1628, Lot 30 and is located on the south side of Lexington Avenue between Broadway and Patchen Avenue.

Site Features:

The entire lot is occupied with a one-story commercial building and is currently used for storage. The surrounding properties are occupied by commercial and residential buildings.

Current Zoning and Land Use:

The site is zoned as R6A (residential) with a C4-4L (commercial) overlay. R6A districts have mandatory Quality Housing bulk regulations which limit apartment building height to 6 or 7 stories. They are designed to be compatible with older buildings and found in medium density neighborhoods. C4-4L districts are located in regional commercial centers outside of the central business districts in more densely built areas. The site is currently used as a warehouse for storage, with infrequent human occupancy.

Past Use of the Site:

The site was occupied by single family residential homes until 1908. The current existing building was built around 1920 for use as a garage. Two underground hydraulic lifts currently exist on site and the existence of a gasoline tank was noted on historical Sanborn maps. By 1932, the property was combined with adjacent lot 34 to the east at 844 Lexington Ave. In 1965, the site was identified as a motor freight station until 1987, and from 1988 through 2007 it was used as a garage.

Site Geology and Hydrogeology:

According to USGS geologic maps of the area, bedrock resides at a depth greater than 100 feet below ground surface (bgs). Above bedrock, unconsolidated sediments, sand, gravel, and silty clays reside which were deposited by glacial-fluvial activity. Non-native historic fill layers exist in the upper layers which were historically deposited to extend shoreline areas and improve drainage of low lying areas. During remedial investigation activities, subsurface obstructions, likely boulders and/or glacial till, were encountered at several locations at depths ranging from 3 to 15 feet bgs.

Groundwater exists beneath the site at a depth of approximately 42 feet bgs and according to the most recent remedial investigation, groundwater flows northwest.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

Off-site petroleum-related contamination will be addressed under the Department's Oil Spill Response and Remediation program.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

- | | |
|------------------------|--------------------------------|
| 1,2,4-TRIMETHYLBENZENE | BENZO(A)ANTHRACENE |
| BENZENE | LEAD |
| ETHYLBENZENE | METHYL-TERT-BUTYL ETHER (MTBE) |
| XYLENE (MIXED) | TOLUENE |
| NAPHTHALENE | TRICHLOROETHENE (TCE) |
| N-PROPYLBENZENE | TETRACHLOROETHYLENE (PCE) |

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides.

Soil – 1,2,4-trimethylbenzene was detected in a drainage basin and at one other location at 9 - 11 feet below ground surface (bgs) up to 58 parts per million (ppm) which marginally exceeds restricted residential soil cleanup objectives (RRSCOs). Other petroleum-related compounds, including ethylbenzene (up to 8.8 ppm) and benzene (up to 0.1 ppm) were found exceeding unrestricted use soil cleanup objectives (UUSCOs) and RRSCOs at 9 - 11 feet bgs and in the drainage sediment. Poly-aromatic hydrocarbons (PAHs) including benzo(a)anthracene up to 20 ppm were also detected at two locations exceeding UUSCOs at depths ranging from 3 - 11 feet bgs. Lead was detected above RRSCOs in one location at a depth of 3 - 5 feet bgs at a concentration of 433 ppm. Data does not indicate any off-site impacts in soil related to this site.

Groundwater - Groundwater was analyzed from 4 monitoring wells throughout the property. Petroleum related compounds including benzene (up to 53 ppb), ethylbenzene (up to 3,200 ppb), 1,2,4-trimethylbenzene (up to 2,700 ppb), toluene (up to 11,000 ppb), xylene (up to 5,100 ppb) n-propylbenzene (up to 310 ppb) and naphthalene (up to 670 ppb) were detected above groundwater standards in all on-site wells. MTBE was detected above the 10 ppb guidance value at 550 ppb in one monitoring well (MW1), the most downgradient on-site well. Trichloroethene (TCE) was also detected at 94 ppb (vs. standard of 5 ppb) in MW1 during a 2014 Phase II investigation, but not detected during the BCP remedial investigation (RI), likely because the laboratory reportable limits doubled. Low concentrations of petroleum contaminants above groundwater standards are likely migrating off-site since the monitoring well with the highest petroleum contamination is located approximately 10 feet from the down-gradient property line.

Soil Vapor - Soil vapor was analyzed for VOCs and detected several petroleum-related compounds (including benzene as high as 40.5 ug/m³) from soil vapor wells ranging from 8 to 14 feet bgs. Tetrachloroethene (PCE) and trichloroethene (TCE) were detected as high as 20.3 ug/m³ and 6.34 ug/m³ respectively. Data does not indicate any off-site soil vapor impacts related to this site.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Direct contact with contaminants in soil is unlikely because the entire site is covered with a building. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected

by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern because the site is vacant. Furthermore, environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation, In-Situ Treatment and Soil Vapor Extraction remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

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;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

The on-site building(s) will be demolished and materials will be taken off-site for recycling or proper disposal. Site excavation will include removal of all underground storage tanks (USTs) and associated underground piping. Petroleum contaminated soils within the tank area which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those petroleum-related contaminants found in site groundwater, will be excavated to a depth of 15 feet below ground surface (bgs) and transported off-site for disposal. End-point soil sampling will be conducted following all excavations. All remaining on-site soils exceeding restricted residential SCOs (RRSCOs), as defined by 6 NYCRR Part 375-6.8, will be excavated to a depth of 6 feet bgs.

Based on soil analysis, on-site soil which does not exceed RRSCOs or PGWSCOs as appropriate may be used to backfill the excavation to the extent that a sufficient volume of on-site soil is available. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) may also be brought in to complete backfilling of the excavation and establish the designed grades at the site.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. If soil is placed as part of the cover system, it will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d). If a Track 2 restricted residential cleanup is achieved, a cover system will not be a required element of the remedy.

4. In-Situ Treatment

In-situ Chemical Oxidation (ISCO) and/or Enhanced Bioremediation will be implemented to treat site-related petroleum contamination in site groundwater. A treatment agent will be applied via injection points straddling the water table. The number of injection points and volume of treatment agent will be determined during design.

Periodic groundwater monitoring will be performed to determine the effectiveness of the treatment and whether additional injections will be required.

5. Soil Vapor Extraction

Soil Vapor Extraction (SVE) will be implemented to remove petroleum-related volatile organic compounds (VOCs) from impacted subsurface soils that are not excavated in order to achieve PGWSCOs. 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 air extracted from the SVE wells is then treated as by passing the air stream through activated carbon to remove the VOCs as necessary prior to being discharged to the atmosphere. Periodic vapor monitoring will be performed to determine the effectiveness of the treatment.

6. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires 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);

- allows the use and development of the controlled property for restricted residential as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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
- requires compliance with the Department approved Site Management Plan.

7. Site Management Plan

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

- 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 Item #5 above.

Engineering Controls: The Cover System discussed in Item #3 above and the SVE system discussed in Item #4 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, or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- 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 engineering controls.

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

- monitoring of soil vapor and 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 buildings re-occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

- 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:

- 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.

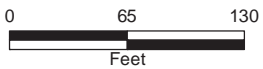


Figure 1

Site Map

834 Lexington Avenue
Brooklyn, NY
Site No. C224202





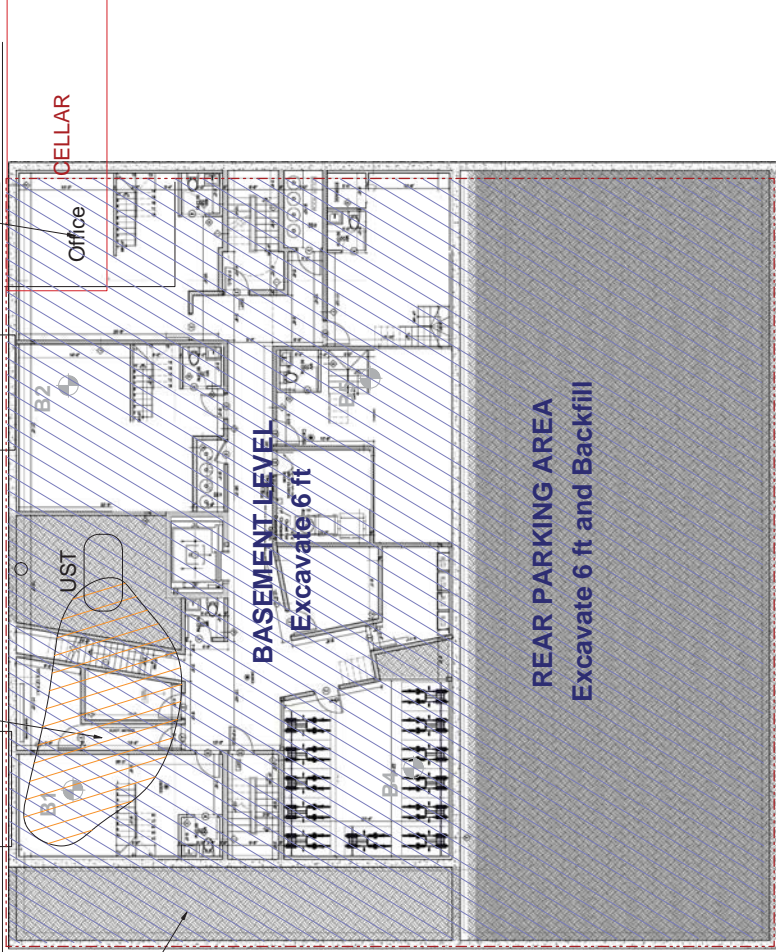
LEXINGTON AVENUE

SIDEWALK

Impacted Soil Area
Excavate to 15 ft and
Backfill to 6 ft below grade

Existing Basement
Backfill to 6 ft below grade

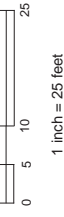
Driveway to Parking Area
Excavate 6 ft below grade
and Backfill



KEY

Site Boundary

SCALE



Phone 631.504.6000
Fax 631.924.2870

ENVIRONMENTAL BUSINESS CONSULTANTS

Figure No.
2A

Site Name: **FORMER MOTOR FREIGHT GARAGE**

Site Address: **834 LEXINGTON AVENUE, BROOKLYN, NY**

Drawing Title: **EXCAVATION PLAN**



LEXINGTON AVENUE

SIDEWALK

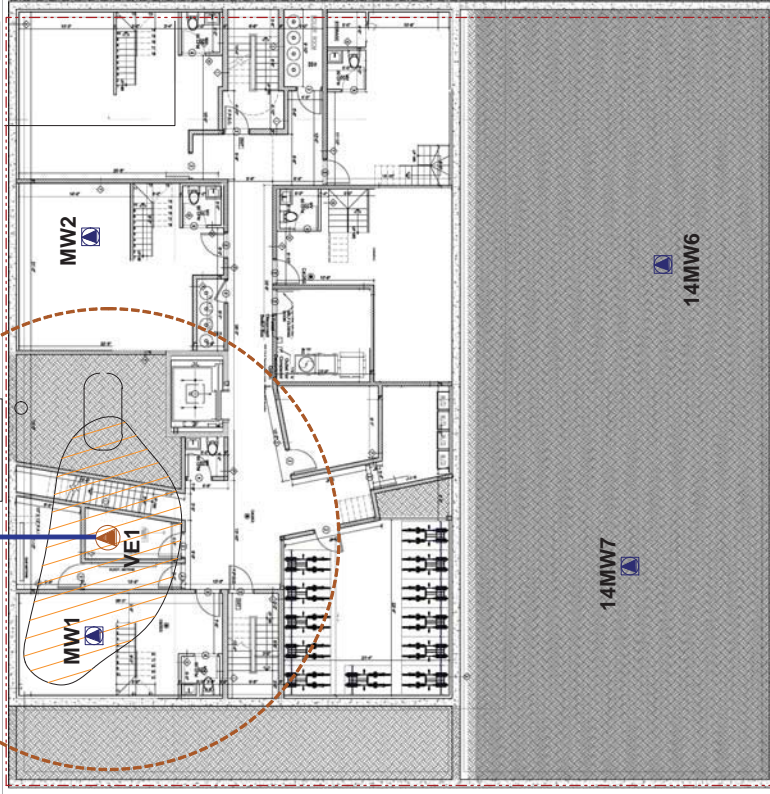
1.5 HP Regenerative Blower

Equipment Compound

2-inch Discharge Line

TIGG Econosorb or equivalent
GAC Vapor Phase Carbon Canisters

MW1501



***Locations of ISCO/Enhanced-Bio injection points to be determined during design.**

KEY

Site Boundary

MW1501

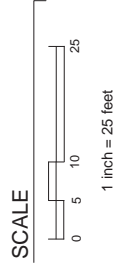
Performance Monitoring Well

14MW6

Existing Monitoring Well



Vapor Extraction Well / Radius of Influence



EBC
ENVIRONMENTAL BUSINESS CONSULTANTS

Phone 631.504.6000
Fax 631.924.2870

Figure No. **2B**

Site Name: **FORMER MOTOR FREIGHT GARAGE**
 Site Address: **834 LEXINGTON AVENUE, BROOKLYN, NY**
 Drawing Title: **SOIL VAPOR EXTRACTION SYSTEM**