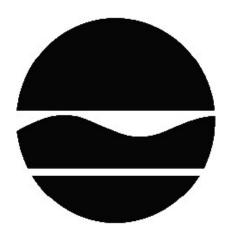
# **DECISION DOCUMENT**

310 Grand Concourse Brownfield Cleanup Program Bronx, Bronx County Site No. C203121 September 2020



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

# **DECLARATION STATEMENT - DECISION DOCUMENT**

310 Grand Concourse Brownfield Cleanup Program Bronx, Bronx County Site No. C203121 September 2020

#### **Statement of Purpose and Basis**

This document presents the remedy for the 310 Grand Concourse 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 310 Grand Concourse 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 buildings will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy. Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination. Excavation and off-site disposal of contaminant source areas, including:

- All on-site soils which exceed unrestricted use SCOs, as defined by 6 NYCRR Part 375-6.8; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 6,000 cubic yards of contaminated soil will be removed from the site.

#### 3. Backfill

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.

#### 4. Groundwater Extraction and Treatment

Groundwater extraction will be implemented to facilitate deeper excavation, below the water table, to remove source areas and soil contamination on the south-central part of the site. The groundwater extraction system will be designed and installed so that the capture zone is sufficient to cover the areal and vertical extent of the deep excavation area. Groundwater will be extracted from the subsurface using submersible pumps, pumped to a settling tank, will run through activated carbon treatment system and discharged to a New York City Sanitary Sewer.

#### 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.

#### Contingent Track 1

The intent of the remedy is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated.

In the event that Track 1 unrestricted use is not achieved, the following contingent remedial elements will be required, and the remedy will achieve a Track 4 cleanup.

#### 6. Cover System (if required)

A site cover will be required to allow for restricted residential use of the site in areas 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. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

#### 8. Institutional Controls (if required)

Imposition of an institutional control in the form of an environmental easement for the controlled property 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 NYCDOHMH; and
- require compliance with the Department approved Site Management Plan.

# 9. Site Management Plan (if required)

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 8.

Engineering Controls: Cover System 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 groundwater;
- 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;
- 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.

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

- monitoring of ground water and soil vapor to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings 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.

September 16, 2020

Date

AdWBh

Gerard Burke, Director Remedial Bureau B

# **DECISION DOCUMENT**

310 Grand Concourse Bronx, Bronx County Site No. C203121 September 2020

#### 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: <u>CITIZEN PARTICIPATION</u>

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=C203121

New York Public Library - Mott Haven Branch 321 East 140th Street Bronx, NY 10454 Phone: (718) 665-4878

Bronx Community Board 1 3024 Third Avenue Bronx, NY 10455 Phone: (718) 585-7117

## **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 the public to sign up for one or county listservs encourage more at http://www.dec.ny.gov/chemical/61092.html

# SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located in the Mott Haven neighborhood of Bronx County and is comprised of two full tax parcels (Lots 28 and 31) and a portion of a third parcel (Lot 10). The total area of the site is 0.68 acres. The west side of the site is bordered by Grand Concourse and commercial properties. The east side is bordered by the Metro North rail line.

Site Features: The site was improved with three 1-story masonry buildings constructed approximately in 1931. The buildings and the property are currently vacant.

Current Zoning and Land Use: The property is currently zoned C6-2A. C6 districts permit a wide range of high-bulk commercial uses requiring a central location. Surrounding land use primarily consists of commercial (warehouses, auto repair, etc.) and industrial (manufacturing). There are several multi-family apartment buildings to the north and to the east on the opposite side of the Metro-North railway. The area surrounding the property is highly urbanized and predominantly consists of industrial/commercial buildings interspersed with open air parking/display lots and equipment yards.

Past Use of the Site: Lot 28 and a portion of Lot 10 have been occupied by several gas stations and auto repair shops beginning in 1944. Lot 31 has been occupied by auto repair shops (glass, radiator) from 1944 through 2000 at which time it was occupied by a medical imaging facility.

Site Geology and Hydrogeology: Subsurface soils at the site consist of historic fill materials to a depth of approximately 5 feet below grade followed by native silty-sand. According to the USGS topographic map for the area (Central Park Quadrangle), the elevation of the property is approximately 34 feet above mean sea level. The topography within the immediate area slopes gradually to the west and south. Groundwater occurs beneath the site at a depth of approximately 13 feet below grade. Based on groundwater flow maps on properties in the vicinity, groundwater flow is generally west to southwest toward the Harlem River. The site is not located within a designated flood zone.

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

## SECTION 6: SITE CONTAMINATION

## 6.1: <u>Summary of the Remedial Investigation</u>

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
- sub-slab 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: <u>http://www.dec.ny.gov/regulations/61794.html</u>

# 6.1.2: <u>RI Results</u>

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:

lead	barium
ethylbenzene	copper
benzo(a)anthracene	1,2,4-trimethylbenzene
benzo(a)pyrene	toluene
benzo(b)fluoranthene	xylene (mixed)
indeno(1,2,3-CD)pyrene	mercury

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: <u>Summary of Environmental Assessment</u>

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), pesticides, and PFAS. Based upon investigations conducted to date, the primary contaminants of concern for the site include petroleum VOCs, SVOCs and metals.

Soil - Twenty-four soil samples were collected during the Remedial Investigation (RI). Several SVOCs slightly exceed the unrestricted use soil cleanup objectives (UUSCOs) in the southeast corner of the site, including benzo(a)anthracene at 1.5 parts per million (ppm); benzo(b)fluoranthene at 1.3 ppm; benzo(a)pyrene at 1.3 ppm all compared to the UUSCO of 1 ppm; and indeno(1,2,3-CD)pyrene at 0.92 ppm versus the UUSCO of 0.5 ppm.

Exceedances of VOCs were found in the southeast corner of the site including 1,2,4-trimethylbenzene at 35 ppm, above the protection of groundwater soil cleanup objective (PGSCO) of 3.6 ppm; ethylbenzene at 11 ppm, above the PGSCO of 1 ppm; n-propylbenzene at 11 ppm, above the PGSCO of 3.9 ppm; and xylenes at 19 ppm, above the UUSCO of 0.26 ppm. The PGSCOs for ethylbenzene, n-propylbenzene, and 1,2,4-trimethylbenzene are also the UUSCOs.

Exceedances of metals occurred across the site at a shallow depth of 0-2 feet below ground surface. These metals include lead at 4,210 ppm, compared to the UUSCO of 63 ppm; mercury at 3.4 ppm versus the UUSCO of 0.18 ppm; copper at 873 ppm versus the UUSCO of 50 ppm; and barium at 2,370 ppm versus the UUSCO of 350 ppm.

There were three exceedances of the PCB-1260 at a maximum of 0.340 ppm compared to the UUSCO of 1ppm. Exceedances of the pesticides 4,4-DDD at a maximum of 0.023 ppm, 4,4-DDT at a maximum of 0.018 ppm, and 4,4-DDD at a maximum of 0.051 ppm compared to the UUSCO of 0.0033 ppm. These are not considered contaminants of concern (COCs) at this site, as these detections are only slightly above UUSCOs. Data does not indicate any off-site impacts in soil related to this site.

Groundwater: Two groundwater samples were collected during the RI. Attempts were made to install a third well, however bedrock was too shallow. In one of the groundwater samples, several VOCs were shown to exceed NYS groundwater quality standards. These include trimethylbenzene at 41 parts per billion (ppb) compared to the standard of 5 ppb; ethylbenzene at 130 ppb versus the standard of 5 ppb; total xylenes at 138 ppb versus standard of 5 ppb; and toluene at 19 ppb versus standard of 5 ppb.

Several dissolved metals were observed at concentrations above standards, however, these compounds are not considered COCs at this site, as these levels are consistent with general groundwater quality throughout the area and are representative of brackish conditions.

PFOA and PFOS were detected in groundwater at maximum of concentrations of 43.5 parts per trillion (ppt) and 19.8 ppt, respectively, vs the screening level of 10 ppt. The maximum total PFAS concentration was detected at a range from 59.12 ppt to 200.22 ppt compared to the screening level of 500 ppt.

No SVOCs, PCBs or pesticides were detected at concentrations exceeding standards. Data does not indicate any off-site impacts in groundwater related to this site.

Soil Vapor and Sub-Slab Soil Vapor: Four soil vapor and six sub-slab soil vapor points were collected during the RI. Petroleum related VOCs (generally benzene, toluene, ethylbenzene, and xylenes; BTEX) were generally low across with site, with the exception of one location, SG1, where BTEX was found at 3,600 micrograms per cubic meter (ug/m3). Other VOC detections included carbon tetrachloride (maximum detection of 0.44 ug/m3), trichloroethene (maximum detection of 1.77 ug/m3), and tetrachloroethene (maximum detection of 143 ug/m3). Data does not indicate any off-site impacts in soil vapor related to this site.

# 6.4: <u>Summary of Human Exposure Pathways</u>

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*.

People will not come into contact with contaminated soil or groundwater unless they dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may 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. The inhalation of site related contaminants due to soil vapor intrusion does not represent a current concern because the site is vacant. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future onsite development. Environmental sampling indicates that soil vapor intrusion is not a concern off-site.

#### 6.5: <u>Summary of the Remediation Objectives</u>

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.

## <u>Soil</u>

## **RAOs for Public Health Protection**

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

## **RAOs for Environmental Protection**

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

## <u>Soil Vapor</u>

## **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 and Groundwater Dewatering 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;
- 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 buildings will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy. Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination. Excavation and off-site disposal of contaminant source areas, including:

- All on-site soils which exceed unrestricted use SCOs, as defined by 6 NYCRR Part 375-6.8; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 6,000 cubic yards of contaminated soil will be removed from the site.

### 3. Backfill

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.

#### 4. Groundwater Extraction and Treatment

Groundwater extraction will be implemented to facilitate deeper excavation, below the water table, to remove source areas and soil contamination on the south-central part of the site. The groundwater extraction system will be designed and installed so that the capture zone is sufficient to cover the areal and vertical extent of the deep excavation area. Groundwater will be extracted from the subsurface using submersible pumps, pumped to a settling tank, will run through activated carbon treatment system and discharged to a New York City Sanitary Sewer.

#### 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.

#### Contingent Track 1

The intent of the remedy is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated.

In the event that Track 1 unrestricted use is not achieved, the following contingent remedial elements will be required, and the remedy will achieve a Track 4 cleanup.

#### 6. Cover System (if required)

A site cover will be required to allow for restricted residential use of the site in areas 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. Local Institutional Controls

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

#### 8. Institutional Controls (if required)

Imposition of an institutional control in the form of an environmental easement for the controlled property 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 NYCDOHMH; and
- require compliance with the Department approved Site Management Plan.

# 9. Site Management Plan (if required)

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 8.

Engineering Controls: Cover System 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 groundwater;

- 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;
- 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.

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

- monitoring of ground water and soil vapor to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



