

DECISION DOCUMENT

Silver Star Motors Site
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241156
June 2014



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

DECLARATION STATEMENT - DECISION DOCUMENT

Silver Star Motors Site
Brownfield Cleanup Program
Long Island City, Queens County
Site No. C241156
June 2014

Statement of Purpose and Basis

This document presents the remedy for the Silver Star Motors 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 Silver Star Motors 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 entire footprint of the site will be excavated to a depth of approximately 12-feet below the ground surface. All on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal.

Approximately 8,275 cubic yards of soil will be removed from the site and properly disposed of off-site. Excess excavated soils that meet the unrestricted use soil cleanup objectives (SCOs) may be handled, transported and reused as clean material.

The site will be re-graded to accommodate installation of a cover system as described in remedy element No. 4. Soil derived from the re-grading with concentration that do not exceed the restricted-residential SCOs may be used to backfill the excavation.

3) Enhanced Bioremediation

In-situ enhanced biodegradation will be employed to treat contaminants in groundwater beneath the source area and in the area downgradient of the source area. The precise location of the application area shall be determined following the excavation as described in remedy element No. 2. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material onto the floor of the excavation.

4) Site Cover

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. The soil cover 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).

5) Vapor Mitigation

The proposed underground parking structure will be designed to meet ventilation requirements of NYC Building Codes.

In the event that a sump is placed in the basement area to address an influx of groundwater the sump shall be sealed and vented to the outside of the building to address the potential for exposure to vapors generated from contaminated groundwater.

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, commercial

and industrial uses 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;
- 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 remedial element No. 6 above.
- Engineering Controls: The soil cover discussed in remedial element No. 4 and vapor mitigation in remedial element No. 5 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/or groundwater use restrictions;
- 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;
- 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.

Date

Robert J. Cozy, Director
Remedial Bureau B

DECISION DOCUMENT

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Long Island City, Queens County
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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:

Queens Library, Court Square Branch
25-01 Jackson Avenue
Long Island City, NY 11101
Phone:

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 site is located at 37-14 36th Street on the corner of 36th Street and Northern Boulevard in Long Island City, Queens County. There is an automobile dealership and a multi-story brick building housing multiple commercial businesses to the west; and a vacant six story building and, various commercial and light commercial/industrial businesses to the north. To the east is an automobile dealership and service center and to the south is the NYC Subway tunnel and various commercial buildings.

Site Features: The site contains an occupied 6,500 square foot one-story concrete block frame garage constructed with a concrete slab. A small area of the building has a partial basement used for the buildings heating equipment. The remainder of the site is a paved parking lot.

Current Zoning and Land Use: The site is located with the Dutch Kills sub-district within the Special Long Island City district and is currently used as an automobile repair facility. Further, the site is zoned M1-3/R7X which is a Special Long Island City Mixed Use district that allows a combination of commercial and residential uses at the same site.

Past Use of Site: The site has been used by several companies, including a gasoline service station, an automotive repair shop, carwash and an automobile dealership.

Site Geology and Hydrogeology:

The site is underlain by the following three generalized units (in order descending with depth): 1) urban/historic fill, 2) poorly-sorted fine to coarse sands and gravel with intermittent silt and clay, and 3) bedrock. Based on the regional geology, bedrock is anticipated to be approximately 75 to 100 feet below the ground elevation.

Site topography is generally flat, with a slope to the west. The approximate average elevation of the site is 23 feet above mean sea level. The nearest water body is the East River which is located 1.18 miles to the west of the site.

Groundwater has been encountered between 10 and 14 feet below ground surface. The groundwater flow direction was calculated to be from northeast toward the southwest.

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 under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. 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 contaminant(s) of concern identified at this site is/are:

BENZENE	BENZO(A)PYRENE
TOLUENE	BENZO(B)FLUORANTHENE
ETHYLBENZENE	indeno(1,2,3-cd)pyrene
TETRACHLOROETHYLENE (PCE)	1,1 Dichloroethene
TRICHLOROETHENE (TCE)	BENZ(A)ANTHRACENE
Isopropylbenzene	cis-1,2-Dichloroethene
ACETONE	trans-1,2-Dichloroethene

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

- soil
- groundwater
- soil vapor intrusion

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:

Based upon investigations conducted to date, the primary contaminants of concern include low-level concentrations of volatile organic compounds (VOCs) including benzene, toluene and ethylbenzene (collectively referred to as BTEX), tetrachloroethene (PCE) and trichloroethene (TCE).

Soil analytical results indicated that one VOC, acetone, with an unrestricted use soil cleanup objective (UUSCO) of 0.05 parts per million (ppm), was detected at a concentration of 0.26 ppm. No detectable BTEX concentrations were reported in any of the on-site soil samples. Five semi-VOCs (SVOCs) typically found in historic fill were detected at concentrations above their UUSCOs. Historic/urban fill was observed during the subsurface investigations. SVOC concentrations reported above the restricted residential SCO (RRSCO) included benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene. The maximum detected concentration for any SVOC (benzo(b)fluoranthene) was 1.6 ppm with an associated UUSCO of 1.0 ppm. Neither tetrachloroethylene (PCE) nor trichloroethene (TCE) were detected in any of the soil samples collected at the site. Site-related soil contamination is not expected to extend off-site based on the available data. On-site groundwater data indicated VOCs, including BTEX, isopropylbenzene, cis-1,2-dichloroethene, PCE, trans-1,2-dichloroethene, and TCE were detected above their corresponding groundwater quality standards (GQSs). Maximum BTEX, PCE and TCE concentrations were 311 parts per billion (ppb), 490 ppb and 82 ppb, respectively. No detectable concentrations of SVOCs, pesticides, herbicides, PCBs, hexavalent chromium, or cyanide were reported. Dissolved metals including iron, magnesium, manganese, and sodium were detected above their respective GQSs; however, these are typical naturally occurring and are not related to historic site use.

Results from off-site investigations indicate a potential up-gradient source of the chlorinated VOC exceedances in groundwater GQSs. The groundwater BTEX concentrations do not appear to originate from an off-site source.

Soil vapor samples were collected from beneath the building and from beneath the parking lot. The laboratory analytical results indicated petroleum-related compounds and chlorinated VOCs were present. The maximum sub-slab concentrations of PCE, TCE and total BTEX were 183 micrograms per cubic meter (ug/m³), 4.89 ug/m³ and 345 ug/m³, respectively.

Maximum soil vapor concentrations from beneath the parking lot for PCE, TCE and total BTEX were 4.8 ug/m³, 1.34 ug/m³ and 303 ug/m³, respectively. PCE and TCE are from an up-gradient source and are not site-related. Site-related contaminants in the soil vapor do not appear to be causing off-site impacts.

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 the soils is unlikely because the site is covered with pavement or buildings. However, people may come in contact with contaminated soils if they dig below the surface material. People are not drinking the contaminated groundwater associated with the site because the area is served by a public water supply that is not affected by this contamination. People may come into direct contact with contaminants in groundwater via sump water should a sump be constructed in new buildings - or thru inhalation of contaminants that may volatilize off of the sump water. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying building 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 potential exists for the inhalation of contaminants due to soil vapor intrusion for any future on-site redevelopment and occupancy. Environmental sampling indicates that site related contamination does not pose a soil vapor intrusion 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.

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 Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation and Off-Site Soil Disposal with Enhanced Bioremediation 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;

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- 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, commercial, and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
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- requires compliance with the Department approved Site Management Plan.

7) 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:

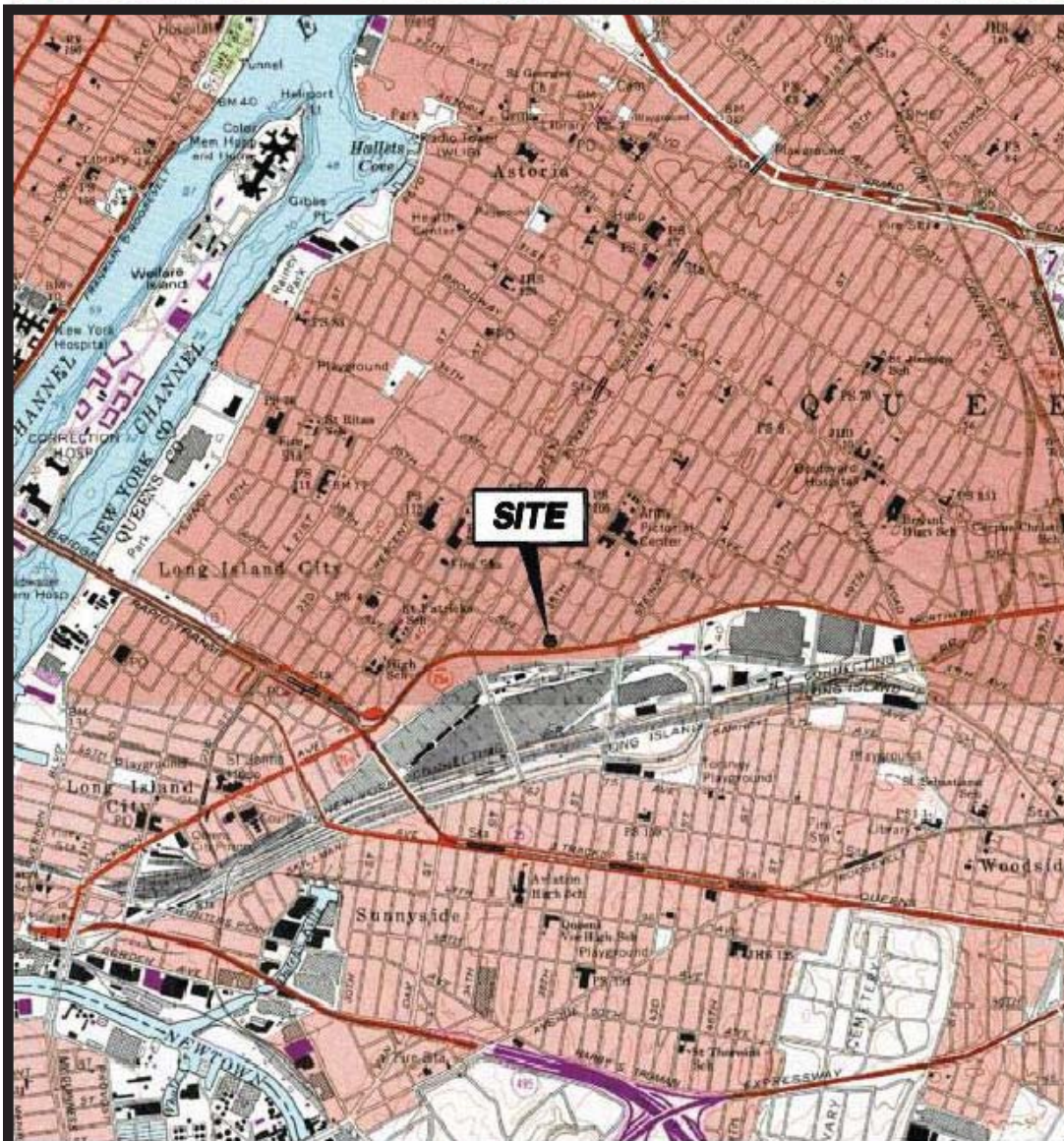
- Institutional Controls: The Environmental Easement discussed in remedial element No. 6 above.
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- descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
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- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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- a schedule of monitoring and frequency of submittals to the Department;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.



SOURCE:
USGS TOPOGRAPHIC MAPS: CENTRAL PARK, NY-NJ (1979) &
BROOKLYN, NY (1979). CONTOUR INTERVAL 10 FT.,
ORIGINAL SCALE 1:24,000 (1"=2,000 FT.).

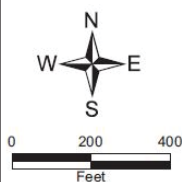
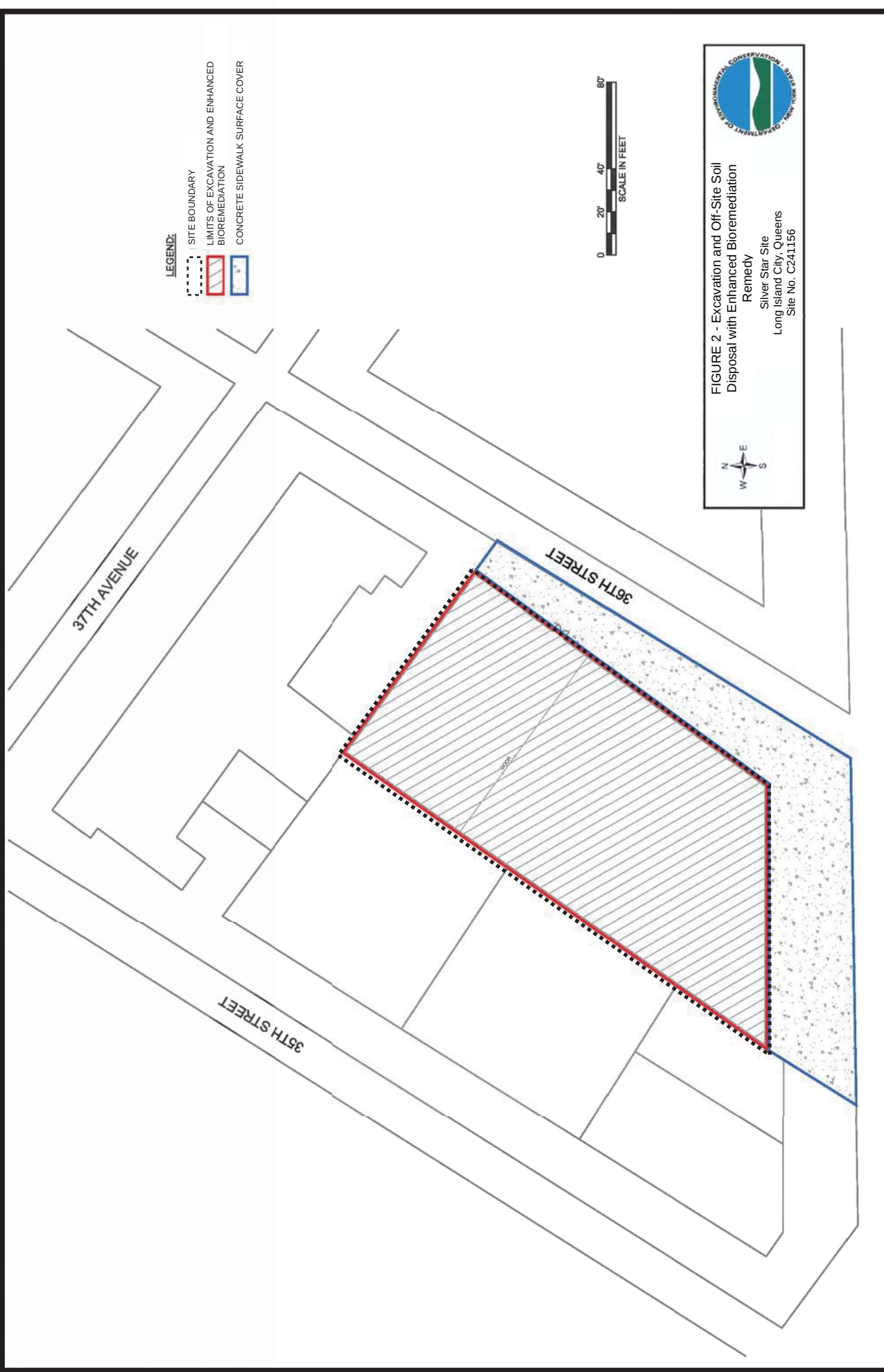


Figure 1 - Site Location Map

Silver Star Site
Long Island City, Queens County
Site No. C241156





LEGEND:

- SITE BOUNDARY
- LIMITS OF EXCAVATION AND ENHANCED BIOREMEDIATION
- CONCRETE SIDEWALK SURFACE COVER




FIGURE 2 - Excavation and Off-Site Soil Disposal with Enhanced Bioremediation Remedy
Silver Star Site
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Site No. C241156