

DECISION DOCUMENT

225 Louisiana Street Site
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915350
July 2021



**Department of
Environmental
Conservation**

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

DECLARATION STATEMENT - DECISION DOCUMENT

225 Louisiana Street Site
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Statement of Purpose and Basis

This document presents the remedy for the 225 Louisiana Street 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 225 Louisiana Street 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;
- Vapor barrier for energy efficiency; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Underground Storage Tank (UST) Excavation: The UST located in the northeastern portion of 245 Louisiana Street, along with any associated piping, will be cleaned, removed and disposed off-site or recycled as a scrap metal.
3. Excavation and off-site disposal: The following areas will be excavated and disposed off-site:
 - Building interior: The soil/fill impacted with metals (arsenic, barium, cadmium, copper, lead or mercury) exceeding commercial soil cleanup objectives (CSCOs) and/or the site specific action level (SSAL) for arsenic of 25 ppm will be excavated from six locations and disposed off-site at permitted facilities. The excavations will be up to two feet below the building slab.
 - Exterior Areas: Excavation and off-site disposal of contaminant source areas, including:
 - Grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
 - Soil/fill impacted with metals and polycyclic aromatic hydrocarbons (PAHs) exceeding CSCOs or SSALs for total PAHs of 500 ppm and arsenic of 25 ppm.
4. Backfill: Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavations and establish the designed grades at the site.
5. Soil Vapor Mitigation: Active Sub-Slab Depressurization Systems (SSDSs) will be installed within the existing and/or future buildings to mitigate potential on-site vapor intrusion.
6. Interior Remediation Activities: The following activities will take place within the on-site building:
 - Utility Replacement/Installation and Handling of Soil/Fill: Utilities will be replaced and/or installed under the building. The excavated fill will be disposed off-site. The excavations will be backfilled with approved soil/fill, gravel or stones.
 - Drums and Residual Materials Removal: The materials in the various stored drums and containers will be characterized and disposed off-site.
 - Sumps/ Pits Clean-out: The sumps and pits within the building will be cleaned and closed.
 - Transformers Removal: The utility-owned transformers located within a room on the east side the building will be removed
7. Cover System: 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 restricted residential soil cleanup objectives (RRSCOs). The planned cover system includes different cover types, including vegetated soil cover, bioretention areas, and hardscaped (asphalt/concrete) areas.

Cover system construction will require removal and off-site disposal of soil/fill and asphalt as necessary to allow for installation of the cover system to current grade. 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.

8. Engineering and Institutional Controls:

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 4 restricted residential cleanup at a minimum and will include an environmental easement, and site management plan as described below.

9. Institutional Control:

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 County DOH; and
- require compliance with the Department approved Site Management Plan.

10. 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:

Engineering Controls: Active Sub-Slab Depressurization Systems (SSDSs) discussed in remedial element 5 above.

The cover system discussed in remedial element 7 above.

Institutional Controls: The Environmental Easement discussed in remedial element 9 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 groundwater 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 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.

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.

07/12/21

Date

Michael Cruden

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

225 Louisiana Street Site
Buffalo, Erie County
Site No. C915350
July 2021

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:

DECInfo Locator - Web Application
<https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C915350>

Buffalo & Erie County Public Library
1 Lafayette Square
Buffalo, NY 14203
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 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 225 Louisiana Street site is an approximately 4.23-acre site consisting of five tax parcels and is located in a mixed residential and commercial area in the City of Buffalo, Erie County. The site is bordered by Mackinaw Street to the north, residential property to the south, Louisiana Street to the west and Kentucky Street to the east.

Site Features:

There is one existing building (approximately 166,197 square feet) at 225 Louisiana Street on the site which is currently occupied by several tenants and is used primarily for storage, warehousing and distribution. The site also includes asphalt/gravel parking lots and green areas to the north and south of the building.

Current Zoning and Land Use:

The current use and zoning for the site is commercial. The zoning of the 175 Louisiana Street and 96 Kentucky Street parcels is planned to be changed to D-IL (light industrial). The zoning for the remaining three parcels will remain unchanged. The proposed use of the proposed industrial zoned parcels is for parking. The current zoning, planned zoning, and planned development is consistent with the Buffalo Green Code's Land Use Plan.

Past Use of the Site:

Prior to 1889 the northern portion of the site was occupied by an oil works company with bulk oil storage. Other occupants of the site consisted of a lumber yard from at least 1889 to the 1920s, heavy industry operations (manufacturing, nickel plating, iron works, painting, annealing and oil furnaces) from the 1920s to the 1990s, railroad tracks, residential properties, a warehouse and storefronts from at least 1889 to about 1981 and a warehousing/distribution facility, parking lot and storage area since the 1990s.

Eight underground storage tanks (USTs) were located on the site between 1940 and 1992. Tank removal records were found for only one 15,000-gallon UST in 1992. The site also had aboveground storage tanks (ASTs).

Site Geology and Hydrogeology:

The site is located within the Erie-Ontario Lowlands, which is typified by little topographic relief, and gently slopes westward towards Lake Erie, except in the immediate vicinity of major drainage ways. The overburden geology is generally described as non-native fill materials at depths ranging between 1 foot below ground surface (fbgs) and 8.5 fbgs, overlying native soils consisting of fine

sand, sandy lean clay, and/or sand with silt and gravel to a depth of at least 12 fbs. The fill materials consist of cinders, brick, glass, coal, metal, ash, and/or slag. Depth to groundwater at the site ranges from approximately 0.5 fbs to 6 fbs. Overburden Groundwater at the site is generally flowing in a west direction.

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 Department has determined that this site poses a significant threat to public health or the environment. The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination.

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
- sub-slab vapor
- indoor and ambient air

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:

arsenic	petroleum products
barium	polycyclic aromatic hydrocarbons (PAHs)
cadmium	trichloroethene (TCE)
copper	cis-1,2-dichloroethene
lead	
mercury	

The contaminants 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.

Remedial Investigation Results:

The field work for the remedial investigation (RI) was completed in November 2020. The RI included sampling of soil/fill, groundwater and soil vapor. The surface, sub-surface soil/fill and groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, herbicides, and Target Analyte List (TAL) metals. Sub-surface soil and groundwater samples were also analyzed for emerging contaminants 1,4-dioxane and PFAS (per- and polyfluoroalkyl substances). Soil/fill samples were collected across the site to native soil which was present from four to approximately 8.5 feet below ground surface. Soil borings to 16 feet below ground surface did not identify the presence of contamination in native soil.

The concentrations of contaminants in different media were as follows:

Surface soil:

Semi-Volatile Organic Compounds (SVOCs): Polycyclic aromatic hydrocarbons (PAHs) exceeding restricted residential soil cleanup objectives (RRSCOs) included benzo(a)anthracene up to 5.2 parts per million (ppm) (RRSCO - 1 ppm), benzo(a)pyrene up to 5.7 ppm (RRSCO - 1 ppm), benzo(b)fluoranthene up to 7.2 ppm (RRSCO - 1 ppm), chrysene up to 5.1 ppm (RRSCO - 3.9 ppm), dibenz(a,h)anthracene up to 1.0 ppm (RRSCO - 0.33 ppm) and indeno(1,2,3-cd)pyrene up to 3.8 ppm (RRSCO - 0.5 ppm).

Metals: The metals exceeding RRSCOs included arsenic up to 19.3 ppm (RRSCO - 16 ppm) and lead up to 598 ppm (RRSCO - 400 ppm).

Pesticides, herbicides, and PCBs were not detected above RRSCOs in surface soil samples. The surface soil was not analyzed for VOCs.

Sub-surface soil/fill:

Volatile Organic Compounds (VOCs): The concentration of tentatively identified petroleum compounds at two locations were estimated to be 8 ppm and 89 ppm. No other VOCs were detected above RRSCOs.

SVOCs: PAHs which exceeded restricted residential soil cleanup objectives (RRSCOs) included benzo(a)anthracene up to 4.4 ppm (RRSCO - 1 ppm), benzo(a)pyrene up to 4.6 ppm (RRSCO - 1 ppm), benzo(b)fluoranthene up to 5.9 ppm (RRSCO - 1 ppm), chrysene up to 4.6 ppm (RRSCO - 3.9 ppm), dibenz(a,h)anthracene up to 0.73 ppm (RRSCO - 0.33 ppm) and indeno(1,2,3-cd)pyrene up to 2.4 ppm (RRSCO - 0.5 ppm).

Metals: The metals exceeding RRSCOs were arsenic up to 28.3 ppm (RRSCO - 16 ppm), barium up to 1190 ppm (RRSCO - 400 ppm), cadmium up to 23.9 ppm (RRSCO - 4.3 ppm), copper up to 316 ppm (RRSCO - 270 ppm), lead up to 1310 (RRSCO - 400 ppm), manganese up to 4800 ppm (RRSCO - 2000 ppm), mercury up to 4.3 ppm (RRSCO - 0.81 ppm) .

VOCs, Pesticides, herbicides, and PCBs were not detected above RRSCOs. The levels of PFAS were below the guidance values.

Groundwater:

Seven overburden groundwater monitoring wells were sampled and analyzed for VOCs, SVOCs, metals, PCBs, pesticides and herbicides, and three wells were sampled for emerging contaminants. Groundwater Quality Standards (GWQS) were exceeded for naturally occurring metals and PFAS.

Metals: The metals exceeding GWQS included iron (25,400 ppb, GWQS - 300 ppb), magnesium (48,500 ppb, GWQS - 35,000 ppb) , and manganese (4,300 ppb, GWQS - 300 ppb).

Emerging contaminants Perfluorooctanoic acid (PFOA) at 62.5 parts per trillion (ppt) and perfluorooctanesulfonic acid (PFOS) at 11.6 ppt exceeded recommended action levels (10 ppt for each). Soil excavation in those areas is planned.

No VOCs, SVOCs, PCBs, pesticides or herbicides were detected above GWQS.

Soil Vapor Intrusion Investigation:

Eleven sub-slab samples, eleven indoor air samples and one outdoor (ambient) air sample were collected and analyzed. Based on the concentrations of trichloroethene (TCE) (1,850 micrograms per cubic meter, or ug/m³), carbon tetrachloride (8.34 ug/m³), and cis-1,2-dichloroethene (221 ug/m³) in sub-slab vapor, actions are necessary to address potential exposures from soil vapor intrusion.in the building at 225 Louisiana Street.

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 soil is unlikely because the majority of the site is covered with building foundation, pavement or vegetation. Persons who dig below the ground surface may come into contact with contaminants in subsurface soil. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater and/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. Sampling identified impacts to indoor air quality, these impacts represent a health concern. The potential exists for people to inhale site contaminants in indoor air due to soil

vapor intrusion in any future on-site building development and occupancy. The potential exists for off-site migration of site-related contaminants and may impact indoor air of adjacent 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.

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 referred to as: Excavation, Site Cover and Vapor Mitigation remedy. This is Track 4 - Restricted Residential use 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;
 - Vapor barrier for energy efficiency; and
 - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
2. Underground Storage Tank (UST) Excavation: The UST located in the northeastern portion of 245 Louisiana Street, along with any associated piping, will be cleaned, removed and disposed off-site or recycled as a scrap metal.
3. Excavation and off-site disposal: The following areas will be excavated and disposed off-site:
- Building interior: The soil/fill impacted with metals (arsenic, barium, cadmium, copper, lead or mercury) exceeding commercial soil cleanup objectives (CSCOs) and/or the site specific action level (SSAL) for arsenic of 25 ppm will be excavated from six locations and disposed off-site at permitted facilities. The excavations will be up to two feet below the building slab.
 - Exterior Areas: Excavation and off-site disposal of contaminant source areas, including:
 - Grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
 - Soil/fill impacted with metals and polycyclic aromatic hydrocarbons (PAHs) exceeding CSCOs or SSALs for total PAHs of 500 ppm and arsenic of 25 ppm.
4. Backfill: Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavations and establish the designed grades at the site.
5. Soil Vapor Mitigation: Active Sub-Slab Depressurization Systems (SSDSs) will be installed within the existing and/or future buildings to mitigate potential on-site vapor intrusion.
6. Interior Remediation Activities: The following activities will take place within the on-site building:

- Utility Replacement/Installation and Handling of Soil/Fill: Utilities will be replaced and/or installed under the building. The excavated fill will be disposed off-site. The excavations will be backfilled with approved soil/fill, gravel or stones.
- Drums and Residual Materials Removal: The materials in the various stored drums and containers will be characterized and disposed off-site.
- Sumps/ Pits Clean-out: The sumps and pits within the building will be cleaned and closed.
- Transformers Removal: The utility-owned transformers located within a room on the east side the building will be removed

7. Cover System: 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 restricted residential soil cleanup objectives (RRSCOs). The planned cover system includes different cover types, including vegetated soil cover, bioretention areas, and hardscaped (asphalt/concrete) areas.

Cover system construction will require removal and off-site disposal of soil/fill and asphalt as necessary to allow for installation of the cover system to current grade. 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.

8. Engineering and Institutional Controls:
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 4 restricted residential cleanup at a minimum and will include an environmental easement, and site management plan as described below.

9. Institutional Control:
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 County DOH; and
- require compliance with the Department approved Site Management Plan.

10. 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:

Engineering Controls: Active Sub-Slab Depressurization Systems (SSDSs) discussed in remedial element 5 above.

The cover system discussed in remedial element 7 above.

Institutional Controls: The Environmental Easement discussed in remedial element 9 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 groundwater 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 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.

Figure 1



Figure 2

