

DECISION DOCUMENT

215 North 10th Street
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224229
January 2019



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

DECLARATION STATEMENT - DECISION DOCUMENT

215 North 10th Street
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224229
January 2019

Statement of Purpose and Basis

This document presents the remedy for the 215 North 10th 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 215 North 10th 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:

Conditional Track 1:

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.
- 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 entirety of the site is to be excavated to a minimum depth of 18.5 feet. Approximately 12,500 cubic yards of contaminated soil will be removed from the site.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1)
- soil containing total SVOCs exceeding 500 ppm;
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.
- Excavation and off-site disposal of all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8.

3. Backfill

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

4. Groundwater Dewatering & Treatment

Short-term groundwater dewatering and treatment will be implemented to treat contaminants in groundwater and to ensure contaminated groundwater does not migrate off-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 site. Groundwater will be extracted from the subsurface over an approximately 18,000-square foot area over the entirety of the site. Further details of the extraction system will be determined during the remedial design.

The extracted groundwater will be directed through a settling tank, bag filters, and carbon units prior to off-site discharge to the NYC sewer subject to the approval of the New York City Department of Environmental Protection (NYCDEP).

The effectiveness of the dewatering and treatment in achieving ambient groundwater quality standards will be evaluated through the installation, sampling, and analysis of multiple groundwater monitoring wells after remedial excavation is complete.

5. In-Situ Groundwater Chemical Treatment

In-situ groundwater chemical treatment (oxidation or reduction) will be implemented to treat contaminants in groundwater. A chemical oxidant or reductant will be injected into the

subsurface to destroy the contaminants migrating from the site. The method and depth of injection will be determined during the remedial design. Prior to the full implementation of this technology, laboratory and/or on-site pilot scale studies will be conducted to more clearly define design parameters.

The in-situ treatment program must be completed and effective within 5 years of the date of the Certificate of Completion, or the remedy will revert in a Track 4 Restricted Residential cleanup, requiring long-term institutional controls and engineering controls.

6. Vapor Intrusion Evaluation

As part of the conditional 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.

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 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: asphalt and concrete pavement, sidewalks, and building slabs. This element is not expected to be required beyond five years from issuance of the Certificate of Completion, assuming the successful treatment of groundwater, as discussed in paragraph 5, above.

8. 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 NYCDOH; and
- require compliance with the Department approved Site Management Plan.

It is believed that all institutional controls can be eliminated within five-years of CoC issuance; however, if the conditions for that are not achieved, they will become a permanent part of the remedy.

9. Site Management Plan

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

1. 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: In-Situ Groundwater Chemical Treatment as discussed in paragraph 5. The Cover System discussed in Paragraph 7.

This plan includes, but may not be limited to:

- o descriptions of the provisions of the environmental easement including any land use, and/or groundwater restrictions;
 - o 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;
 - o provisions for the management and inspection of the identified engineering controls;
 - o maintaining site access controls and Department notification; and
 - o the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
2. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
 - o monitoring of groundwater to assess the performance and effectiveness of the contingent groundwater remedy;
 - o a schedule of monitoring and frequency of submittals to the Department; and
 - o monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

In the event that Conditional Track 1, unrestricted use, is not achieved for groundwater within five years of the date of the Certificate, the remedy will achieve a Track 4 restricted residential cleanup and the Certificate shall be modified.

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.

January 14, 2019
Date


Eric Obrecht, Director
Remedial Bureau A

DECISION DOCUMENT

215 North 10th Street
Brooklyn, Kings County
Site No. C224229
December 2018

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 repositories:

Brooklyn Community Board 1
435 Graham Avenue
Brooklyn, NY 11211
Phone: 718-963-5311

Brooklyn Public Library - Williamsburg Branch
240 Division Ave. at Marcy Ave
Brooklyn, NY 11211
Phone: (718) 302-3485

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 site is located in an urban area in the Williamsburg section of Brooklyn (Kings County) on the northeast corner of North 10th Street and Roebling Street.

Site Features:

The site was formerly developed with two single-story industrial buildings and two smaller one-story structures, which are surrounded by parking areas. The buildings were demolished in May 2018. No water bodies are present on site.

Current Zoning and Land Use:

The site is currently a vacant parcel within a special mixed use zoning district (M1-2/R6A), which is characterized by light industrial use (woodworking shops, repair shops, storage facilities) and allows for mixed-use residential buildings. The surrounding parcels are currently used for a combination of residential, commercial, transportation, and open park space.

Past Use of the Site:

A review of Sanborn Fire Insurance maps show that the site was used for manufacturing and industrial operations that include a dry color and paint storage facility, a varnish research works, and a chemical warehouse. The 1942 Sanborn map also identified one benzene and two gasoline underground storage tanks (USTs). Prior uses of the site that appear to have led to contamination are the varnish research works and USTs, both of which are associated with the use of chlorinated solvents that have potential for release to the environment.

Site Geology and Hydrogeology:

Site elevation ranges from about 9 to 13 feet above sea level and gradually slopes downward to the east. The subsurface stratigraphy consists of historic fill to about 4 feet below grade surface (bgs), underlain by brown sand, red clay, brown clay, black gravel, and black/brown silt. Predominant geological surface features were not reported and bedrock was not encountered during the 2015 investigation. Depth to groundwater ranges from about 6 to 7 feet bgs and appears to flow towards the east. The site is located within a Zone AE designated flood zone, which is identified as a high risk flood area.

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 will seek to identify any parties (other than the Volunteer(s)) known or suspected to be responsible for contamination at or emanating from the site, referred to as Potentially Responsible Parties (PRPs). The Department will bring an enforcement action against the PRPs. If an enforcement action cannot be brought, or does not result in the initiation of a remedial program by any PRPs, the Department will evaluate the off-site contamination for action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State incurs or has incurred

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

- | | |
|------------------------|---------------------------|
| trichloroethene (TCE) | arsenic |
| benzo(a)anthracene | mercury |
| 1,2-dichloroethene | dibenz[a,h]anthracene |
| vinyl chloride | hexachlorocyclopentadiene |
| naphthalene | lead |
| benzo(a)pyrene | benzo[k]fluoranthene |
| benzo(b)fluoranthene | 1,2,4-trimethylbenzene |
| benzo[k]fluoranthene | tetrachloroethene (PCE) |
| chrysene | methyl ethyl ketone |
| indeno(1,2,3-CD)pyrene | |

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.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

On-Site Interim Remedial Measure

The Interim Remedial Measure (IRM) was undertaken beginning in November 2018. The IRM consisted of a shallow excavation (less than 6 feet below grade) to prepare the surface for equipment mobilization and guide walls. The excavated soil has been stockpiled until the planned main excavation begins and will then be removed and disposed of properly. The main excavation will permit the planned sheet piles and support walls to be constructed surrounding the site as a containment barrier for the groundwater leaving the site.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals during the Remedial Investigation. Polychlorinated biphenyls (PCBs) and pesticides were also analyzed for during the preliminary investigation and were not found to exceed standards. Soil vapor was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the site include trichloroethene (TCE) and its breakdown products, cis-1,2-dichloroethene (DCE) and vinyl chloride, lead, mercury, arsenic, and SVOCs (e.g. benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene).

Soil- Metals, such as lead, mercury, and arsenic, were found across the Site in shallow and deep soils. Concentrations of arsenic found on Site (maximum of 95.4 parts per million [ppm]) significantly exceeded the soil cleanup objective (SCO) for unrestricted use (UUSCO) and restricted residential use soil cleanup objective (RRUSCO) (13 and 16 ppm respectively). Lead found on-site (maximum concentration of 5,630 ppm) exceeded the UUSCO and RRUSCO (63 and 400 ppm). Concentrations of mercury found on-site (maximum of 160 ppm) significantly exceeded the UUSCO and RRUSCO (0.18 and 0.81 ppm respectively).

SVOCs (mostly polycyclic aromatic hydrocarbons (PAHs)) were noted mainly in shallow soils throughout the site, and one deep soil location on the northern portion of the site. Concentrations of SVOCs, such as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene had maximum concentrations ranging from of 5.1 ppm to 6.5 ppm which exceeded the UUSCO and RRUSCO (all contaminants are 1 ppm for both the UUSCO and RRUSCO).

TCE was noted on the northern portion of the Site in shallow soils with a maximum concentration of 30 ppm which exceeds the 0.47 ppm UUSCO and the 21 ppm RRUSCO. Vinyl

chloride was noted in shallow soils with a concentration of 1.6 ppm; which exceeds the 0.02ppm UUSCO and the 0.9 ppm RRUSCOs. Other volatile organic compounds noted that exceeded the UUSCO include 1,2,4-trimethylbenzene, methyl ethyl ketone, cis-1,2-dichloroethene, naphthalene, and tetrachloroethene.

Groundwater - TCE (maximum concentration of 21 parts per billion [ppb]) and its associated degradation products (DCE at 40 ppb) are found in the groundwater on the central and southern portion of the site, exceeding the groundwater standard of 5 ppb. It is suspected that these contaminants may migrate off-site. Dense Non-Aqueous Phase Liquid (DNAPL) was noted in a central monitoring well (MW-3) during the preliminary investigation, but was not seen during the Remedial Investigation.

SVOCs, such as benzo(a)anthracene (maximum of 0.45 ppb), chrysene (maximum of 0.48 ppb), and benzo(b)fluoranthene(maximum of 0.6 ppb), were noted to be greatest at the eastern (most downgradient) monitoring well (exceeding the standard of 0.002 ppb for all named contaminants), and potentially are migrating off-site. Contaminants in this class exceeded the groundwater standards in all wells.

Metals, such as lead, mercury, and arsenic, were found across the Site in groundwater. Concentrations of total and dissolved arsenic were found to exceed (maximum of 120.6 ppb) the groundwater standard (25 ppb) in MW4. Concentrations of total lead (maximum of 359 ppb) were found to exceed the groundwater standard (25 ppb) in 16MW2 and 16MW3. Concentrations of total mercury were found to exceed (maximum of 20.05 ppb) the groundwater standard (0.7 ppb) in 16MW2. Additional metals found to exceed the groundwater standard were total and dissolved nickel and zinc.

Soil Vapor - TCE was detected at significantly elevated concentrations, up to 243,000 micrograms per cubic meter (ug/m³). PCE was detected at significantly elevated concentrations up to 7,730 ug/m³. Carbon tetrachloride was noted at a maximum concentration of 6,350 ug/m³ and 1,1,1-trichloroethane was noted with a maximum concentration of 6,000 ug/m³. Soil vapor samples were collected at 6 feet below sidewalk grade. Additional soil vapor and soil vapor intrusion sampling is being conducted to determine whether actions are needed off-site to address exposures associated with soil vapor intrusion.

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*.

People will not contact contaminated soils unless they dig below the 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 the groundwater and 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. The site is vacant so inhalation of site contaminants in indoor air via vapor intrusion is not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future on-site development. The potential also exists for soil vapor intrusion in buildings off-site. Additional soil vapor intrusion sampling is recommended off-site to further evaluate the potential for exposure.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- 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.

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 Conditional Track 1: Excavation, Dewatering, Cover System, and VI Evaluation remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

Conditional Track 1:

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.
- 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.

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The extracted groundwater will be directed through a settling tank, bag filters, and carbon units prior to off-site discharge to the NYC sewer subject to the approval of the New York City Department of Environmental Protection (NYCDEP).

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The in-situ treatment program must be completed and effective within 5 years of the date of the Certificate of Completion, or the remedy will revert in a track 4 Restricted Residential cleanup, requiring long-term institutional controls and engineering controls.

6. Vapor Intrusion Evaluation

As part of the conditional 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.

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- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

It is believed that all institutional controls can be eliminated within five-years of CoC issuance; however, if the conditions for that are not achieved, they will become a permanent part of the remedy.

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1. 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: In-Situ Groundwater Chemical Treatment as discussed in paragraph 5. The Cover System discussed in Paragraph 7.

This plan includes, but may not be limited to:

- o descriptions of the provisions of the environmental easement including any land use, and/or groundwater restrictions;
 - o 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;
 - o provisions for the management and inspection of the identified engineering controls;
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 - o monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

In the event that Conditional Track 1, unrestricted use, is not achieved for groundwater within five years of the date of the Certificate, the remedy will achieve a Track 4 restricted residential cleanup and the Certificate shall be modified.