DECISION DOCUMENT

810 River
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203066
April 2015

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

DECLARATION STATEMENT - DECISION DOCUMENT

810 River
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203066
April 2015

Statement of Purpose and Basis

This document presents the remedy for the 810 River 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 810 River 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

Excavation and off-site disposal of contaminant source areas, including soil exceeding hazardous criterion for lead.

All on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. The site will be excavated to approximately 12 feet below grade and approximately 3,600 cubic yards of impacted soil will be removed from the site. If necessary, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

3. A post-remedial soil vapor intrusion evaluation will be completed for any buildings developed on the site. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

The intent of the above remedial elements is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. No groundwater use restriction is needed because the area is served by public water and Article 141 of the NYCDOH code prohibits potable use of groundwater without prior approval. If a sub-grade parking garage is constructed beneath the entire on-site future building(s), then the soil vapor intrusion pathway will be adequately addressed by the New York City Mechanical Code, which requires proper ventilation.

In the event that Track 1 unrestricted use is not achieved, including achievement of soil vapor remedial action objectives, the following contingent remedial elements will be required. If the soil vapor intrusion evaluation has not been completed at the time the Final Engineering Report is submitted, an environmental easement and Site Management Plan will be required to address the potential for soil vapor intrusion as a short term measure for a contingent Track 1 cleanup.

Contingent Remedial Elements:

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2 restricted residential cleanup.

4. 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.

5. Site Management Plan

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

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

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.
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;
- 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/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

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 2, 2015

Date

Robert Cozzy, Director
Remedial Bureau B

DECISION DOCUMENT

810 River
Bronx, Bronx County
Site No. C203066
April 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:

New York Public Library - Melrose Branch
Attn: Dawn Holloway
910 Morris Avenue
Bronx, NY 10451
Phone: 718-588-3938

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 810 River site is a 0.46 acre property located in an urban area of Bronx County at the southeast corner of River Avenue and East 158th Street near Yankee Stadium.

Site Features:
Until recently, the entire property consisted of one 2-story vacant commercial building with partial basement that covered the entire lot. The building was demolished in early 2014 to allow for redevelopment.

Current Zoning and Land Use:
The site is currently vacant. The property is zoned C6-3D for commercial/mixed use that includes residential. The site is bordered to the east by an apartment building; by a park to the south; by River Avenue and the elevated No. 4 subway to the west; Heritage Park is across River Avenue; and by a parking garage to the north across East 158th Street.

Past Use of the Site:
Business operations ceased at the site in 2011. The former building last housed a bowling alley since circa 1960, a sports bar and grill, and a screen printing business. From 1927 through 1956, an auto repair garage was located in the building and included wash-pits and dispensers associated with two gasoline underground storage tanks (USTs); there is no documentation of the tanks being removed.

Site Geology and Hydrogeology:
According to the USGS topographic map for the area (Harlem Quadrangle), the elevation of the property is approximately 25 feet above the National Geodetic Vertical Datum (NGVD). The area topography gradually slopes to the west.

Subsurface soils at the site consist of historic fill materials to a depth of approximately 4 to 8 feet below grade. Silty sand is present immediately below the fill to a depth of 15 feet followed by a coarse sand and gravel layer to a depth of approximately 20 to 30 feet at which point bedrock is encountered. Bedrock geology at the site and immediate vicinity consists of Inwood Marble of Lower Ordovician to Lower Cambrian age with steep westerly dip of its upper surface.

Groundwater occurs beneath the site at approximately 18-20 feet below grade. Based on measurements made at the site, groundwater flows to the west-northwest toward the Harlem River.

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, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (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:

tetrachloroethene (PCE)
trichloroethene (TCE)
lead
barium
zinc
chromium
cis-1,2-dichloroethene (DCE)

The contaminants 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, and PCB/pesticides. Based upon investigations conducted to date, the primary contaminants of concern include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), barium, zinc, lead and chromium.

Nature and Extent of Contamination:

Soil
Ten soil borings were sampled in February 2013; VOCs or SVOCs were not detected at concentrations exceeding their respective unrestricted use soil cleanup objectives (UUSCOs). No pesticides or PCBs were detected in any of the ten soil samples analyzed.

Pre-excavation composite samples were obtained to a depth of 12 feet via test pits in July 2014 for waste characterization. Lead and zinc were reported in the 0-4 foot composite samples from all four test pit locations above UUSCOs. Barium, lead, zinc and hexavalent chromium were reported above UUSCOs in the 4-8 foot interval in one test pit. Barium (450 parts per million [ppm]) and lead (3,830 ppm) were reported above restricted residential SCOs in a test pit composite sample. Lead also failed the TCLP analysis in one location thereby classifying this soil as hazardous. Hexavalent chromium (2.39 ppm) was below the 19 ppm protection of groundwater SCO for hexavalent chromium. In two 2013 soil borings, trivalent chromium was detected at 33 ppm and 58.6 ppm. The UUSCO for trivalent chromium is 30 ppm and the Restricted Residential SCO is 180 ppm. There is no groundwater protection SCO for trivalent chromium.

Groundwater
Groundwater samples collected during the RI contained VOC detections exceeding New York State 6NYCRR Part 703.5 for Class GA Groundwater Quality Standards (GQS) in four out of the five monitoring wells sampled. These VOCs included cis-1,2-DCE, TCE and PCE at the respective maximum concentrations of 265 parts per billion (ppb), 135 ppb and 292 ppb. In an upgradient sampling point along Gerard Avenue, PCE, TCE and cis-1,2-DCE were observed at concentrations similar to those found on-site. SVOCs and PCB/pesticides were not detected in any of the groundwater samples collected. Chromium was detected in groundwater above its standard in an unfiltered sample.

Soil Vapor
Chlorinated VOCs including PCE (750 µg/m3) and TCE (29 µg/m3) were the most prominent VOCs detected at elevated levels in all of the soil vapor samples. PCE and TCE findings generally correlate with the VOCs identified in the on-site groundwater samples. The elevated soil vapor concentrations appear to be associated with the contamination found in groundwater.

Based on the available data, it is not anticipated that site-related contamination has migrated off-site in any environmental media.

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.*

Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that is not affected by this contamination. The site is fenced, which restricts public access. However, persons who enter the site could contact contaminated soils by walking on the site or otherwise disturbing the soil. Volatile organic compounds in the contaminated groundwater or soil 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. An assessment for the potential for soil vapor intrusion to occur is needed for any future on-site redevelopment of occupied 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

- 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 Track 1: Unrestricted use remedy.

The selected remedy is referred to as the Excavation to Unrestricted Use Soil Cleanup Objectives 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

Excavation and off-site disposal of contaminant source areas, including soil exceeding hazardous criterion for lead.

All on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. The site will be excavated to approximately 12 feet below grade and approximately 3,600 cubic yards of impacted soil will be removed from the

site. If necessary, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

3. A post-remedial soil vapor intrusion evaluation will be completed for any buildings developed on the site. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

The intent of the above remedial elements is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. No groundwater use restriction is needed because the area is served by public water and Article 141 of the NYCDOH code prohibits potable use of groundwater without prior approval. If a sub-grade parking garage is constructed beneath the entire on-site future building(s), then the soil vapor intrusion pathway will be adequately addressed by the New York City Mechanical Code, which requires proper ventilation.

In the event that Track 1 unrestricted use is not achieved, including achievement of soil vapor remedial action objectives, the following contingent remedial elements will be required. If the soil vapor intrusion evaluation has not been completed at the time the Final Engineering Report is submitted, an environmental easement and Site Management Plan will be required to address the potential for soil vapor intrusion as a short term measure for a contingent Track 1 cleanup.

Contingent Remedial Elements:

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2 restricted residential cleanup.

4. 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.

5. Site Management Plan

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

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

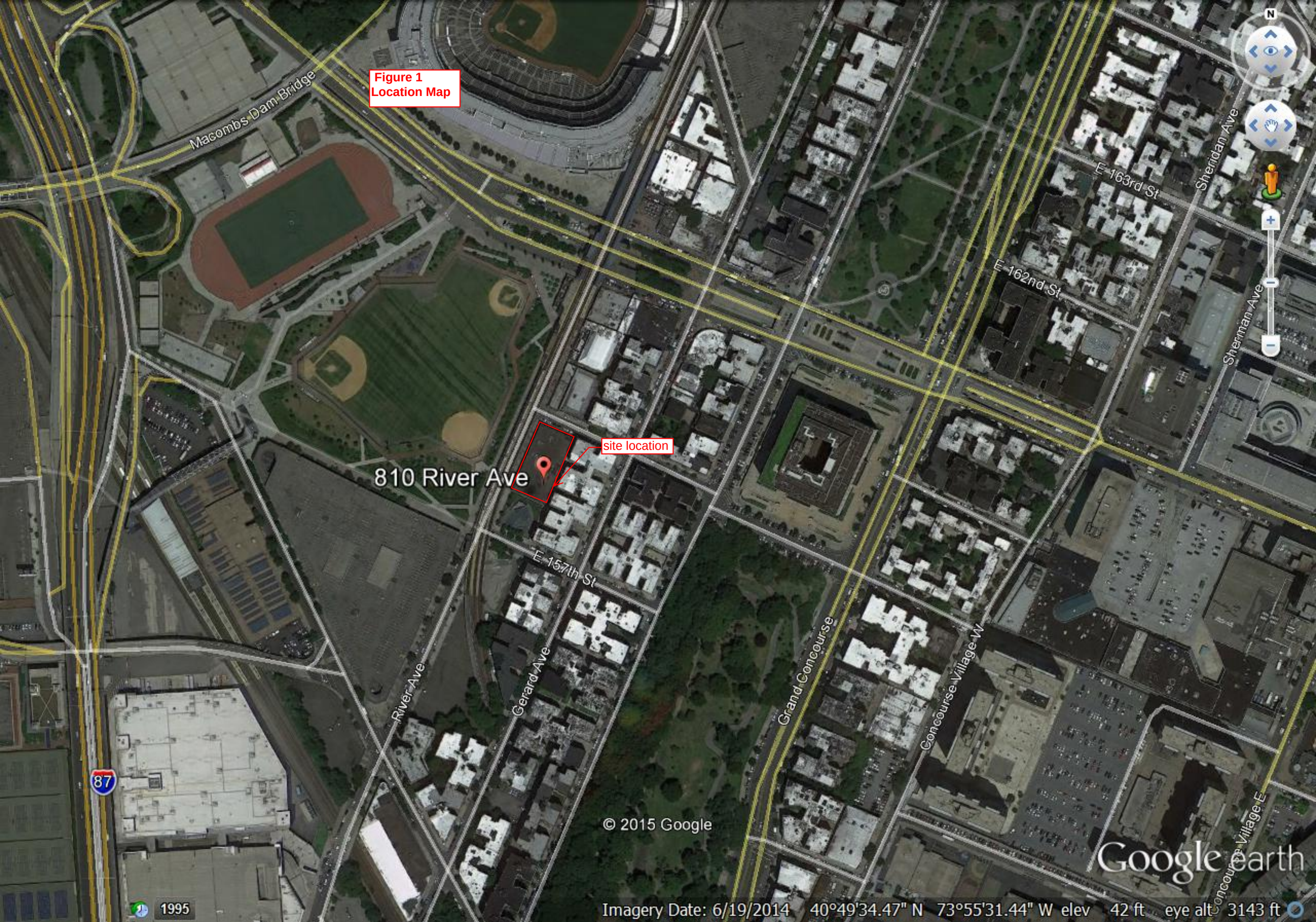
Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.
This plan includes, but may not be limited to:

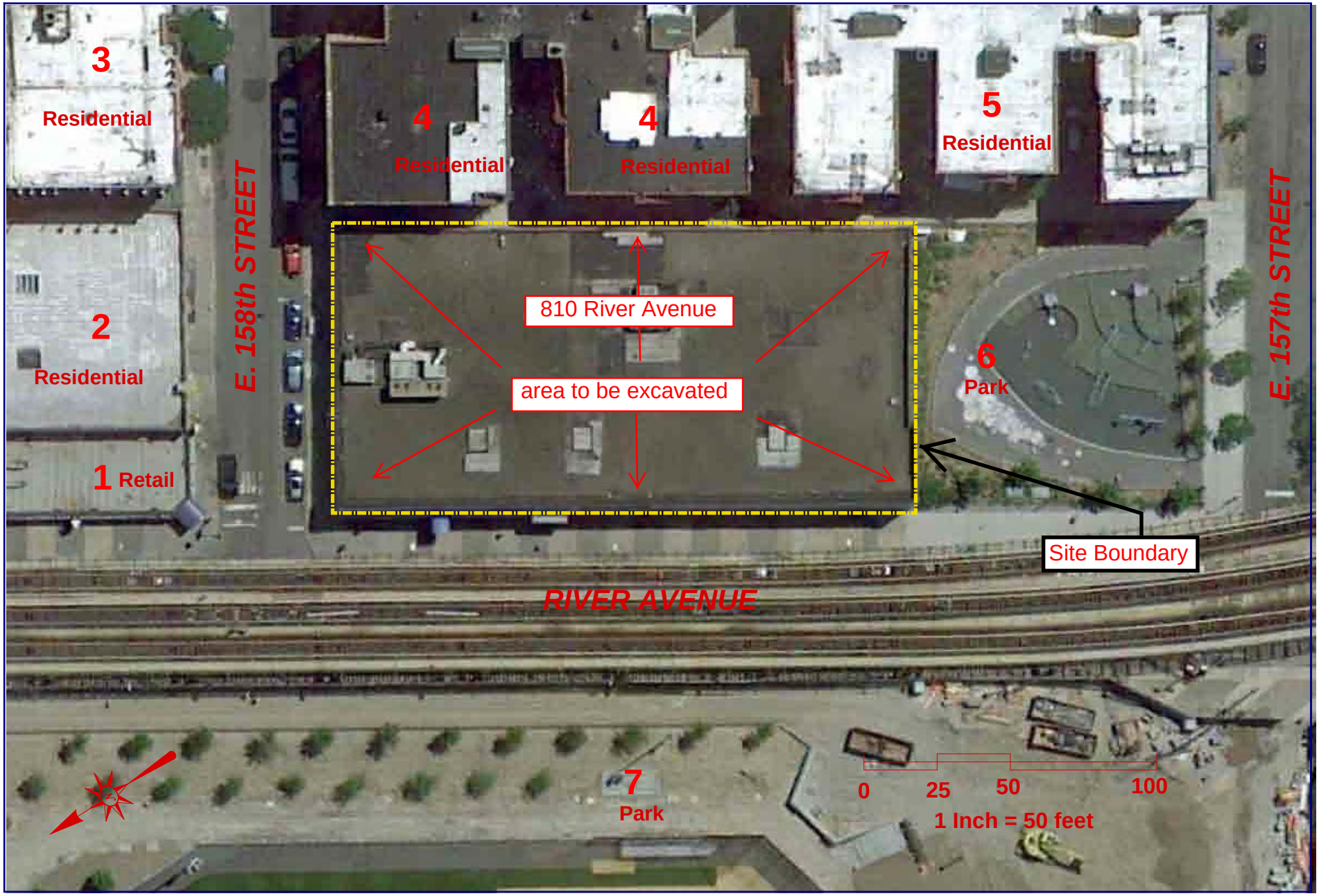
- an excavation plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil 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/or engineering controls.

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

- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Figure 1
Location Map





EBC
Environmental Business Consultants
1808 Middle Country Road, Ridge, NY 11961
Phone: 631.504.6000
Fax: 631.924.2780

810 River
810 River Avenue, Bronx, NY

FIGURE 2 Project Site and Adjacent Properties