DECISION DOCUMENT

City DPW Yard
Brownfield Cleanup Program
New Rochelle, Westchester County
Site No. C360101
April 2024

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

DECLARATION STATEMENT - DECISION DOCUMENT

City DPW Yard
Brownfield Cleanup Program
New Rochelle, Westchester County
Site No. C360101
April 2024

Statement of Purpose and Basis

This document presents the remedy for the City DPW Yard 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 City DPW Yard 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 shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWiseTM (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

The existing on-site buildings will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1) non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid;
- soil containing total SVOCs exceeding 500 parts per million (ppm);
- soil which exceeds the unrestricted use soil cleanup objectives (UUSCOs) in Track 1 cleanup areas indicated in Figure 3
- soil which exceeds the restricted residential use soil cleanup objectives (RRSCOs) in Track 4 cleanup areas indicated in Figure 3
- soil which exceeds 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.

All soils in the upper two feet which exceed restricted residential SCOs in the Track 4 remedy area will be excavated and transported off-site for disposal. All on-site soils in the Track 1 remedy area which exceed the UUSCOs will be excavated and transported for off-site disposal.

Approximately 70,000 cubic yards of contaminated soil will be excavated to depths up to 25 feet below ground surface (bgs) and removed from the site for off-site disposal. Collection and analysis of confirmation samples at the remedial excavation depth 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, the Applicant must notify DEC, submit the sample results 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.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

In the event that the Track 1 remedial excavation does not successfully decrease contaminant levels in groundwater, in-situ groundwater treatment measures, including application of a groundwater treatment compound, would be considered. If additional groundwater treatment measures are required, the Applicant will submit a remedial system optimization work plan to the Department for review and approval. The work plan will detail the in-situ groundwater treatment program including any pre-treatment investigations, the treatment plan, and performance monitoring.

3. Backfill

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used anywhere beneath the cover system, including below the water table, to backfill the excavation or re-grade the site.

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

4. Cover System

A site cover will be required for the entire Track 4 portion of the site, to allow for future restricted residential and commercial 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.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Local Institutional Controls

The following local use restriction per Westchester County Code of Ordinances Part XI Chapter 873, section 703 will be relied upon to prevent ingestion of groundwater in the Track 1 area of the site: Whenever a public water supply is available, no water from any other water supply system shall be furnished for human consumption or domestic use unless such other water supply system has been approved by the department in accordance with the Code

7. Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required for any portion of the site that does not achieve a Track 1 remedy. The remedy will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover.

Imposition of an institutional control in the form of an environmental easement in the Track 4 portion 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 and commercial 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 Westchester

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

8. Site Management Plan

A Site Management Plan is required, for all portions of the site that do not achieve a Track 1 Unrestricted Use cleanup, 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 engineering controls remain in place and effective:

Institutional Controls: the environmental easement described in paragraph 7 above.

Engineering Controls: the soil cover described in paragraph 4 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater 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;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

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

- 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 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.

April 3, 2024
Date

Sarah Saucier
Sarah Saucier, Director
Remedial Bureau C

DECISION DOCUMENT

City DPW Yard
New Rochelle, Westchester County
Site No. C360101
April 2024

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 repository:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C360101

New Rochelle Public Library
Attn: Larry Sheldon
1 Library Plaza
New Rochelle, NY 10801
Phone: 914-632-7878

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 at 224 Main Street on the northwest shores of Echo Bay in New Rochelle, New York and is identified as Section 1, Block 84, Lot 5 on the Westchester County Tax Map The site is 6.27 acres and is in a mixed-use area adjacent to commercial, industrial, and across from residential properties.

Site Features: The site is mostly paved with asphalt and owned by the City of New Rochelle's Department of Public Works (DPW). Vacant 1-story brick and concrete structures are currently present in the northern half, while the southern half contains an office trailer, and the maintenance and storage garages.

An oil-water separator is located in the vehicle repair garage. Additionally, a fuel dispensing station is located adjacent to the east of the vehicle maintenance building, connected to two above ground storage tanks via underground piping. One known underground storage tank (UST) is located behind the 1-story brick and concrete structure.

Current Zoning and Land Use: The site is currently vacant. The site is located in a PWD-5 planned waterfront development district with 3- and 5-story restriction for residential redevelopment. The nearest residential area is approximately 100 feet north of the site.

Past Use of the Site:

Past uses of the site include a boat yard (circa 1911) and vehicle maintenance and repair by the DPW, and most recently was used as a transfer station for recyclables until December 31, 2023. Typical operations by the DPW included the use of petroleum, paints, and solvents. From 1926 to 1955 a sewage treatment and disposal plant was operated by the DPW at the site.

Site Geology and Hydrogeology:

The site consists of surficial layer of historic fill from 1 to 15 feet below ground surface (bgs). The historic fill is composed of varying amounts of sand, gravel, brick fragments, and other anthropogenic materials. The fill is underlain by alluvial and till deposits which are primarily composed of sand with varying amounts of silt, gravel, cobbles, and boulders. The alluvial and till deposits are underlain by bedrock. Depth to bedrock varies significantly across the site, from

about 1 feet bgs in the northwestern part of the site to about 40 feet in the eastern part of the site. The upper 1 to 12 feet of bedrock is weathered and decomposed. Depth to groundwater at the site ranges from about 5 to 15 feet bgs and flows southeast in the direction of Echo Bay.

A site location map and site plan are attached as Figures 1 and 2, respectively.

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. 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
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: 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 contaminants of concern identified at this site are:

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
indeno(1,2,3-cd)pyrene
lead
benzene
ethylbenzene
xylene (mixed)
toluene
2,2,4-trimethylpentane
naphthalene

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

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

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Groundwater was also analyzed for per- and polyfluoroalkyl substances (PFAS). Soil vapor and indoor air were analyzed for VOCs. Based upon remedial investigations conducted, the primary contaminants of concern include benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX), 2,2,4-trimethylpentane, polycyclic aromatic hydrocarbons (PAHs), and lead.

Petroleum impacts and light non-aqueous phase liquid (LNAPL) have been observed in soil borings and groundwater monitoring wells during investigation activities conducted at the site. Petroleum impacts likely originated from the petroleum bulk storage areas and the fuel dispensing station.

Soil:

Soil contamination levels at the site exceeds the 6 NYCRR Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Protection of Groundwater SCOs (PGWSCO) for benzene, ranging from 0.087 to 1.3 parts per million (ppm) (PGWSCO of 0.06 ppm), toluene, ranging from 0.81 to 2.5 ppm (PGWSCO of 0.7 ppm), ethylbenzene, ranging from 1.6 to 9.7 ppm (PGWSCO of 1 ppm), total xylenes, ranging from 1.7 to 9.2 ppm (PGWSCO of 1.6 ppm) and naphthalene, at 13 ppm in one soil boring (PGWSCO of 12 ppm), primarily in the center of the site between 5 and 15 feet below ground surface. Soil exceeded RRSCOs for benzene at one soil boring at 6.2 and 18 ppm (RRSCO of 4.8 ppm) 7-9 and 12-14 feet below ground surface (bgs) respectively.

Select PAHs, such as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene exceeded both RRSCOs and PGWSCOs, ranging from 1.8 to 60 ppm (RRSCO of 1 ppm, and PGWSCOs of 1, 22, 1.7, 1.7, and 1 ppm respectively for these PAHs) primarily in the center of the site between 1 and 9 feet bgs. In addition, LNAPL was observed at two boring locations, at 4 to 15 feet bgs near the northern wall of the vehicle maintenance building and at 1 to 3 feet bgs by the known UST behind the 1-story brick and concrete structure.

Metals detected on-site which exceeded the UUSCOs included total chromium, nickel, and zinc. Metals exceeding RRSCOs were lead, which also exceeded PGWSCOs, ranging from 609 to 1770 ppm (RRSCO of 400 ppm and PGWSCO of 450 ppm), mercury at 1.36 ppm (RRSCO of 0.81 ppm), and copper at 385 ppm (RRSCO of 270 ppm) near the center of the site 2 to 9 feet bgs, and 12 to 19 feet bgs.

Pesticides that were detected on-site at concentrations exceeding their UUSCOs include 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT (SCO of 0.0033 ppm for each compound) at 0.022 and 0.019 ppm at 5-6 feet bgs near the center of the site, at 0.0060, 0.0228, and 0.0712 ppm at 0-2 feet bgs in the southeast corner, and at 0.107 and 0.018 ppm at 14-15 feet bgs near the northeast corner.

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

Groundwater

LNAPL was detected in groundwater at two monitoring well locations, the known UST behind the 1-story brick and concrete building and near the northern wall of the vehicle maintenance building, at thicknesses ranging from 0.04 feet to 0.57 feet, identified as potential No. 2 fuel oil.

VOCs detected in groundwater at concentrations exceeding their respective TOGS 1.1.1 Ambient Water Quality Standards (AWQS) include benzene up to 2600 parts per billion (ppb) (AWQS of 1 ppb), ethylbenzene up to 210 ppb, toluene up to 51 ppb, total xylenes up to 160 ppb, and MTBE at 100 ppb (AWQS of 5 ppb for these compounds), primarily in the center of the site.

Select PAHs, such as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-c,d)pyrene were also detected in groundwater at concentrations exceeding standards up to 0.57 ppb (AWQS of 0.002 ppb for these PAHs) and naphthalene up to 94 ppb (AWQS of 10 ppb) across the middle of the site.

Total lead exceeded standards up to 69.61 ppb (AWQS of 25 ppb).

Pesticides and PCBs were not detected in groundwater at the site at levels exceeding standards.

PFAS compounds perfluoroctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) exceeded their water quality guidance levels at one upgradient well, at 98 and 73.4 parts per trillion (ppt) respectively (water quality guidance values of 2.7 and 6.7 ppt respectively).

Data does not indicate any off-site impacts in groundwater or surface water related to this site.

Soil Vapor and Indoor Air

1,1,1 Tricholorethane was detected in indoor air at 43.4 micrograms per cubic meter (ug/m3), and tetrachloroethene (PCE) was detected at 9.49 ug/m3 and 21.8 ug/m3 in sub-slab vapor and indoor air, respectively, at the northernmost building, warranting actions to address the potential

for exposure associated with soil vapor intrusion. PCE was detected at 4.09 ug/m3 and 172 ug/m3 in indoor air and sub-slab vapor, respectively, in the southern vehicle repair garage, warranting monitoring.

PCE was detected at 220 ug/m3 in one soil vapor sample east of the center of the site, and 2,2,4-trimethylpentane was detected in three soil vapor samples in the eastern part of the site, ranging from 9900 to 1,950,000 ug/m3. BTEX was detected in three soil vapor samples in the central eastern part of the site, ranging from 187 to 204,000 ug/m3.

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

Access to the site is restricted by a fence. However, people who enter will not come in contact with contaminated soil or groundwater unless they dig below ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater and/ or soil may move into the soil vapor (air spaces within the soil) which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for the inhalation of site contaminants via the soil vapor intrusion pathway for current occupied buildings and for any future on-site development. In addition, sampling indicates, soil vapor intrusion is not a concern for off-site area.

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 and Track 4: Unrestricted and Restricted Residential use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation, Vapor Intrusion Evaluation, and Site Cover 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;

- 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 shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWiseTM (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

The existing on-site buildings will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- concentrated solid or semi-solid hazardous substances per 6 NYCRR Part 375-1.2(au)(1) non-aqueous phase liquids;

- soil with visual waste material or non-aqueous phase liquid;
- soil containing total SVOCs exceeding 500 parts per million (ppm);
- soil which exceeds the unrestricted use soil cleanup objectives (UUSCOs) in Track 1 cleanup areas indicated in Figure 3
- soil which exceeds the restricted residential use soil cleanup objectives (RRSCOs) in Track 4 cleanup areas indicated in Figure 3
- soil which exceeds 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.

All soils in the upper two feet which exceed restricted residential SCOs in the Track 4 remedy area will be excavated and transported off-site for disposal. All on-site soils in the Track 1 remedy area which exceed the UUSCOs will be excavated and transported for off-site disposal.

Approximately 70,000 cubic yards of contaminated soil will be excavated to depths up to 25 feet below ground surface (bgs) and removed from the site for off-site disposal. Collection and analysis of confirmation samples at the remedial excavation depth 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, the Applicant must notify DEC, submit the sample results 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.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

In the event that the Track 1 remedial excavation does not successfully decrease contaminant levels in groundwater, in-situ groundwater treatment measures, including application of a groundwater treatment compound, would be considered. If additional groundwater treatment measures are required, the Applicant will submit a remedial system optimization work plan to the Department for review and approval. The work plan will detail the in-situ groundwater treatment program including any pre-treatment investigations, the treatment plan, and performance monitoring.

3. Backfill

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used anywhere beneath the cover system, including below the water table, to backfill the excavation or re-grade the site.

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

4. Cover System

A site cover will be required for the entire Track 4 portion of the site, to allow for future restricted residential and commercial 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.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Local Institutional Controls

The following local use restriction per Westchester County Code of Ordinances Part XI Chapter 873, section 703 will be relied upon to prevent ingestion of groundwater in the Track 1 area of the site: Whenever a public water supply is available, no water from any other water supply system shall be furnished for human consumption or domestic use unless such other water supply system has been approved by the department in accordance with the Code

7. Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required for any portion of the site that does not achieve a Track 1 remedy. The remedy will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover.

Imposition of an institutional control in the form of an environmental easement in the Track 4 portion 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 and commercial 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 Westchester County DOH and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, for all portions of the site that do not achieve a Track 1 Unrestricted Use cleanup, 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 engineering controls remain in place and effective:

Institutional Controls: the environmental easement described in paragraph 7 above.

Engineering Controls: the soil cover described in paragraph 4 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater 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;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

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

- 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 buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

LEGEND:

APPROXIMATE SITE BOUNDARY

NOTES:

1. BASE MAP IS TAKEN FROM UNITED STATES GEOLOGICAL SURVEY MOUNT VERNON QUADRANGLE NEW YORK 7.5-MINUTE SERIES, DATED 2016.

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Project	CITY DPW YARD 224 EAST MAIN STREET SECTION 1, BLOCK 84, LOT 5 NEW ROCHELLE WESTCHESTER NEW YORK
Figure Title	SITE LOCATION MAP
Project No.	170331702
Date	07/18/2023
Drawn By	LPG
Checked By	ERA
Figure No.	1
Sheet	1 of 3

Filename: \\langan.com\data\NY\data7\170331701\Cadd Data - 170331701\SheetFiles\Environmental\DPW - BCP Decision Document\Figure 1 - Site Location Map.dwg Date: 7/18/23 Time: 13:24 User: lgrose Style Table: Langan.stb Layout: Figure 1 - Topo

LEGEND:

APPROXIMATE SITE BOUNDARY

NOTES:

1. IMAGERY PROVIDED THROUGH LANGAN'S SUBSCRIPTION TO NEARMAP.COM. FLOWN ON 5/28/2023.
2. BCP = BROWNFIELD CLEANUP PROGRAM

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Project
CITY DPW YARD
224 EAST MAIN STREET
SECTION 1, BLOCK 84, LOT 5
NEW ROCHELLE
WESTCHESTER NEW YORK

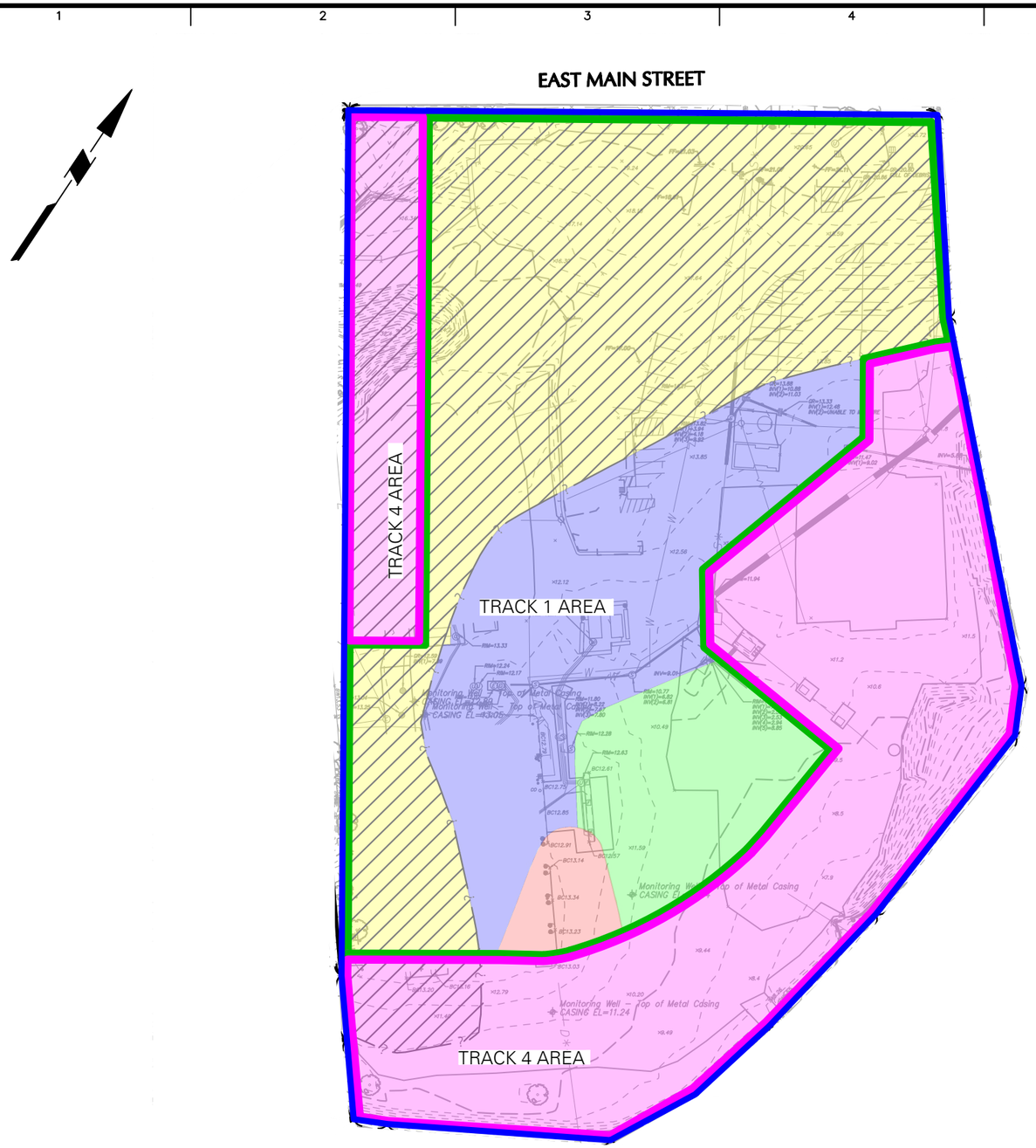
Figure Title
SITE PLAN

Project No.	170331702
Date	7/19/23
Drawn By	LPG
Checked By	ERA

Figure No. 2
Sheet 2 of 3

PROJECT NO. 170331702

Filename: \\langan.com\data\NY\data7\170331701\Cadd Data - 170331701\SheetFiles\Environmental\DPW - BCP Decision Document\Figure 2 - Site Plan.dwg Date: 10/10/2019 Time: 13:58 User: lgrose Style Table: Langan.stb Layout: Layout1



LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE EXTENT OF SHALLOW BEDROCK (1 TO 4 FEET BSG)
- APPROXIMATE TRACK 1 REMEDIATION EXTENTS
- ZONE 1: APPROXIMATE EXTENT OF REMEDIAL EXCAVATION TO SHALLOW BEDROCK OR UP TO 5 FEET BSG (ABOUT EL. ±0 TO +28)
- ZONE 2: APPROXIMATE EXTENT OF REMEDIAL EXCAVATION UP TO 10 FEET BSG (ABOUT EL. +1 TO +3)
- ZONE 3: APPROXIMATE EXTENT OF REMEDIAL EXCAVATION TO 15 FEET BSG (ABOUT EL. -10 TO -1)
- ZONE 4: APPROXIMATE EXTENT OF REMEDIAL EXCAVATION TO 25 FEET BSG (ABOUT EL. -20 TO -13)
- TRACK 4 REMEDIATION EXTENTS / ZONE 5: APPROXIMATE EXTENT OF REMEDIAL EXCAVATION TO 2 FEET BSG (ABOUT EL. +3 TO +31)

NOTES:

1. ALL ELEVATIONS PRESENTED ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. BSG = BELOW SITE GRADE
3. REMEDIAL EXCAVATION AREA EXTENTS ARE SUBJECT TO CHANGE BASED ON ENDPOINT SAMPLE RESULTS.
4. APPROXIMATE BEDROCK EXTENTS ARE BASED ON THE SEPTEMBER 2020 GEOTECHNICAL ENGINEERING REPORT PREPARED BY LANGAN.
5. THE TRACK 1 REMEDY WILL BE ACHIEVED BY REMOVING ALL SOIL/FILL THAT EXCEEDS THE TRACK 1 UNRESTRICTED USE (UU) SOIL CLEANUP OBJECTIVES (SCO) WITHIN THE TRACK 1 AREA. EXCAVATION WILL EXTEND TO EITHER BEDROCK OR THE DEPTHS REQUIRED TO MEET TRACK 1 STANDARDS WITHIN THE TRACK 1 AREA. IN AREAS WHERE THE TRACK 1 EXCAVATION DOES NOT EXTEND TO BEDROCK, CONFIRMATION ENDPOINT SAMPLES WILL BE COLLECTED. OVER-EXCAVATION MAY BE REQUIRED AS NECESSARY TO REMOVE SOIL THAT DOES NOT COMPLY WITH THE TRACK 1 SCOs.

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Figure Title
ALTERNATIVE II:
SPLIT TRACK 1 / TRACK 4 REMEDY

Project No.	170331702
Date	9/12/23
Drawn By	LPG
Checked By	ERA

Figure No. 3
Sheet 3 of 3

LANGAN
PROJECT NO. 170331702

Filename: \\langan.com\data\NY\data7\170331701\Cadd Data - 170331701\SheetFiles\Environmental\DPW - BCP Decision Document\Figure 3 - Alternative II Track 1_Track 4 Remedy.dwg Date: 10/10/2019 Time: 12:23 User: lgrose Style Table: Langan.stb Layout: SITE PLAN