DECISION DOCUMENT

Former FO Pierce Company
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241251
April 2022

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former FO Pierce Company
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241251
April 2022

Statement of Purpose and Basis

This document presents the remedy for the Former FO Pierce Company 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 FO Pierce Company 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and

- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building(s) will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of contaminant source areas, including:
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead; and
- any underground storage tanks (USTs), fuel dispensers, underground piping, or other structures.

For the Track 1 area of the site, excavation and off-site disposal of all on-site soils which exceed unrestricted use soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8. Approximately 17,000 cubic yards of soil will be removed from this area of the site. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy for this part of the site.

For the Track 4 area of the site, excavation and off-site disposal of all soils in the upper two feet which exceed the restricted residential SCOs will be excavated and transported off-site for disposal. Approximately 1,900 cubic yards of soil will be removed from this area of the site.

Approximately 18,900 cubic yards of contaminated soil will be removed from the site in total.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

4. Dewatering & Treatment

Dewatering and treatment will be implemented to facilitate the excavation phase of remediation. The extracted groundwater will be treated and discharged per applicable permits and local rules and regulations. The method of the groundwater treatment will be determined during the remedial design.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Cover System

A site cover will be required to allow for restricted residential use of the site in the Track 4 area of the site 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 for the use of the site 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 a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

7. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the Track 4 area of the site which will:

- 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);
- 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;
- 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
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required for the Track 4 area of the site, 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 7 above.
- Engineering Controls: The soil cover discussed in Paragraph 6.

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/or groundwater and/or surface water use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied 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 6 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:
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

9. Local Institutional Controls

For the Track 1 area of the site the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code which prohibits potable use of groundwater without prior approval and local institutional controls.

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.

April 5, 2022

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Former FO Pierce Company
Long Island City, Queens County
Site No. C241251
April 2022

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, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

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 repositories:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C241251

Queens Borough Public Library
3744 21st Street
Long Island City, NY 11101
Phone: (718) 990-8545

Queens Community Board 2
43-22 50th Street, Suite 2B
Woodside, NY 11377
Phone: (718) 533-8773

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 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 1.74-acre site is located in a primarily residential and commercial neighborhood of the Long Island City section of Queens. The site is comprised of one contiguous parcel with an associated address of 2-33 50th Avenue (Tax Block 17, Lot 1). The site is bounded by 49th Avenue to the north, 50th Avenue to the south, 5th Street to the east, and Center Boulevard to the west.

Site Features: The site is flat, irregularly shaped, and currently vacant. A combined one- and two-story warehouse building and associated parking lot presently exist on the site. A portion of the west side of the site is vacant and overgrown by vegetation. The site is surrounded by fencing with a gated entrance. Located in the same block is Lot 19 which is not part of the site and is owned by the New York City Transit Authority (NYC MTA). Lot 19 is currently being used as a fan ventilation plant for the No. 7 subway line which runs beneath the southern portion of the site.

Current Zoning and Land Use: The site is currently located in the M1-5/R8A, M1-4/R7A and LIC (special Long Island City Mixed Use District) zoning districts which allows for residential, commercial, and industrial uses. The surrounding properties consisting of residential and commercial uses including a school and associated parking facility, auto repair facility, and NYC MTA fan ventilation plant. An easement exists on the property for the No. 7 subway line which traverses diagonally from west to southeast beneath the site.

Past Use of the Site: The site was first developed as early as the late 1800s for varnish and paint manufacturing. This use continued into the 1980s under various ownerships including Lexington Paint & Varnish Works, Eagle Paint & Varnish Corporation, F.O. Pierce Company, and Hillman H.R. and Dessiedess Paint Corporation. Multiple structures have been documented at the site over this time period; however, not all remain. The buildings previously located on the western portion of the site were demolished in the early 2000s, whereas the original buildings on the eastern portion of the site remain. This remaining multi-story structure was built in 1931 and later altered in 1984 for use as a warehouse. Prior to becoming vacant, its primary use was for storing art related materials.

Site Geology & Hydrogeology: The stratigraphy of the site consists of a layer of fill material extending from ground surface to between 7 to 10 feet below ground surface (ft bgs). Based on soil borings, this fill layer consists of brick, concrete, asphalt, and other miscellaneous materials. Beneath the fill, native fine to medium sand and silt with intermittent peat deposits is present. Bedrock was not encountered.

Monitoring well data indicates groundwater flows from east to west towards the East River which is approximately 750 ft west of the site. The depth to groundwater ranges from approximately 5 to 9 ft bgs. The variation in groundwater depth can be attributed in part due to the surface elevation gradient on the site, which slopes to the west.

A site location map and site boundary map are attached as Figures 1 and 2 respectively.

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 (which allows for commercial and industrial uses) 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 under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does 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.

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 contaminants of concern identified at this site are:

benzo(a)anthracene	arsenic
benzo(a)pyrene	barium
benzo(b)fluoranthene	cadmium
benzo(k)fluoranthene	chromium
chrysene	lead
indeno(1,2,3-cd)pyrene	mercury
phenol	tetrachloroethene (PCE)
dibenz[a,h]anthracene	cis-1,2-dichloroethene (DCE)
fluoranthene	trichloroethene (TCE)

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.

Nature and Extent of Contamination: Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern include SVOCs and metals in soil, and VOCs in groundwater and soil vapor.

Soil:
No VOCs were identified in soils at concentrations exceeding the 6NYCRR Part 375 unrestricted use soil cleanup objectives (UUSCOs). Soil impacts at the subject site primarily consisted of SVOCs (specifically polyaromatic hydrocarbons, or PAHs) and metals at concentrations exceeding the UUSCOs and restricted residential soil cleanup objectives (RRSCOs) within the historic fill layer which extends to 12 feet below ground surface. In general, the highest concentrations were detected in the upper three feet of site soils. However, elevated concentrations of SVOCs and metals did extend into deeper fill and soils throughout the site.

SVOCs were detected at levels exceeding either the UUSCOs or RRSCOs including benzo(a)anthracene up to 62 parts per million (ppm), benzo(a)pyrene up to 47 ppm, and benzo(b)fluoranthene up to 63 ppm, all with a UUSCO of 1 ppm and RRSCO of 18 ppm. Additional SVOCs detected include benzo(k)fluoranthene up to 19 ppm (UUSCO of 0.8 ppm, RRSCO of 3.9 ppm), chrysene up to 51 ppm (UUSCO of 1 ppm, RRSCO of 3.9 ppm), dibenzo(a,h)anthracene up to 5.9 ppm (UUSCO and RRSCO of 0.33 ppm), fluoranthene up to 120 ppm (UUSCO and RRSCO of 100 ppm), indeno(1,2,3-cd)pyrene up to 30 ppm (UUSCO and RRSCO of 0.5 ppm) and phenol up to 0.97ppm (UUSCO of 0.33 ppm, RRSCO of 100 ppm).

Metals were detected at levels exceeding UUSCOs and RRSCOs including arsenic up to 56.7 ppm (UUSCO of 13 ppm, RRSCO of 16 ppm), barium up to 1,240 ppm (UUSCO of 350 ppm, RRSCO of 400 ppm), copper up to 589 ppm (UUSCO of 50 ppm, RRSCO of 270 ppm), lead up to 9,350 ppm (UUSCO of 63 ppm, RRSCO 400 ppm), and mercury up to 60.5 ppm (UUSCO of 0.18 ppm, RRSCO 0.81 ppm). Metals detected at levels exceeding the UUSCOs including cadmium up to 2.62 ppm (UUSCO of 2.5 ppm), chromium up to 94.8 ppm (UUSCO of 30 ppm), selenium up to 6.41 ppm (UUSCO of 3.9 ppm), silver up to 19.5 ppm (UUSCO 2 ppm), and zinc up to 2,040 ppm (UUSCO of 109 ppm).

Pesticides were detected above UUSCOs including: 4,4'-DDD up to 0.059 ppm, 4,4'-DDT up to 0.0159 ppm, and 4,4'-DDE up to 0.0154 ppm, all with an UUSCO of 0.0033 ppm. Dieldrin was

detected up to 0.059 ppm above its UUSCO of 0.005 ppm. Total PCBs were detected at a maximum concentration of 0.112 ppm at one location exceeding its UUSCO of 0.1 ppm.

The PFAS compounds perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were not detected in soil at concentrations above their respective unrestricted use guidance values.

Data do not indicate any off-site impacts in soil related to this site.

Groundwater:
VOCs detected above Class GA Ambient Water Quality Standards (AWQS) include: 1,2,4-trimethylbenzene up to 41 parts per billion (ppb), isopropylbenzene up to 180 ppb, n-butylbenzene up to 11 ppb, n-propylbenzene up to 23 ppb, sec-butylbenzene up to 33 ppb, t-butylbenzene up to 8.8 ppb, and xylenes up to 6.1 ppb, all exceeding their respective AWQS of 5 ppb. Methyl tert-butyl ether was detected up to 20 ppb exceeding its AWQS of 10 ppb. No other VOCs were detected above AWQS. SVOCs detected above AWQS include: benzo(a)anthracene up to 0.85 ppb, benzo(a)pyrene up to 0.86 ppb, benzo(b)fluoranthene up to 1.1 ppb, benzo(k)fluoranthene up to 0.32 ppb, chrysene up to 0.75 ppb, and indeno(1,2,3-cd)pyrene up to 0.62 ppb, all with an AWQS of 0.002 ppb. Phenol was detected up to 1.9 ppb exceeding its AWQS of 1 ppb. Excluding naturally occurring minerals, no dissolved metals were detected above their respective AWQS and no pesticides or PCBs were detected above the AWQS.

For PFAS compounds, PFOA and PFOS were reported at concentrations up to 121 parts per trillion (ppt) and 28.2 ppt, respectively, exceeding the Maximum Contaminant Levels (MCLs) (drinking water standard) of 10 ppt each in groundwater. The compound 1,4- dioxane was not detected above the MCL of 1 ppb. There are no public water supply wells within a half a mile and there is a municipal prohibition for use of groundwater at the site.

Data do not indicate any off-site impacts in groundwater related to this site.

Soil Vapor:
The total cumulative maximum concentration for benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds was 21.5 micrograms per cubic meter (ug/m3). Multiple VOCs were detected in soil vapor samples collected throughout the site including tetrachloroethene (PCE) up to 105 ug/m3, cis-1,2-dichloroethane (DCE) up to 2.36 ug/m3, and trichloroethene (TCE) up to 109 ug/m3.

Data do not indicate any off-site impacts in soil vapor 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.*

Since the site is fenced and the majority covered with a building, asphalt or concrete, people will not come into contact with contaminants in soil unless they dig below the ground surface. People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by site contamination. Volatile organic compounds in soil vapor (air spaces within the soil) can move into 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. Because the site building is vacant and unoccupied, soil vapor intrusion is not a current concern. The potential exists for inhalation of site-related contaminants due to soil vapor intrusion for any future on-site redevelopment and building occupancy. Environmental sampling indicates that 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.

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 Multiple Cleanup Tracks remedy.

The selected remedy is referred to as the Dual Track 1/Track 4 Soil Excavation, Cover System, with IC/ECs remedy.

The elements of the selected remedy, as shown in Figures 4 and 5, 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building(s) will be demolished and materials which cannot be beneficially

reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead; and
- any underground storage tanks (USTs), fuel dispensers, underground piping, or other structures.

For the Track 1 area of the site, excavation and off-site disposal of all on-site soils which exceed unrestricted use soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8. Approximately 17,000 cubic yards of soil will be removed from this area of the site. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy for this part of the site.

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Approximately 18,900 cubic yards of contaminated soil will be removed from the site in total.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

4. Dewatering & Treatment

Dewatering and treatment will be implemented to facilitate the excavation phase of remediation. The extracted groundwater will be treated and discharged per applicable permits and local rules and regulations. The method of the extracted groundwater treatment will be determined during the remedial design.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Cover System

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exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

7. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the Track 4 area of the site which will:

- 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);
- 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;
- 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
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

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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 7 above.
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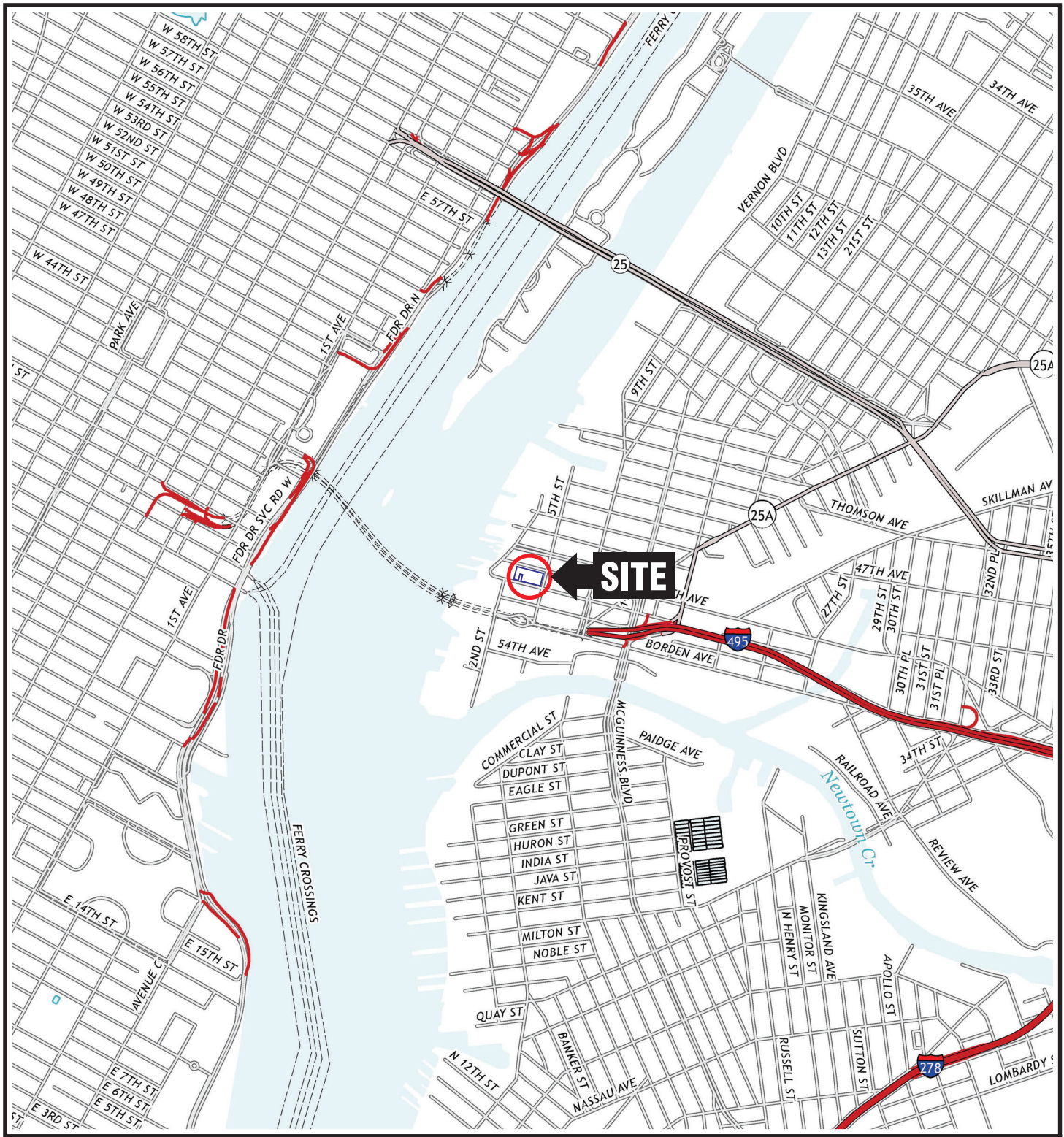
This plan includes, but may not be limited to:
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and/or groundwater and/or surface water use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied 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 6 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:
    - a schedule of monitoring and frequency of submittals to the Department; and
    - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

9. Local Institutional Controls

For the Track 1 area of the site the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code which prohibits potable use of groundwater without prior approval and local institutional controls.



QUADRANGLE LOCATION

SOURCE:
USGS; Brooklyn, NY (2013),
USGS; Central Park, NY-NJ (2013),
USGS; Weehawken, NJ-NY (2011),
USGS; Jersey City, NJ-NY (2011)
7.5 Minute Topographic Quadrangles

N

0 2000'

Title:

SITE LOCATION MAP

2-33 50TH AVENUE, LONG ISLAND CITY, NEW YORK

Prepared for:

50th & 5th LIC LLC

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.W.	Date: 11OCT21	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	1
Project Mgr.: W.S.	Project No.: 2887.0004Y000	
File: 2887.0004Y117.01.CDR		

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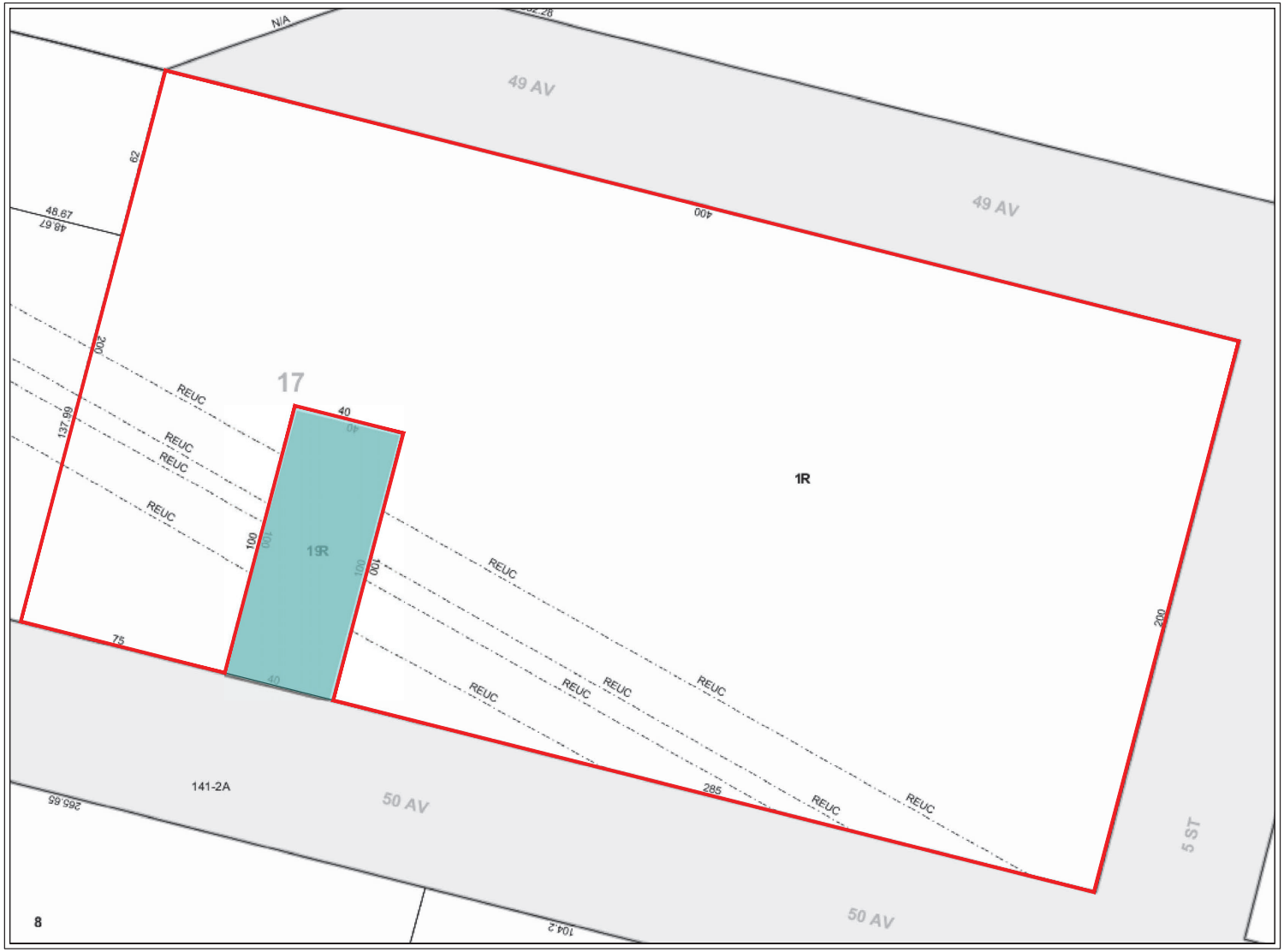

LEGEND

BCP SITE BOUNDARY

LOT NOT PART OF THE BCP SITE

N

Title:

TAX MAP

2-33 50TH AVENUE, LONG ISLAND CITY, NEW YORK

Prepared for:

50th & 5th LIC LLC

ROUX

Compiled by: J.W.	Date: 11OCT21
Prepared by: G.M.	Scale: NOT TO SCALE
Project Mgr: W.S.	Project: 2887.0004Y000
File: 2887.0004Y117.02.DWG	

FIGURE 2

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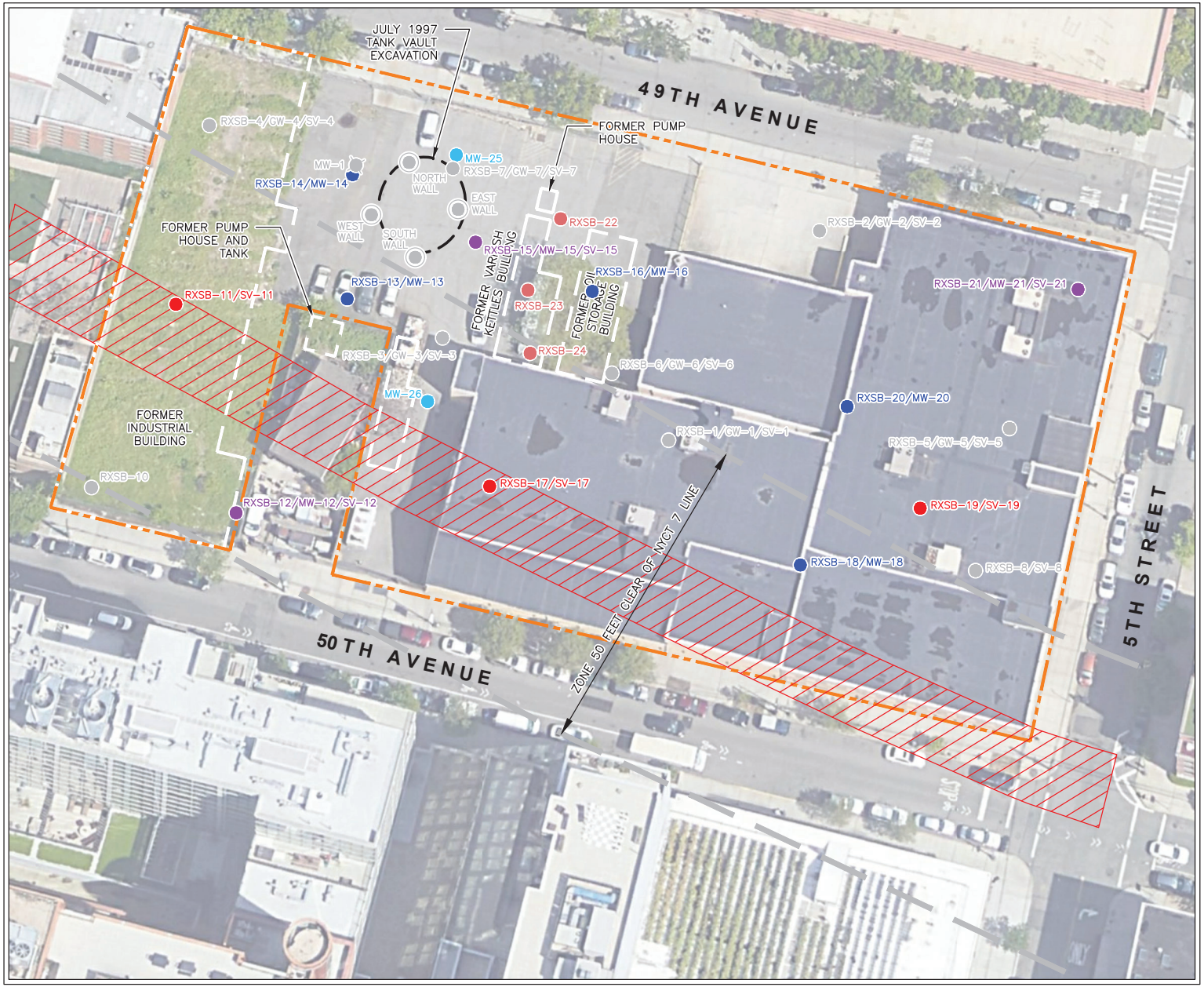

LEGEND

- SITE BOUNDARY
- RXSB-24 — ROUX 2021 RI SOIL BORING LOCATION AND DESIGNATION
- MW-26 — ROUX 2021 RI GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- RXSB-18/MW-18 — ROUX 2021 RI SOIL BORING AND GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- RXSB-11/SV-11 — ROUX 2021 RI SOIL BORING AND SOIL VAPOR LOCATION AND DESIGNATION
- RXSB-21/MW-21/SV-21 — ROUX 2021 RI SOIL BORING, GROUNDWATER MONITORING WELL AND SOIL VAPOR LOCATION AND DESIGNATION
- RXSB-5/GW-5/SV-5 — ROUX 2020 PHASE II SOIL BORING/TEMPORARY GROUNDWATER WELL/SOIL VAPOR POINT LOCATION AND DESIGNATION
- NORTH WALL — IMPACT 1997 CAP TANK VAULT EXCAVATION SIDEWALL SOIL ENDPOINT LOCATION AND DESIGNATION
- MW-1 — IMPACT 1997 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (DESTROYED)
- NYCT 7 SUBWAY LINE TUNNEL

N

40' 0 40'

Title:

EXISTING SITE PLAN WITH SAMPLING LOCATIONS

2-33 50TH AVENUE, LONG ISLAND CITY, NEW YORK

Prepared for:

50th & 5th LIC LLC

ROUX

Compiled by: J.W.	Date: 11OCT21
Prepared by: G.M.	Scale: AS SHOWN
Project Mgr: W.S.	Project: 2887.0004Y000
File: 2887.0004Y117.03.DWG	

FIGURE 3

V:\CAD\PROJECTS\2887Y\0004Y\117\2887.0004Y117.03.DWG

LEGEND

- SITE BOUNDARY
- RXSB-24 — SOIL BORING LOCATION AND DESIGNATION
- MW-26 — GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- RXSB-18/MW-18 — SOIL BORING AND GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- RXSB-11/SV-11 — SOIL BORING AND SOIL VAPOR LOCATION AND DESIGNATION
- RXSB-21/MW-21/SV-21 — SOIL BORING, GROUNDWATER MONITORING WELL AND SOIL VAPOR LOCATION AND DESIGNATION
- RXSB-5/GW-5/SV-5 — ROUX 2020 PHASE II SOIL BORING/TEMPORARY GROUNDWATER WELL/SOIL VAPOR POINT LOCATION AND DESIGNATION
- NORTH WALL — IMPACT 1997 CAP TANK VAULT EXCAVATION SIDEWALL SOIL ENDPOINT LOCATION AND DESIGNATION
- MW-1 — IMPACT 1997 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (DESTROYED)
- EP-31 — PROPOSED ENDPOINT SAMPLE LOCATION
- SW-8 — PROPOSED SIDEWALL SAMPLE LOCATION
- NYCT 7 SUBWAY LINE TUNNEL
- PROPOSED CELLAR/TRACK 1 AREA
- TRACK 4 EXCAVATION TO 2 FEET
- FILL EXCAVATION TO 6 FEET
- FILL EXCAVATION TO 9 FEET
- FILL EXCAVATION TO 10 FEET
- FILL EXCAVATION TO 11 FEET
- FILL EXCAVATION TO 12 FEET
- FILL EXCAVATION TO 13 FEET
- (8) FILL DEPTH BGS

NOTES

1. PRELIMINARY FILL/REMEDIAL EXCAVATION IN TRACK 1 AREA (NORTHERN CELLAR PORTION OF THE PROPOSED BUILDING) AND TRACK 4 AREA (SOUTHERN SLAB ON GRADE AREA OF THE PROPOSED BUILDING)
2. CONSTRUCTION EXCAVATION OF NORTHERN CELLAR AREA IS APPROXIMATELY 15 FT BELOW GRADE.
3. CONSTRUCTION EXCAVATION OF SOUTHERN SLAB ON GRADE AREA IS APPROXIMATELY 4 FT BELOW GRADE.

N

30' 0 30'

Title:

REMEDIAL ALTERNATIVE 2 COMBINED TRACK 1 UNRESTRICTED USE/TRACK 4 RESTRICTED RESIDENTIAL USE CLEANUP

2-33 50TH AVENUE, LONG ISLAND CITY, NEW YORK

Prepared for:

50TH & 5TH LIC LLC

ROUX

Compiled by: W.S.	Date: 20JAN22	PLATE
Prepared by: G.M.	Scale: AS SHOWN	4
Project Mgr: W.S.	Project: 2887.0004Y000	
File: 2887.0004Y117.07.DWG		

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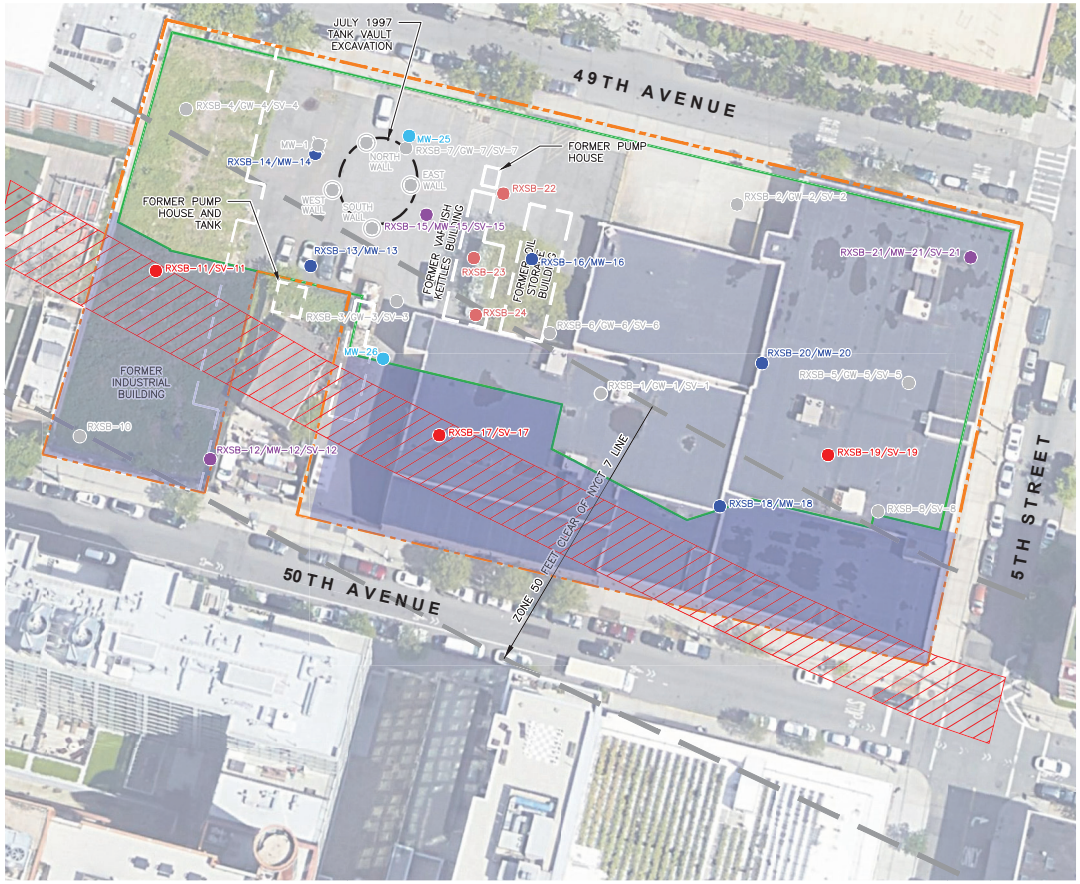
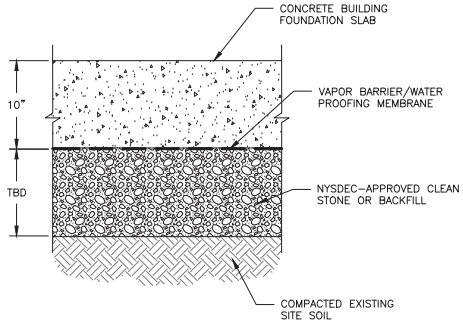


LEGEND

- SITE BOUNDARY
- RXSB-24 — SOIL BORING LOCATION AND DESIGNATION
- MW-26 — GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- RXSB-18/MW-18 — SOIL BORING AND GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- RXSB-11/SV-11 — SOIL BORING AND SOIL VAPOR LOCATION AND DESIGNATION
- RXSB-21/MW-21/SV-21 — SOIL BORING, GROUNDWATER MONITORING WELL AND SOIL VAPOR LOCATION AND DESIGNATION
- RXSB-5/GW-5/SV-5 — ROUX 2020 PHASE II SOIL BORING/TEMPORARY GROUNDWATER WELL/SOIL VAPOR POINT LOCATION AND DESIGNATION
- NORTH WALL — IMPACT 1997 CAP TANK VAULT EXCAVATION SIDEWALL SOIL ENDPOINT LOCATION AND DESIGNATION
- MW-1 — IMPACT 1997 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (DESTROYED)
- NYCT 7 SUBWAY LINE TUNNEL
- PROPOSED CELLAR
- SITE COVER SYSTEM FOR TRACK 4 AREAS (IN THE EVENT TRACK 2 IS NOT ACHIEVED)



PROPOSED SITE COVER SYSTEM: CONCRETE BUILDING FOUNDATION

SCALE: NOT TO SCALE

N

40' 0 40'

Title:

SITE COVER SYSTEM FOR TRACK 4 AREAS

2-33 50TH AVENUE, LONG ISLAND CITY, NEW YORK

Prepared for:

50TH & 5TH LIC LLC

ROUX

Compiled by: W.S.	Date: 27OCT21	PLATE 5
Prepared by: G.M.	Scale: AS SHOWN	
Project Mgr: W.S.	Project: 2887.0004Y000	
File: 2887.0004Y117.05.DWG		

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