DECISION DOCUMENT

6200-6390 Niagara Falls Boulevard Site
Brownfield Cleanup Program
Niagara Falls, Niagara County
Site No. C932170
March 2022

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

DECLARATION STATEMENT - DECISION DOCUMENT

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Statement of Purpose and Basis

This document presents the remedy for the 6200-6390 Niagara Falls Boulevard 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 6200-6390 Niagara Falls Boulevard 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:

Remedy Description:

1. Remedial Design

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

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

sustainable re-development; and

- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soils containing elevated total semi-volatile organic compounds (SVOCs) exceeding 500 ppm, which includes but is not limited to the four identified polycyclic aromatic hydrocarbon (PAH) "hotspots";
- excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.
- soils containing elevated metals exceeding the commercial soil cleanup objectives (SCOs), which includes but is not limited to the seven identified metal "hotspot" locations; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Excavation of the identified source areas will result in approximately 10,125 tons of contaminated soil being removed from the site. A demarcation layer will be implemented in all excavated areas. Excavation limits and backfill methods will be conducted to meet all Track 4 commercial use SCOs.

All soils in the upper foot which exceed the commercial SCOs will either be excavated and transported off-site for disposal or covered with an appropriate site cover system depending on the final redevelopment plan for the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d), and approved by the Department, will be brought in to replace the excavated soil and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system, as described in remedy element 4, below.

4. Cover System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the commercial SCOs. Where a soil cover is to be used it will be a minimum of one foot 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. Engineering and 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. The remedy will achieve a Track 4 commercial 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 commercial or industrial 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 Site Management Plan.

Site Management Plan

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

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

Institutional Controls: the environmental easement discussed in the "*Institutional Controls*" paragraph above.

Engineering Controls: the site cover system discussed in remedial element 4, and if vapor mitigation systems are implemented at the site.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

- descriptions of the provisions of the environmental easement including any land use or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings or future buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedial element 4 above will be placed in any areas where the upper one foot 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.

2. 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 and 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 remaining or future buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

3. if a vapor mitigation system is required at a future date, an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the vapor mitigation system(s). The plan includes, but is not limited to:
- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

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.

3/2/2022
Date

Michael J Cruden
Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

6200-6390 Niagara Falls Boulevard Site
Niagara Falls, Niagara County
Site No. C932170
March 2022

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C932170

Niagara Falls Public Library
Earl W. Brydges Bldg - 1425 Main St.
Niagara Falls, NY 14305
Phone: (716)286-4894

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 6200-6390 Niagara Falls Boulevard site is an approximately 7.14-acre site located in a highly developed industrial and commercial area in the City of Niagara Falls, Niagara County. The site is comprised of two adjoining parcels and is bordered by commercial properties, an active solid waste landfill, and a closed hazardous waste landfill to the north, Niagara Falls Boulevard to the south, Connecting Boulevard to the east, and commercial properties to the west.

Site Features:
The parcel addressed as 6200 Niagara Falls Boulevard is comprised of asphalt paved areas, vegetated green space, and trees. Two buildings had previously been located on this portion of the site but have been demolished with only the former foundations and sub-slabs remaining. The parcel addressed as 6390 Niagara Falls Boulevard includes one vacant building, referred to as Building 3, which is approximately 2,040 square feet and was constructed in 1972. The remainder of the parcel is comprised of asphalt covered areas and vegetated areas.

Current Zoning and Land Use:
The current zoning for the 6200 Niagara Falls Boulevard parcel is I2 (Industrial) and the current zoning for the 6390 Niagara Falls Boulevard parcel is C3 (General Commercial). Both are currently vacant. The surrounding areas to the northwest are zoned I2 (Industrial), while the surrounding areas to the southeast are zoned C3 (General Commercial).

Past Use of the Site:
6200 Niagara Falls Boulevard was historically used for manufacturing purposes, including a graphite/carbon product manufacturing operation. The parcel was a portion of the larger Great Lakes Carbon Site (No. 932016) placed on the Registry of Inactive Hazardous Waste Disposal Sites (Registry) as a non-registry Class 2A site in 1983. After completion of a preliminary site assessment in 1991, it was determined that no hazardous waste material was disposed of on site and therefore was removed from the Registry in 1994.

The parcel at 6390 Niagara Falls Boulevard was formerly used as a gasoline service station. Multiple NYSDEC Spill incidents have been reported for the site, including releases from multiple underground storage tanks (USTs) and fuel dispensers.

Site Geology and Hydrogeology:

The property is located within the Lake Erie-Niagara River major drainage basin, which is typified by little topographic relief, except in the immediate vicinity of major drainage ways.

Site soils are generally characterized as Canandaigua Silt Loam with level to gently sloping land. The subsurface soil/fill is generally described as sand or sand and gravel fill material with varying amounts of asphalt, concrete and wood fragments, underlain by silty sand. Dense clay was encountered at 8 feet below ground surface (fbgs). The greater area of the 6200 Niagara Falls Boulevard parcel was assessed and it was identified as including layers of carbon, graphite, ash, and building debris with piles of similar materials ranging between 6 and 10 feet high.
Groundwater flow is generally to the south towards the Niagara River. In the northern portion of the site, the groundwater is flowing northwards. Groundwater flow may be influenced by subsurface features, such as excavations, utilities, and localized fill-conditions. On-Site groundwater was encountered at 4 fbgs.

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 restrict the use of the site to commercial use (which allows for 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 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
- 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:

arsenic	mercury
benzo(a)anthracene	nickel
benzo(k)fluoranthene	MTBE (methyl-tert-butyl ether)
chrysene	polychlorinated biphenyls (PCB)
chromium	phenanthrene
chloroethane	pyrene
dibenz(a,h)anthracene	1,4-dioxane
indeno(1,2,3-cd)pyrene	1,1,1-trichloroethane

trichloroethene (TCE) fluoranthene

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil
- indoor air
- sub-slab vapor

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.

Several investigations were conducted on this site. Most recently, a Phase 1 investigation was performed in 2002 and 2016; a phase 2 investigation was performed in 2008; and Remedial Investigation (RI) activities were performed in 2018, 2019, and 2020.

Under the BCP, RI activities were conducted from 2018 through 2020. The RI consisted of sampling and analysis of surface/subsurface soils/fill, groundwater, vessel liquids, and soil vapor. The data derived from the RI was used to determine the remedy components for the site, and identified soil/fill, groundwater, and soil vapor impacts at various locations and depths throughout the site.

Nature and Extent of Contamination:

Soil

Surface Soil:
Surface soils were sampled from 0 to 2 inches below ground surface and analyzed for semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals and pesticides/herbicides. No metals or pesticides/herbicides were detected at concentrations above the commercial use soil cleanup objective values (CSCOs) in surface soils.

SVOCs detected in surface soil included benzo(a)anthracene at concentrations up to 410 parts per million (ppm) (CSCO 5.6 ppm), benzo(a)pyrene up to 620 ppm (CSCO 1.0 ppm), benzo(b)fluoranthene up to 830 ppm (CSCO 5.6 ppm), benzo(k)fluoranthene up to 60 ppm (CSCO

56 ppm), chrysene up to 470 ppm (CSCO 56 ppm), dibenzo(a,h)anthracene up to 100 ppm (CSCO 0.56 ppm), fluoranthene up to 510 ppm (CSCO 500 ppm), indeno(1,2,3-cd)pyrene 380 ppm (CSCO 5.6 ppm) and pyrene up to 510 ppm (CSCO 500 ppm).

PCBs detected in surface soil included total PCBs at concentrations up to 6.9 ppm (CSCO 1.0 ppm).

Subsurface Soil:
Subsurface soils were sampled from 2 inches below ground surface to 8 fbgs and analyzed for volatile organic compounds (VOCs), SVOCs, PCBs, metals, pesticides/herbicides, and perfluoroalkyl substances (PFAS). No VOCs, PCBs, pesticides/herbicides, or PFAS were detected at concentrations above the commercial use soil cleanup objective values (CSCOs) or associated screening criteria in subsurface soils.

SVOCs detected in subsurface soil included benzo(a)anthracene at concentrations up to 1,300 ppm (CSCO 5.6 ppm), benzo(a)pyrene up to 660 ppm (CSCO 1.0 ppm), benzo(b)fluoranthene up to 1,500 ppm (CSCO 5.6 ppm), benzo(k)fluoranthene up to 580 ppm (CSCO 56 ppm), chrysene up to 1,600 ppm (CSCO 56 ppm), dibenzo(a,h)anthracene up to 140 ppm (CSCO 0.56 ppm), fluoranthene up to 5,500 ppm (CSCO 500 ppm), indeno(1,2,3-cd)pyrene 290 ppm (CSCO 5.6 ppm), phenanthrene up to 3,200 ppm (CSCO 500) and pyrene up to 3,700 (CSCO 500 ppm).

Metals detected in subsurface soil included chromium at concentrations up to 10,700 ppm (CSCO 1,500 ppm), arsenic up to 55.8 ppm (CSCO 16 ppm), mercury up to 5.9 ppm (CSCO 5.7 ppm) and nickel up to 4,620 ppm (CSCO 310 ppm).

Groundwater

Eleven groundwater monitoring wells were sampled across the site and analyzed for VOCs, SVOCs, PCBs, metals, pesticides/herbicides, and PFAS. No PCBs, metals, or pesticides/herbicides were detected at concentrations above their respective groundwater quality standards (GWQS) or threshold values.

VOCs detected in groundwater included chloroethane at concentrations up to 5.2 parts per billion (ppb) (GWQS 5.0 ppb) and methyl-tert-butyl-ether up to 11 ppb (GWQS 10 ppb).

SVOCs detected in groundwater included benzo(b)fluoranthene at concentrations up to 1.7 ppb (GWQS 0.002 ppb), and 1,4-dioxane up to 4.2 ppb (NYSDEC screening level 1.0 ppb).

A variety of low level individual PFAS were detected in groundwater at concentrations below the NYSDEC screening level (Individual PFAS screening level 100 ppt). At one monitoring location perfluroropentanoic acid (PFPeA) was detected at a concentration of 130 parts per trillion (ppt) (NYSDEC individual PFAS screening level 100 ppt). Total PFAS concentrations were identified below the NYSDEC screening levels (NYSDEC total PFAS screening level 500 ppb) at each groundwater monitoring location.

Vessel Liquid Samples

The identification of two service pits and one unknown standpipe prompted the collection of liquid samples. Each sample was analyzed for VOCs, SVOCs, PCBs, and metals. No VOCs, SVOCs, PCBs or metals were detected at concentrations above their respective GWQS in these samples.

Soil Vapor

A total of 15 air samples, consisting of indoor/outdoor air, sub-slab vapor, and soil vapor samples, were collected and analyzed for VOC compounds, with numerous VOC compounds being detected. Detected compounds were evaluated against the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006) matrix thresholds. Of note, trichloroethene (TCE) was detected up to 230 micrograms per cubic meter (mcg/m^3) and 1,1,1-trichloroethane was detected up to 1,100 mcg/m^3 in the sub-slab soil vapor samples. 1,1,1-trichloroethane was also detected up to 1.3 mcg/m^3 in the indoor air samples. Based on the concentrations of TCE and 1,1,1- trichloroethane in comparison to the NYSDOH October 2006 guidance document, actions are needed to address potential exposures.

The VOC compound Methyl ethyl ketone was also identified within the soil vapor at concentrations which suggested potential offsite sources. The site has been referred to the Department's Spills section, in order to determine if further investigations are warranted for source delineation and offsite exposure impacts.

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 partially covered by vacant land, asphalt/concrete and a vacant building, people are unlikely to contact site contaminants in soil due to the limited use of the property. However, persons who dig below the ground surface may come into contact with contaminants in subsurface 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. Because the on-site building is vacant, soil vapor intrusion does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site redevelopment. While it does not appear that off-site migration of site-contaminated soil vapor exists, it does appear that there are potential off-site soil vapor concerns from another source and will be evaluated under a separate program

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.

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 4: Commercial use with modified soil cleanup objectives remedy.

The selected remedy is referred to as “Commercial Use (Track 4) Cleanup”.

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

Remedy Description:

1. Remedial Design

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

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

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- soils containing elevated total semi-volatile organic compounds (SVOCs) exceeding 500 ppm, which includes but is not limited to the four identified polycyclic aromatic hydrocarbon (PAH) "hotspots";
- excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.
- soils containing elevated metals exceeding the commercial soil cleanup objectives (SCOs), which includes but is not limited to the seven identified metal "hotspot" locations; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Excavation of the identified source areas will result in approximately 10,125 tons of contaminated soil being removed from the site. A demarcation layer will be implemented in all excavated areas. Excavation limits and backfill methods will be conducted to meet all Track 4 commercial use SCOs.

All soils in the upper foot which exceed the commercial SCOs will either be excavated and

transported off-site for disposal or covered with an appropriate site cover system depending on the final redevelopment plan for the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d), and approved by the Department, will be brought in to replace the excavated soil and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system, as described in remedy element 4, below.

4. Cover System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the commercial SCOs. Where a soil cover is to be used it will be a minimum of one foot 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. Engineering and 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. The remedy will achieve a Track 4 commercial 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 commercial or industrial 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 Site Management Plan.

Site Management Plan

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

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

Institutional Controls: the environmental easement discussed in the "*Institutional Controls*" paragraph above.

Engineering Controls: the site cover system discussed in remedial element 4, and if vapor mitigation systems are implemented at the site.

This plan includes, but may not be limited to:

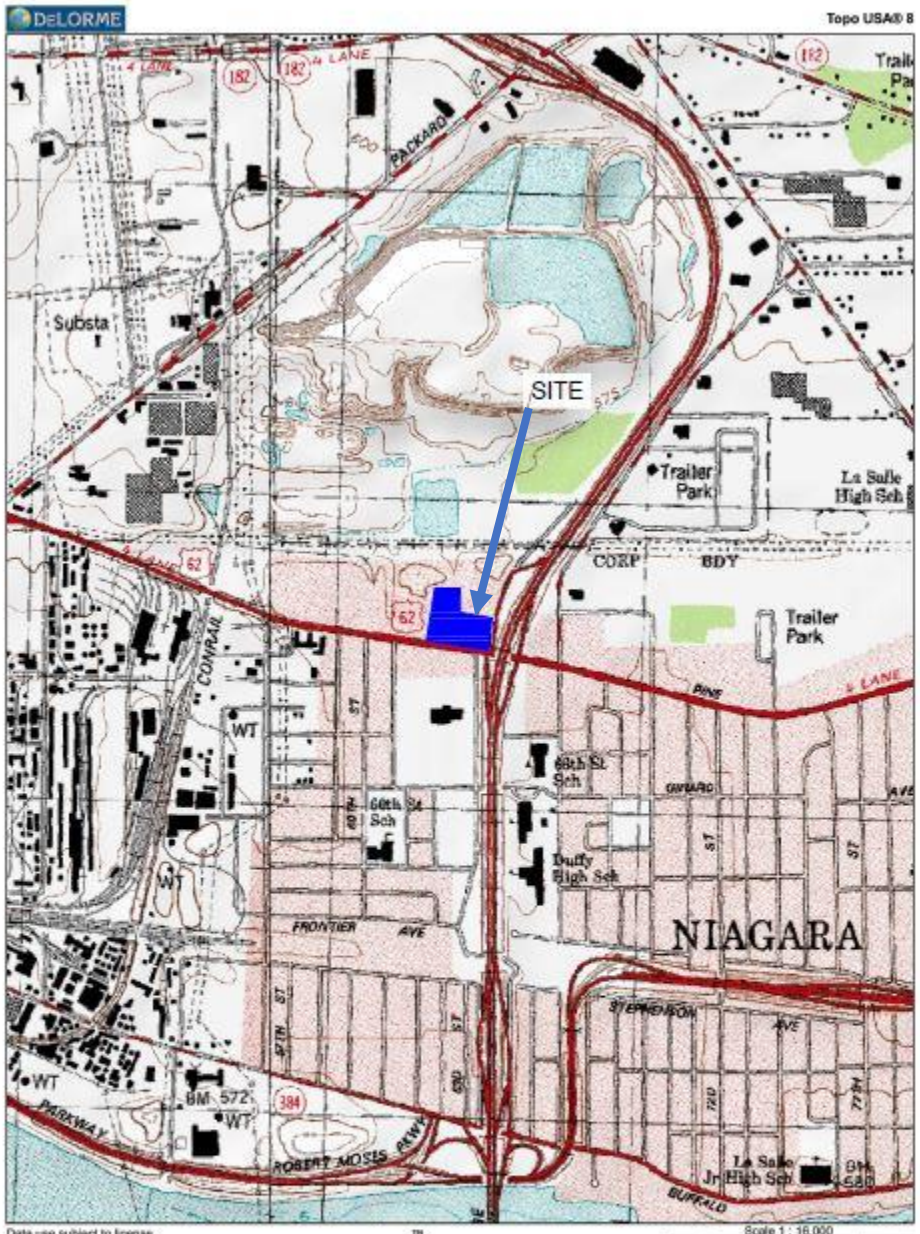
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings or future buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedial element 4 above will be placed in any areas where the upper one foot of exposed surface soil exceeds 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.

2. 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 and 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 remaining or future buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

3. if an vapor mitigation system is required at a future date, an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the vapor mitigation system(s). The plan includes, but is not limited to:
- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data

for any necessary reporting.

Figure 1:
Site Location Map



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PROJECT NO.: 0379-016-003
DATE: JUNE 2020
DRAFTED BY: CCB/NAS

SITE LOCATION AND VICINITY MAP

REMEDIAL INVESTIGATION/ ALTERNATIVES ANALYSIS REPORT
6200-6390 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK
PREPARED FOR
6200 NIAGARA FALLS BOULEVARD, LLC & 6390 NIAGARA FALLS BOULEVARD, LLC

Figure 2:
Site Boundary

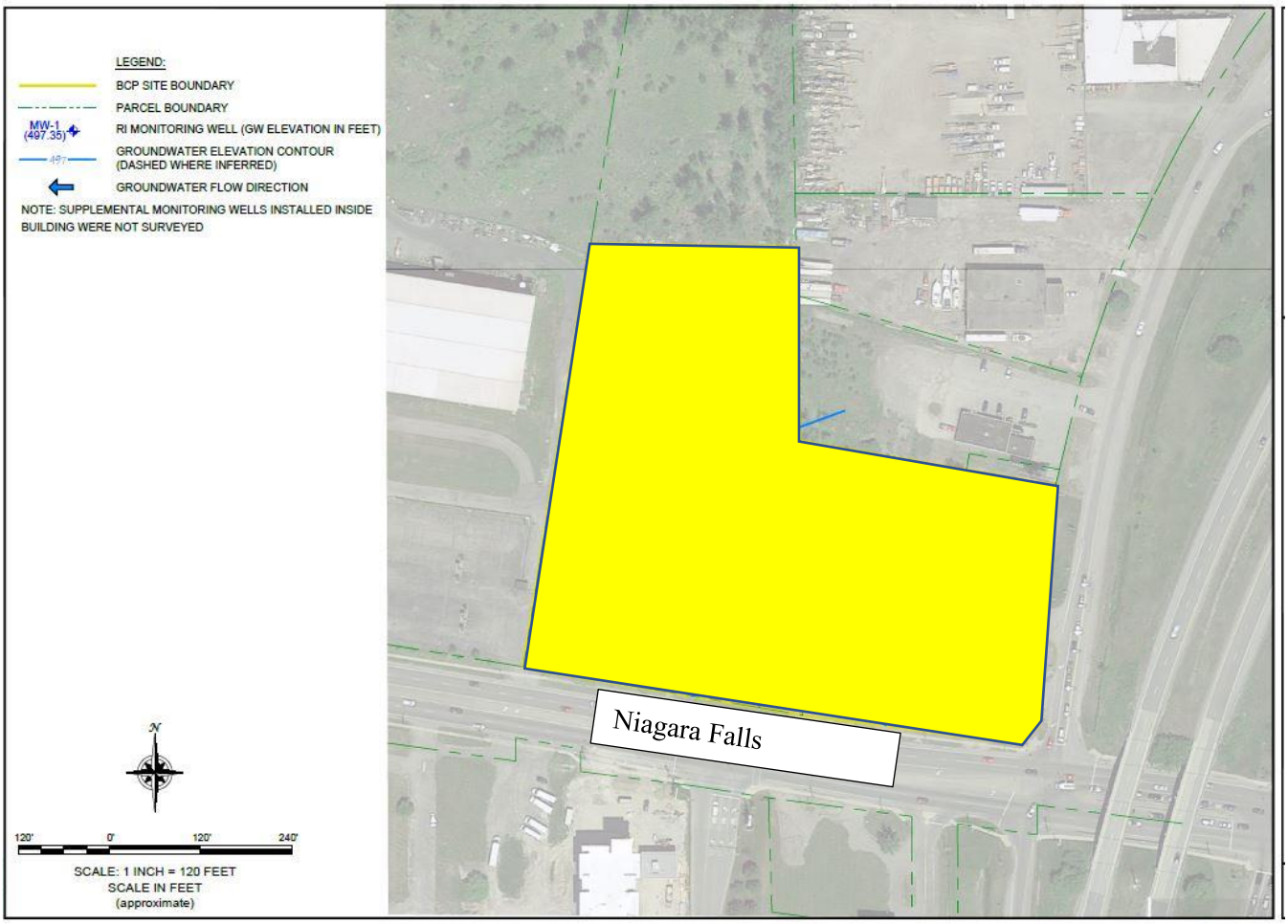
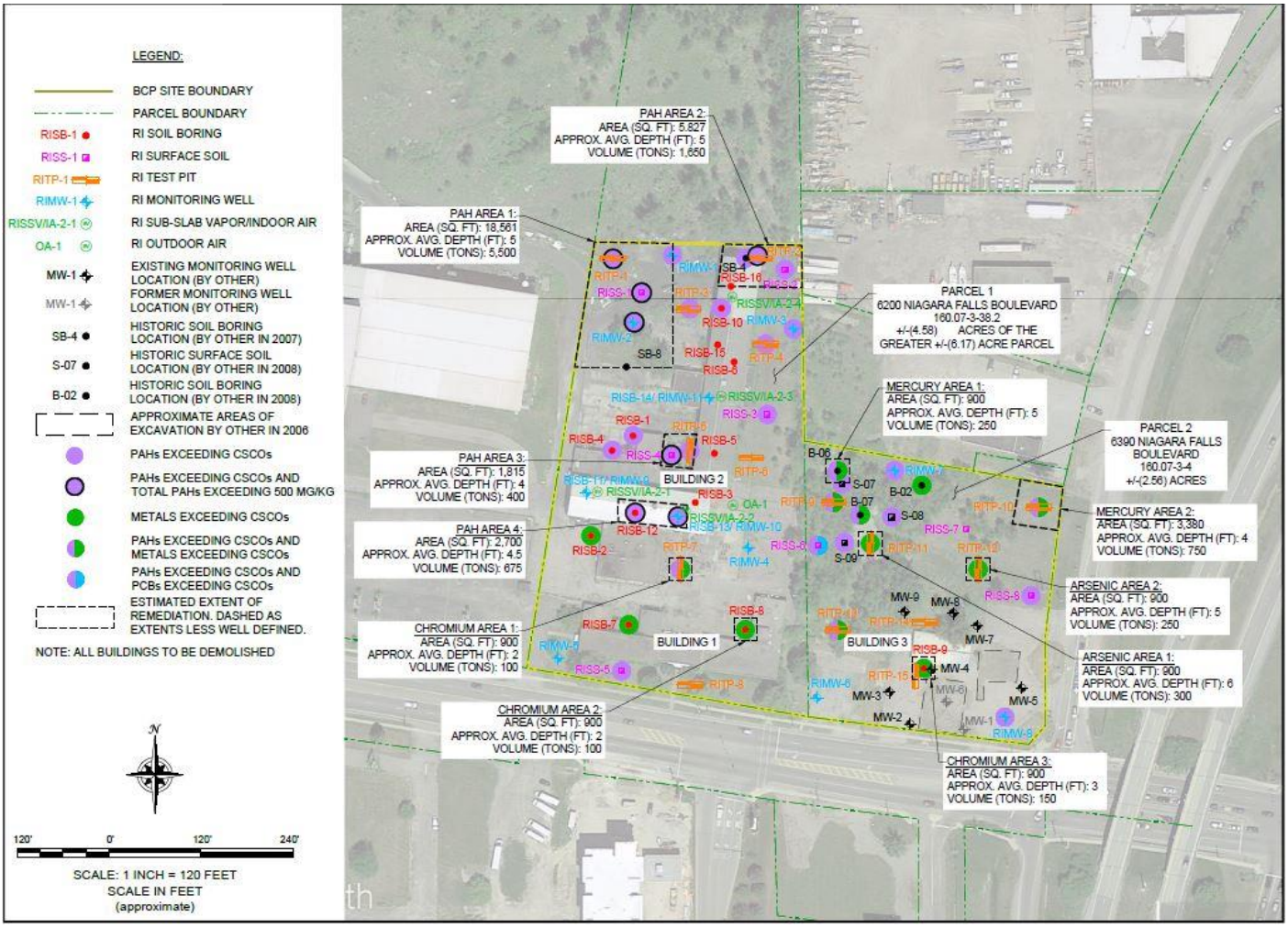

LEGEND:
BCP SITE BOUNDARY
PARCEL BOUNDARY
MW-1 (497.35)
RI MONITORING WELL (GW ELEVATION IN FEET)
GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
GROUNDWATER FLOW DIRECTION
NOTE: SUPPLEMENTAL MONITORING WELLS INSTALLED INSIDE BUILDING WERE NOT SURVEYED
N
120' 0' 120' 240'
SCALE: 1 INCH = 120 FEET
SCALE IN FEET
(approximate)
Niagara Falls

Figure 3:
Remedial Excavation Limits


LEGEND:
BCP SITE BOUNDARY
PARCEL BOUNDARY
RISB-1 RI SOIL BORING
RISS-1 RI SURFACE SOIL
RITP-1 RI TEST PIT
RIMW-1 RI MONITORING WELL
RISSV/IA-2-1 RI SUB-SLAB VAPOR/INDOOR AIR
OA-1 RI OUTDOOR AIR
MW-1 EXISTING MONITORING WELL LOCATION (BY OTHER)
MW-1 FORMER MONITORING WELL LOCATION (BY OTHER)
SB-4 HISTORIC SOIL BORING LOCATION (BY OTHER IN 2007)
S-07 HISTORIC SURFACE SOIL LOCATION (BY OTHER IN 2008)
B-02 HISTORIC SOIL BORING LOCATION (BY OTHER IN 2008)
APPROXIMATE AREAS OF EXCAVATION BY OTHER IN 2006
PAHs EXCEEDING CSCOs
PAHs EXCEEDING CSCOs AND TOTAL PAHs EXCEEDING 500 MG/KG
METALS EXCEEDING CSCOs
PAHs EXCEEDING CSCOs AND METALS EXCEEDING CSCOs
PAHs EXCEEDING CSCOs AND PCBs EXCEEDING CSCOs
ESTIMATED EXTENT OF REMEDIATION. DASHED AS EXTENTS LESS WELL DEFINED.
NOTE: ALL BUILDINGS TO BE DEMOLISHED
N
120' 0' 120' 240'
SCALE: 1 INCH = 120 FEET
SCALE IN FEET
(approximate)
PAH AREA 2:
AREA (SQ. FT): 5,827
APPROX. AVG. DEPTH (FT): 5
VOLUME (TONS): 1,650
PAH AREA 1:
AREA (SQ. FT): 18,561
APPROX. AVG. DEPTH (FT): 5
VOLUME (TONS): 5,500
PARCEL 1
6200 NIAGARA FALLS BOULEVARD
160.07-3-38.2
+/-(4.58) ACRES OF THE
GREATER +/-(6.17) ACRE PARCEL
MERCURY AREA 1:
AREA (SQ. FT): 900
APPROX. AVG. DEPTH (FT): 5
VOLUME (TONS): 250
PARCEL 2
6390 NIAGARA FALLS
BOULEVARD
160.07-3-4
+/-(2.56) ACRES
PAH AREA 3:
AREA (SQ. FT): 1,815
APPROX. AVG. DEPTH (FT): 4
VOLUME (TONS): 400
BUILDING 2
MERCURY AREA 2:
AREA (SQ. FT): 3,380
APPROX. AVG. DEPTH (FT): 4
VOLUME (TONS): 750
PAH AREA 4:
AREA (SQ. FT): 2,700
APPROX. AVG. DEPTH (FT): 4.5
VOLUME (TONS): 675
ARSENIC AREA 2:
AREA (SQ. FT): 900
APPROX. AVG. DEPTH (FT): 5
VOLUME (TONS): 250
CHROMIUM AREA 1:
AREA (SQ. FT): 900
APPROX. AVG. DEPTH (FT): 2
VOLUME (TONS): 100
BUILDING 1
BUILDING 3
ARSENIC AREA 1:
AREA (SQ. FT): 900
APPROX. AVG. DEPTH (FT): 6
VOLUME (TONS): 300
CHROMIUM AREA 2:
AREA (SQ. FT): 900
APPROX. AVG. DEPTH (FT): 2
VOLUME (TONS): 100
CHROMIUM AREA 3:
AREA (SQ. FT): 900
APPROX. AVG. DEPTH (FT): 3
VOLUME (TONS): 150