DECISION DOCUMENT

293 Grote Street
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915368
November 2022

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

DECLARATION STATEMENT - DECISION DOCUMENT

293 Grote Street
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915368
November 2022

Statement of Purpose and Basis

This document presents the remedy for the 293 Grote Street 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 293 Grote Street site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- 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 vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation of Future Parking Lot Area of Site

Excavation and offsite disposal of soils in the upper two feet which exceed restricted residential SCOs will be performed in the western portion of the site where a future parking lot will be constructed. Approximately 412 cubic yards of contaminated soil will be removed from the site as part of the remedial excavation. Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that the SCOs for the site have been achieved.

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 3 to backfill the excavation and establish designed grades at the site. Clean fill meeting the requirements of 6NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish designed grades at the stie. The site will be re-graded to accommodate installation of a cover system as described in remedy element 3.

3. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable SCOs, to allow for future restricted residential use of the site. 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, included 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 the site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

4. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan (SMP), as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum.

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 County Department of Health; and
- require compliance with the Department approved SMP.

5. Site Management Plan (SMP)

An 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 engineering controls remain in place and effective:

Institutional Controls: the environmental easement discussed in the "Institutional Controls" section of remedy element 4.

Engineering Controls: the site cover system discussed in remedial element 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 or groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedial element 3 above will be placed in any areas where the upper 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 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 the site cover to assess the performance and effectiveness of the remedy; a schedule of monitoring and frequency of submittals to the Department

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.

11/28/2022 *Michael Cruden*

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

293 Grote Street
Buffalo, Erie County
Site No. C915368
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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=C915368

Buffalo & Erie County Public Library
Attn: April Tompkins
1 Lafayette Square
Buffalo, NY 14203
Phone: (716) 858-8900

North Park Branch Library
975 Hertel Avenue
Buffalo, NY 14216
Phone: (716) 875-3748

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 0.746-acre site is located in an urban area at 293 Grote Street in the City of Buffalo, Erie County. The site is bordered by Grote Street to the north, residential houses on Marion Street to the south, a 1-story commercial building and associated parking lot to the west and a commercial property with multiple structures to the east.

Site Features:
The site is currently vacant and consists of a 2-story, approximately 17,500 square-foot (sqft), brick building with an exterior courtyard and an approximately 0.3-acre gravel parking lot.

Zoning and Land Use:
The current zoning for the site is N-1S, defined as mixed-use development clusters defined by large-footprint structures. The redevelopment plan for the site is restricted residential, consistent with the City of Buffalo zoning assigned to the site. The properties immediately south are zoned residential.

Past Use of the Site:
The past uses of the site have included residential, an auto repair facility, various manufacturing industries, and a machine shop. The most recent occupant was Buerk Tool & Machine which operated at the site until 2019.

Site Geology and Hydrogeology:
The site is located within the Lake Erie-Niagara River major drainage basin, which is typified by little topographic relief that slopes westward towards Lake Erie and the Niagara River. According to the United States Department of Agriculture (USDA) Web soil survey, site soils are characterized as Urban Land (Ud). Soils associated with the Urban Land are characterized as miscellaneous areas in which 80% or more of the soil surface is covered by asphalt, concrete, buildings, or other impervious structures.

Previous investigations identified the site geology as fill material in the upper 1 to 4 feet below ground surface (fbgs), consisting of black fines intermingled with gray clay and man-made constituents (brick, cinders, ash, metal cuttings). Native clay soils were encountered below the fill material. The depth to bedrock in the vicinity of the site is greater than 40 fbgs.

Regional groundwater flows westerly towards the Niagara River, which flows north. However, local groundwater flow may be influenced by subsurface features, such as excavations, utilities, and localized fill-conditions.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives 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) were 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 wastes 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 contaminants of concern identified at this site are:

acenaphthene	indeno(1,2,3-cd)pyrene
anthracene	pyrene
benzo(a)anthracene	arsenic
chrysene	PCB aroclor 1254
dibenz[a,h]anthracene	copper
fluoranthene	lead

The contaminants 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 IRMs have been completed at this site based on conditions observed during the RI.

Interim Remedial Measures Performed:

IRM: 1st Floor Concrete Floor Removal

An approximate 15,000 square foot (sqft) section of the concrete floor covering the 1st floor area of the site's building was demolished and properly disposed of off-site due to PCBs identified in the concrete and significant oil staining. Approximately 442 tons of PCB impacted concrete material and 100 cubic yards (cy) of unimpacted concrete from the office area was removed from the site. Impacted concrete material was disposed of at a registered landfill, while unimpacted concrete material was transported to a local recycling facility. Prior to the installation of a new concrete floor throughout the building, approximately 905 tons of soil/fill was excavated, and landfill disposed, to allow for appropriate sub-base stone to be installed. An appropriate cover system, consistent with remedial element 3 was installed at the site.

IRM: 2nd Floor Wood Floor Removal

A 5,400 sqft section of the site building's 2nd floor wood floor and sub-floor was removed due to PCB impacts identified in the wood and significant oil staining. Approximately 18 tons of PCB-impacted wood was removed from the site and properly disposed of offsite. New flooring was installed within the building following the removal of impacted building materials.

IRM: Courtyard Excavation and Underground Storage Tank (UST) Removal

Subsurface soil/fill, impacted with metals (arsenic, cadmium, and chromium), PCBs, and SVOCs exceeding restricted residential soil cleanup objectives (SCOs) were identified in the eastern portion of the site's courtyard during the remedial investigation. An approximate 960 sqft area was excavated to a depth of 3 fbgs, to address the impacts and meet the SCOs within the courtyard, and properly disposed of offsite.

Additional excavation activities were completed within this area to remove an out of service 5,000-gallon UST and surrounding impacted soil/fill. An approximate 390 sqft area was excavated to a depth of 10.5 fbgs within the courtyard to remove the UST and impacted soils. Post excavation confirmatory samples were collected from the excavation area to verify the success of the IRM remedy. All post excavation samples met restricted residential soil cleanup objectives. Approximately 284 tons of impacted soil/fill material was excavated from the courtyard and UST areas and properly disposed of offsite.

The contents of the UST were removed and analyzed for disposal. Approximately 2,735 gallons of fuel oil and water was removed from the site and properly disposed of offsite. Following removal of the tank, it was cleaned and recycled offsite.

IRM: Excavation of Copper Impacted Area within vicinity of TP-10

Excavation and offsite disposal of approximately 1,292 tons of copper soil/fill impacted material within the vicinity of the RIs sample location TP-10 was performed as an IRM for the site. The excavation consisted of a 400 sqft area to a depth of 2.5 fbgs. Post excavation confirmatory samples were collected from the excavation area to verify the success of the IRM remedy. Confirmatory samples identified the vast majority of analytes to be below the unrestricted SCOs and minimal exceedances of PAHs exceeding commercial SCOs. The area was backfilled with clean fill material and covered with an appropriately designed cover system.

IRM: Excavation of Southern Alleyway Impacted Materials

Excavation and offsite disposal of approximately 100 tons of soil/fill material that was impacted with metals, polychlorinated biphenyls (PCBs) and polyaromatic hydrocarbons (PAHs), from within the site's southern alleyway was performed as an IRM. The excavation consisted of a 400 sqft area to a depth of approximately 2 ftbgs. During the excavation process, water which was observed within the excavation area was captured in three 55-gallon drums. The drums were properly characterized and disposed of offsite. Post excavation confirmatory samples were collected from the excavation area to verify the success of the IRM remedy. Confirmatory samples identified analytes to be below restricted residential SCOs.

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.

Several site investigations were conducted on this site. A Phase I investigation was performed in October 2020 and a Phase II investigation was performed in November 2020. Under the BCP, RI activities were initiated in November 2021 and included the sampling of surface soil, near surface soil, subsurface soil/fill material, groundwater, and soil vapor. In addition, environmental samples were obtained from impacted site building materials which included stained concrete and wood flooring. The impacted building materials were addressed as part of the IRMs performed at the site, and discussed in section 6.2. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

The RI environmental samples were analyzed for Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), metals, organochlorine pesticides/herbicides, polychlorinated biphenyls (PCBs), and emergent contaminants (1,4-dioxane and per/polyfluoralkyl substances (PFOA/PFAS)).

Nature and Extent of Contamination:

Soil:

Surface Soils and Near Surface Soils:
Two surface soil samples (sampled between 0-4" below ground surface (bgs)) and two near surface soils (sampled between 4"-24" bgs) were collected and analyzed for VOCs (near surface only), SVOCs, metals, organochlorine pesticides / herbicides, PCBs and emergent contaminants. From the samples analyzed, VOCs, organochlorine pesticides/ herbicides, and emergent contaminants were either not detected or detected at concentration below the restricted residential SCOs (RRSCOs). Table 1 below displays the parameters detected above the RRSCO and the maximum concentrations observed within the environmental samples.

Table 1: Surface and Near Surface Soil Sample Summary

Parameter	Restricted Residential SCOs (ppm)	Surface Sample	Near Surface Sample
		Surface Sample Maximum Concentration Identified (ppm)	Near Surface Sample Maximum Concentration Identified (ppm)
Semi-Volatile Organic Compounds (SVOCs) - ppm			
acenaphthene	100	38	-
anthracene	100	100	-
benzo(a)anthracene	1	200	6.4
benzo(a)pyrene	1	160	5.9
benzo(b)fluoranthene	1	210	7.6
benzo(k)fluoranthene	3.9	42	2.5
chrysene	3.9	180	5.6
dibenzo(a,h)anthracene	0.33	22	0.89
dibenzofuran	59	27	-
fluoranthene	100	430	-
fluorene	100	44	-
indeno(1,2,3-cd)pyrene	0.5	110	3.7
naphthalene	100	17	-
phenanthrene	100	380	-
pyrene	100	330	-
Total PAH		2365	81.4
Metals - ppm			
arsenic	16	27.4	-
copper	270	315	334
lead	400	787	453
polychlorinated biphenyls (PCBs) - ppm			
Total PCBs	1	1.21	-
perfluorinated alkyl acids - ppb			
perfluorooctanesulfonic acid (PFOS)	0.88	2.38	-

Definitions:

"-" = parameter was either not detected or detected below the restricted residential SCO.

Subsurface Soils:

Twenty-six subsurface soil samples (sampled between 0-6 feet fbgs) were collected and analyzed for VOCs, SVOCs, metals, organochlorine pesticides / herbicides, PCBs and emergent contaminants. From the samples analyzed, VOCs, organochlorine pesticides/ herbicides, PCBs, and emergent contaminants were either not detected or detected at concentration below the RRSCOs. Table 2 below displays the parameters detected above the RRSCO and the maximum concentrations observed within the environmental samples.

Table 2: Subsurface Soil/Fill Summary

Parameter	Restricted Residential SCOs (ppm)	Maximum Concentration Identified (ppm)
Semi-Volatile Organic Compounds (SVOCs) - ppm		
benzo(a)anthracene	1	33
benzo(a)pyrene	1	26
benzo(b)fluoranthene	1	35
benzo(k)floranthene	3.9	11
chrysene	3.9	30
dibenzo(a,h)anthracene	0.33	4.5
indeno(1,2,3-cd)pyrene	0.5	20
Metals - ppm		
cadmium	4.3	4.48
copper	270	348
lead	400	982

Groundwater:

Groundwater samples were obtained three groundwater monitoring wells within the site area. Groundwater was analyzed for VOCs, SVOCs, metals, organochlorine pesticides/ herbicides, PCBs, and emergent contaminants. From the samples analyzed, VOCs, organochlorine pesticides/ herbicides, PCBs, and emergent contaminants were either not detected or detected at concentration below the Department's NYS Groundwater Quality Standards (GWQS). Table 3 below displays the parameters detected above the GWQS and the maximum concentrations observed within the environmental samples.

Table 3: Groundwater Sample Summary

Parameter	GWQS	Maximum Concentration Identified (ppm)

Semi-Volatile Organic Compounds (SVOCs) - ppm		
benzo(a)anthracene	0.002	0.09
benzo(a)pyrene	ND	0.07
benzo(b)fluoranthene	0.002	0.12
benzo(k)floranthene	0.002	0.05
chrysene	0.002	0.09
indeno(1,2,3-cd)pyrene	0.002	0.07
Metals - ppm		
magnesium	35,000	155,000
sodium	20,000	167,000

Definiitions:
GWQS = Vaues per NYSDEC Division of Water Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Class GA (TOGS 1.1.1) or NYSDEC Action levels for emergent contaminants

Soil Vapor:

Soil vapor studies included the collection of seven air samples (3 sub-slab vapor, 3 indoor air, and 1 outside air) during the RI. Samples were analyzed for VOCs and compared to the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006, rev. May 2017). Soil vapor results did not indicate a level of concern for potential soil vapor intrusion.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

The site is partially fenced and mostly covered by a building, asphalt and concrete. Persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. 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 may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Sampling indicates that soil vapor intrusion is not a concern on- or 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.

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

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 Track 4 - Restricted Residential Excavation of Soil and Cover System remedy. The selected remedy is based on the completion of the IRMs discussed in section 6.2 of this document.

The elements of the selected remedy, as shown in Figure 3, are as follows:

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 vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation of Future Parking Lot Area of Site

Excavation and offsite disposal of soils in the upper two feet which exceed restricted residential SCOs will be performed in the western portion of the site where a future parking lot will be constructed. Approximately 412 cubic yards of contaminated soil will be removed from the site as part of the remedial excavation. Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that the SCOs for the site have been achieved

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 3 to backfill the excavation and establish designed grades at the stie. Clean fill meeting the requirements of 6NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish designed grades at the stie. The site will be re-graded to accommodate installation of a cover system as described in remedy element 3.

3. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable SCOs, to allow for future restricted residential use of the site. 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, included 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 the site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

4. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site

Management Plan (SMP), as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum.

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 County Department of Health; and
- require compliance with the Department approved SMP.

5. Site Management Plan (SMP)

An 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 engineering controls remain in place and effective:

Institutional Controls: the environmental easement discussed in the "Institutional Controls" section of remedy element 4.

Engineering Controls: the site cover system discussed in remedial element 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 or groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedial element 3 above will be placed in any areas where the upper 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 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 the site cover to assess the performance and effectiveness of the remedy; a schedule of monitoring and frequency of submittals to the Department

Figure 1 – Site Location Map

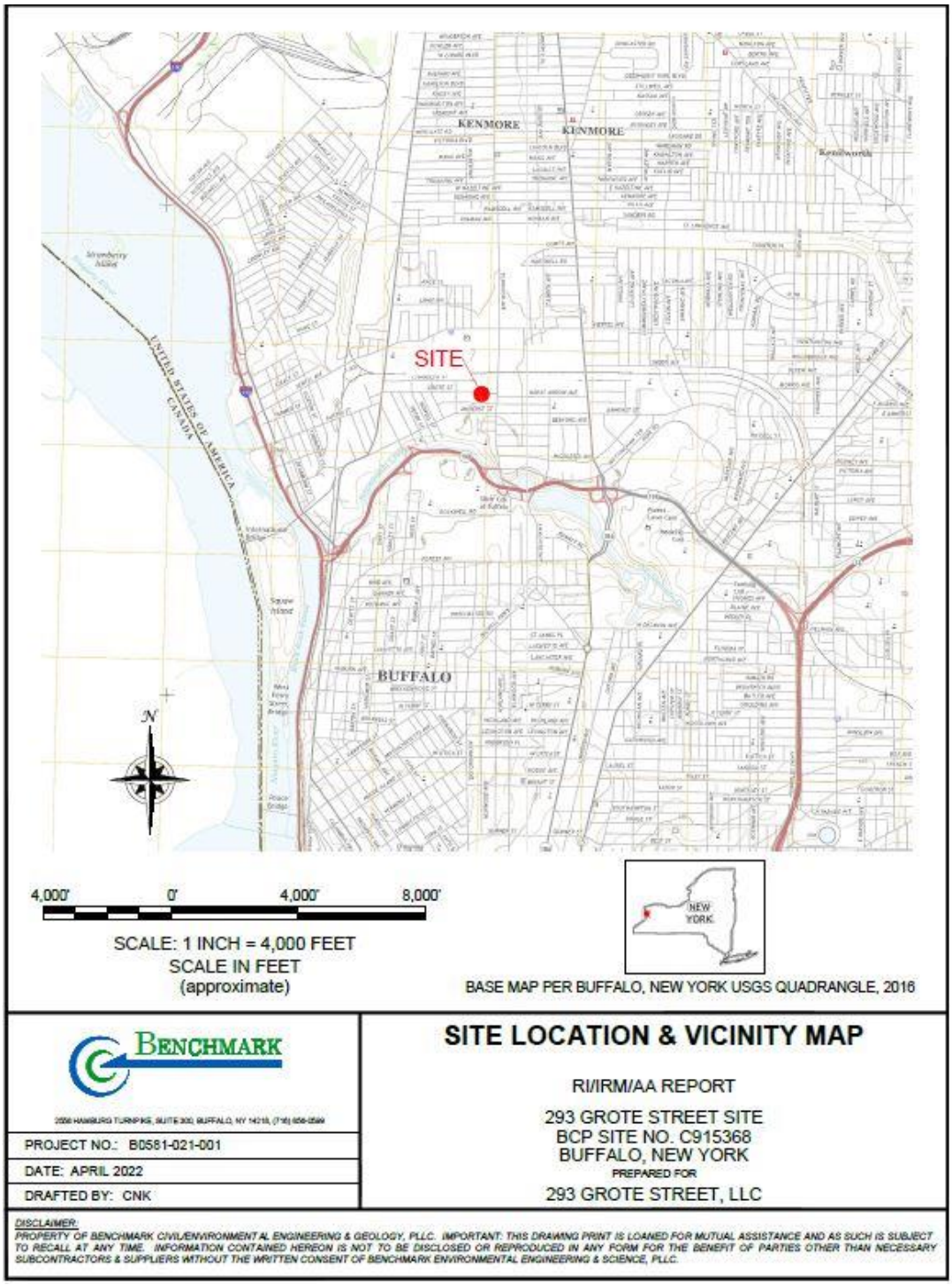

Figure 2 – Site Plan

Figure 3 – Selected Remedy