

DECISION DOCUMENT

Repetti Service Station Site
Brownfield Cleanup Program
Mt. Vernon, Westchester County
Site No. C360144
November 2016



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

DECLARATION STATEMENT - DECISION DOCUMENT

Repetti Service Station Site
Brownfield Cleanup Program
Mt. Vernon, Westchester County
Site No. C360144
November 2016

Statement of Purpose and Basis

This document presents the remedy for the Repetti Service Station 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 Repetti Service Station site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation for the Northern Section of the Site

All soil in the northern section of the site which exceed unrestricted SCOs as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

3. Cover System for the Southern Section of the Site

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). The site cover may consist of paved surface parking areas, sidewalks, or a soil cover. 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 as set forth in 6 NYCRR Part 375-6.7(d). In areas where building foundations or building slabs preclude contact with the soil, the requirements for a site cover will be deferred until such time that they are removed.

4. Institutional Control

Imposition of an institutional control in the form of an environmental easement (EE) 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.

5. Site Management Plan

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

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

Institutional Controls: The Environmental Easement discussed in item 4.

Engineering Controls: The cover system discussed in item 3.

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 use restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion in future buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - provisions for the management and inspection of the identified engineering controls;
 - maintaining site access controls and Department notification; and
 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater to assess the performance and effectiveness of the remedy;
 - a schedule of monitoring and frequency of submittals to the Department;
 - monitoring for vapor intrusion for any future buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

6. Conditional Track 1 for the Northern Section of the Site

The intent of the remedy in the northern section of the site is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. If a soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then the SMP and EE, identified in 4 and 5 above, will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is necessary as a Track 1 cleanup can only be achieved if the mitigation system or other required action will no longer be needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the EE and SMP will apply to the Northern Section and the remedy will have achieved Track 2 restricted residential cleanup.

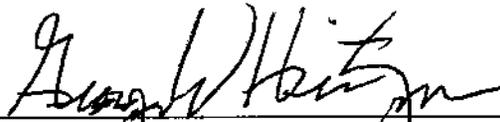
If no EE or SMP is needed to achieve soil, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Chapter 873, article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval.

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 23, 2016

Date



George Heitzman, Director
Remedial Bureau C

DECISION DOCUMENT

Repetti Service Station Site
Mt. Vernon, Westchester County
Site No. C360144
November 2016

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:

Mount Vernon Public Library
Attn: Carolyn Karwoski
28 South First Avenue
Mt. Vernon, NY 10550
Phone: 914-668-1840

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen

participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Repetti Service Station site is located at 22 S. West Street, Mount Vernon and is approximately 0.75 acres in size. The site is located southeast of the Bronx River and the Mt. Vernon West train line, and northwest of South West Street.

Site Features: The site originally had a small, one-story, white masonry office/vehicle service garage located in the northeast corner, and a gasoline pump island. All the buildings and the pumps have since been demolished to the ground and the debris was removed. The remainder of the site is occupied by a parking lot, with a grassy strip extending behind several adjacent, off-site small buildings in the southwest corner. The off-site buildings are a mixture of residential and commercial structures.

Current Use: The site is currently vacant. The current zoning of the site allows for commercial and industrial uses. The intended use of the site is residential and commercial.

Past Use of the Site: The site has been used as a service station since 1946.

Site Geology and Hydrogeology: The site, with the exception of the small grassy strip in the southwest corner, consists of a surface layer of either concrete or asphalt, underlain by fill that extends to depths ranging from 1.5 to 15.5 below the existing ground surface. The fill below the parking lot cover generally consists of loose to medium dense sand or silty sand, with varying amounts of gravel, and contains varying amounts of man-made debris such as wood, ash, cinders, asphalt, brick, coal, glass and concrete. In some locations, there is a layer of ash and cinder fill. Below the fill is loose to medium dense native soil that primarily consists of sand with traces of silt and gravel. Gravelly sand cobbles are present within the sand layer in portions of the site. Bedrock is found roughly 50 feet below the ground surface.

Groundwater is found roughly 18 feet below ground and flows to the west.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, an alternative that restricts 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) 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 under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

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

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of

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

6.1.2: RI Results

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

xylene (mixed)
lead

benzo(a)anthracene
tetrachloroethene (PCE)

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.

Tank Removal, Sump Pit, Oil Pit removal IRM

In August 2015, five remaining underground storage tanks were removed along with any visibly contaminated soil around them. Then the sump pit and the oil change pit were excavated from within the old service station building and the surrounding soils were sampled to determine if any contamination remained. Roughly 40 cubic yards of soil was removed around the tanks and the documentation sampling indicated all the soils met unrestricted standards except for a single sample which had lead at 250 ppm. The IRM completion was documented in the Remedial Investigation Report.

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: The contamination on the site is the result of historic fill and contamination from leaks of petroleum products sold and used at the gas station and service center.

Soil: Soil across the site are contaminated with several metals and semi-volatile organic compounds (SVOCs) that exceed the restricted residential SCOs. The metals in soil include arsenic, lead and mercury. Lead is the primary contaminant, appearing in 8 samples across the site with a maximum concentration of 744 parts per million (ppm). The SVOCs are found in a much smaller area, in the south end of the site with chrysene, benzo(a)anthracene, and benzo(a)pyrene being the primary constituents. Benzo(a)anthracene has the maximum concentration of the SVOCs at 3.69 ppm. While volatile organic compounds (VOCs) were found in soil samples at the northern section of the site, those areas were removed during the IRM that removed the remaining underground storage tanks and contaminated soils around them. The post excavation sampling after the removal indicated that the soils in the area met the unrestricted SCOs for VOCs. There is no evidence that the soil contamination is found off-site.

Groundwater: The groundwater is contaminated with VOCs,SVOCs, and metals. The metals (iron, aluminum, magnesium and manganese) are found in all or most of the wells and are not site-related. The VOCs, primarily benzene, toluene, ethylbenzene, and xylene (collectively known as BTEX), are found at the north end of site, in the area of the petroleum storage tanks. Xylene had the maximum concentration of 404 parts per billion (ppb) in the latest round of sampling, as compared to the initial data, where xylene had a maximum level of 970 ppb. Benzene concentrations were significantly lower; the maximum benzene concentration detected in groundwater was 0.76 ppb. It is likely that the groundwater contamination continues off-site towards the Bronx River which is west of the train tracks located immediately west of the site. The northeastern corner of the site has groundwater contamination from chlorinated solvents, apparently from an off-site source, with tetrachloroethene at 13.7 ppb and cis-1,2-dichloroethene at 17.3 ppb.

Soil Vapor: Soil vapor at the site shows various contaminants at low concentrations across the site. The BTEX compounds were found most often and with the highest concentrations, specifically toluene, detected in all 8 soil vapor samples with a maximum concentration of 95 micrograms per cubic meter. Benzene was also found in all 8 samples, but only at a maximum concentration of 6.2 micrograms per cubic meter. Chloroform was found at concentrations ranging from 1.6 to 7.6 micrograms per cubic meter at roughly half of the samples. Chlorinated VOCs were also found in several of the samples with tetrachlorethene having a maximum concentration of 4.4 micrograms per cubic meter. It appears that the chloroform and chlorinated VOCs in soil vapor originate from an off-site source.

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. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not contaminated by the site. Volatile organic compounds in the groundwater 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. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Sampling indicates that there are no site-related soil vapor intrusion concerns for off-site buildings.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- 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.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

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 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Northern Excavation and Southern Site Cover 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;
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- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

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4. Institutional Control

Imposition of an institutional control in the form of an environmental easement (EE) 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.

5. Site Management Plan

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

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

Institutional Controls: The Environmental Easement discussed in item 4.

Engineering Controls: The cover system discussed in item 3.

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 use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion in future buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

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

6. Conditional Track 1 for the Northern Section of the Site

The intent of the remedy in the northern section of the site is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. If a soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then the SMP and EE, identified in 4 and 5 above, will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is necessary as a Track 1 cleanup can only be achieved if the mitigation system or other required action will no longer be needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the EE and SMP will apply to the Northern Section and the remedy will have achieved Track 2 restricted residential cleanup.

If no EE or SMP is needed to achieve soil, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Chapter 873, article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval.