DECISION DOCUMENT

Former Gutta Percha and Rubber Manufacturing Site
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224351
November 2022

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former Gutta Percha and Rubber Manufacturing Site
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224351
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Statement of Purpose and Basis

This document presents the remedy for the Former Gutta Percha and Rubber Manufacturing Site 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 Former Gutta Percha and Rubber Manufacturing Site 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

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;
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G; and
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Excavation and off-site disposal of all on-site soils which exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8 to a depth of approximately 8 feet below grade across the site, plus hot spot removal to a depth of approximately 13 feet below grade in the vicinity of SB5. Approximately 10,400 cubic yards of contaminated soil will be removed from the site. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Collection and analysis of confirmation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth of 8 feet, the Applicant must notify DEC, submit the sample results and, and in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

3. Backfill

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

4. 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.

5. Local Institutional Controls

If a Track 1 cleanup is achieved and thus no Environmental Easement (EE) or Site Management Plan (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.

Contingent Track 1

In the event that Track 1 unrestricted use is not achieved, including the achievement of unrestricted SCOs, groundwater and soil vapor remedial objectives, the following contingent

remedial elements will be required, and the remedy will achieve a Track 4 restricted residential cleanup.

Contingent Remedial Elements:

6. 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: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

7. Institutional Controls

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.

8. 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 for the engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional controls remain in place and effective:

- Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.

-Engineering Controls: The soil cover discussed in Paragraph 6 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 or groundwater use restrictions;

- 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;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 6 above will be placed in any areas where the upper one foot OR two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- 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 controls.

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

- monitoring for vapor intrusion for any buildings 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.

November 28, 2022

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Former Gutta Percha and Rubber Manufacturing Site
Brooklyn, Kings County
Site No. C224351
November 2022

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, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

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:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C224351

Brooklyn Public Library - Williamsburg Branch
Attn: Catherine Skrzypek
240 Divison Avenue at Marcy Avenue
Brooklyn, NY 11211
Phone: (718) 302-3485

Brooklyn community Board 3
Attn: Henry Butler
1360 Fulton Street, 2nd Floor
Brooklyn, NY 11216
Phone: (718) 622-6601

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 0.809-acre site is located at 43 Franklin Avenue, Brooklyn, NY 11205 in Kings County and is identified as Brooklyn Block 1885, Lot 15. The site is currently vacant and is approximately 0.809-acres in size (35,250 square feet). The site is located in an urban area in the Bedford Stuyvesant neighborhood and is bound to the north by an auto parts store followed by a mixed-use commercial/office building, to the east by Skillman Street followed by commercial/industrial buildings, to the south by multi-family residential buildings, and to the west by Franklin Avenue followed by a seafood distribution center and a hotel. The site is located within a mixed-use area characterized by low-rise commercial, industrial, and residential buildings.

Site Features: The rectangular-shaped lot is paved with asphalt and secured with a 10-foot fence. The site is currently vacant. There are no structures on the site.

Current Zoning and Land Use: The site is located within a residential and manufacturing zoning district (R6A and M1-2) with Mandatory Inclusionary Housing (MIH).

Past Use of the Site: The site was developed in the late 1800s and was part of the Gutta Percha Rubber Manufacturing Company,; a rubber manufacturing and thermoplastic dental filling company. Early Sanborn Maps depict several small buildings on the site with rooms designated for packing, pressing, and storage. Historical maps identify at least six storage tanks of unknown contents at the Site. Additionally, it is unknown if the storage tanks are above grade or below grade. Tank sizes are not identified with the exception of one, 60,000-gallon tank. In addition, Sanborn Maps dated 1904, 1918, and 1921 depict an 8-inch diameter well in the center of the Site while the property operated as a rubber manufacturing company. By the late 1940s, operations of Gutta Percha & Rubber ceased and the buildings were razed leaving the site as a vacant lot. The lot has been vacant since at least the 1960s, and then served as a parking lot (operations ceased October 2021).

Site Geology and Hydrogeology: The site is underlain by urban fill predominantly consisting of light brown to dark brown medium to fine sand with trace amounts of silt and clay and varying amounts of loose gravel, brick and asphalt to depths extending approximately 6.5 to 8 ft below ground surface (bgs). The urban fill layer is underlain by a native layer consisting of brown to orange-brown, medium to fine sand with varying amounts of coarse sand, silt, gravel, and intermittent clay lenses. The topography of the site and the surrounding area slopes north towards the Brooklyn Navy Yard Basin and the East River. The ground level elevation at the site is approximately 16 feet above Mean Seal Level . During the December 2021 RI, groundwater was encountered at depths ranging from about 17 to 21 ft bgs and flow is to the northwest.

A site location map is attached as Figure 1 and a site layout map is attached as Figure 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(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: 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:

- air
- 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:

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
indeno(1,2,3-cd)pyrene
benzo(k)fluoranthene
chrysene
arsenic
lead
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: 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, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor was analyzed for VOCs. Based on findings summarized in the July 2022 Remedial Investigation Report (RIR), the primary contaminants of concern include SVOCs, metals and pesticides in soil; SVOCs, PFAS and metals in groundwater, and chlorinated VOCs in soil vapor.

Soil - Soil data was compared to Unrestricted Use Soil Cleanup Objectives (UUSCOs). Soil impacts at the site primarily consisted of SVOCs, specifically polyaromatic hydrocarbons (PAHs), metals, and pesticides at concentrations exceeding the UUSCOs within the historic fill layer that extends 6.5 - 8.0 ft below ground surface (bgs). No VOCs were detected exceeding the UUSCOs in any of the soil

The SVOCs identified exceeding UUSCOs include: benzo(a)anthracene (maximum concentration 62 parts per million, or ppm, compared to UUSCO 1.0 ppm), benzo(a)pyrene (maximum concentration 49 ppm, UUSCO 1.0 ppm), benzo(b)fluoranthene (maximum concentration of 65 ppm, UUSCO 1.0 ppm), and indeno(1,2,3-cd)pyrene (maximum concentration of 35 ppm, UUSCO 0.5 ppm).

Metals including arsenic (maximum concentration of 167 ppm, UUSCO 13 ppm); barium (maximum concentration of 646 ppm, UUSCO 350 ppm); lead (maximum concentration of 1,830 ppm, UUSCO 63 ppm); and mercury (maximum concentration of 3.20 ppm, UUSCO 0.18 ppm) were detected throughout the site. One soil sample exceeded the hazardous waste threshold for lead of 5 milligrams per liter (mg/L), with a result of 8.34 mg/L during the December 2021 RI. The hazardous lead area was then delineated for total lead and TCLP lead in May 2022. TCLP lead was not detected at concentrations exceeding the USEPA Allowable Limit of 5 mg/L in any of the samples collected.

Three pesticides, 4,4'-DDE (maximum concentration of 0.00693 ppm, UUSCO 0.0033 ppm), 4,4'-DDT (maximum concentration of 0.00868 ppm, UUSCO 0.0033 ppm), and dieldrin (maximum concentration of 0.0186 ppm, UUSCO 0.005 ppm) were identified in shallow soil samples infrequently at concentrations exceeding UUSCOs.

For PFAS, perfluorooctanoic acid (PFOA) was detected at a maximum concentration of 0.581 parts per billion (ppb) and perfluorooctanesulfonic acid (PFOS) up to 2.3 ppb, both below their Unrestricted Guidance Values of 0.66 ppb and 0.88 ppb, respectively

Data does not indicate any off-site impacts in soil related to the site.

Groundwater - One VOC, chloroform, was identified at a concentration above the NYS Ambient Water Quality Standards (AWQS) with a concentration of 8.7 parts per billion, or ppb (AWQS is 7 ppb).

The following six SVOCs, specifically PAHs, were identified at concentrations exceeding AWQS: benzo(a)anthracene (maximum concentration 0.8 ppb, AWQS 0.002 ppb); benzo(a)pyrene (maximum concentration 0.7 ppb, AWQS non-detect), benzo(b)fluoranthene (maximum concentration 0.9 ppb, AWQS 0.002 ppb); benzo(k)fluoranthene (maximum concentration 0.31 ppb, AWQS 0.002 ppb); chrysene (maximum concentration 0.67 ppb, AWQS 0.002 ppb); and, indeno(1,2,3-cd)pyrene (maximum concentration 0.48 ppb, AWQS 0.002 ppb).

Five metals were identified in unfiltered groundwater samples at concentrations exceeding the AWQS. Iron (maximum concentration 2,020 ppb, AWQS 300 ppb); magnesium (maximum concentration 50,700 ppb, AWQS 35,000 ppb); (maximum concentration 7,031 ppb, AWQS 300 ppb); and sodium (maximum concentration 116,000 ppb, AWQS 20,000 ppb) exceeded the NYS AWQS in numerous samples. These metal exceedances are likely naturally occurring and not a result of contamination on site.

For the PFAS compounds, PFOA and PFOS were detected at concentrations exceeding the Maximum Contaminant Level, or MCL (drinking water standard) of 10 parts per trillion (ppt) each. PFOA had a maximum concentration of 77 ppt and PFOS had a maximum concentration of 57 ppt.

The data do not indicate any off-site impacts in groundwater related to this site.

Soil Vapor - TCE was the only chlorinated VOC detected, with a concentration of 26.1 micrograms per cubic meter (ug/m3). Several petroleum-related VOCS such as benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in soil vapor.

Data does not indicate any off-site impacts in soil vapor related to the site.

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.*

Since the site is fenced and covered by asphalt or concrete, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. 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 soil vapor (air spaces within the soil), may move into buildings and affect the indoor air quality. This process is referred to as soil vapor intrusion. Soil vapor intrusion is not a current exposure concern because there are no occupied buildings on-site, however the potential exists for indoor air impacts via the soil vapor intrusion pathway in any future occupied buildings. Environmental sampling indicates soil vapor intrusion from site contaminants is not a concern off-site

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

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Conditional Track 1 remedy.

The selected remedy is referred to as the Excavation of Unrestricted SCOs remedy.

The elements of the selected remedy, as shown in Figure 3, 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;
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- 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

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
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- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G; and
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Collection and analysis of confirmation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth of 8 feet, the Applicant must notify DEC, submit the sample results and, and in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

3. Backfill

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

4. 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.

5. Local Institutional Controls

If a Track 1 cleanup is achieved and thus no Environmental Easement (EE) or Site Management Plan (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.

Contingent Track 1

In the event that Track 1 unrestricted use is not achieved, including the achievement of unrestricted SCOs, groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 4 restricted residential cleanup.

Contingent Remedial Elements:

6. Cover System

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may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

7. Institutional Controls

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.

8. 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 for the engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional controls remain in place and effective:

- Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.

-Engineering Controls: The soil cover discussed in Paragraph 6 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 or groundwater use restrictions;
- 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;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 6 above will be placed in any areas where the upper one foot OR two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- 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 controls.

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

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