DECISION DOCUMENT

The Crossroads at Genesee
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915338
February 2020

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

DECLARATION STATEMENT - DECISION DOCUMENT

The Crossroads at Genesee
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915338
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Statement of Purpose and Basis

This document presents the remedy for The Crossroads at Genesee 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 Crossroads at Genesee 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:

The proposed Track 1 Unrestricted Use remedy consists of the following:

1. REMEDIAL DESIGN
A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remediation 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 gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent

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

2. EXCAVATION

Excavation and off-site disposal of all on-site soils which exceed unrestricted soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8. If the Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Approximately 3,100 cubic yards of contaminated soil will be removed from the site.

3. BACKFILL

On-site soil which does not exceed the above excavation criteria may be used to backfill the excavation.

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

4. VAPOR INTRUSION EVALUATION

As part of the Track 1 remedy, a soil vapor intrusion (SVI) evaluation will be completed in any new buildings as well as existing buildings following the restoration of ground floor or basement floor slabs in existing buildings. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. CONDITIONAL TRACK 1

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

6. VAPOR MITIGATION

If the soil vapor intrusion investigation determines mitigation is necessary, any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the buildings. The system and any vapor intrusion monitoring must no longer be needed within 5 years of the date of the Certificate of Completion or the remedy would result in a track 2 restricted residential cleanup.

7. CONTIGENT TRACK 1

The intent of the remedy is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated.

If the Track 1 unrestricted use remedy is not achieved, the contingent remedial elements 8 (Cover System), 9 (Engineering and Institutional Controls) and 10 (Site Management Plan) will be required and the remedy will achieve a track 4 restricted residential cleanup. If the SVI

evaluation results requires vapor mitigation, the vapor mitigation remedial element (6) shall also be implemented.

8. COVER SYSTEM

If a Track 1 unrestricted use or Track 2 clean-up is not achieved, a site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

9. 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 restricted residential cleanup for building areas at a minimum and will include an environmental easement and site management plan as described below.

Institutional Control

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 uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and
- require compliance with the Department approved Site Management Plan.

10. SITE MANAGEMENT PLAN

A Site Management Plan, which includes the following:

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

   Institutional Controls: The environmental easement discussed in Paragraph 9 above.

   Engineering Controls: The Engineering Control Plan will also identify all engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following engineering control remains in place and effective:

- the sub-slab depressurization system discussed in Paragraph 6 above for both Track 2 and Track 4 remedies; and
- a cover system discussed in Paragraph 8 for Track 4 areas.

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 (below existing buildings);
- 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 all existing and any new buildings on the site;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 8 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- provisions for the management and inspection of the identified engineering controls; and a provision that should an existing or future building or building foundation be demolished in the future, a cover system consistent with that described in Paragraph 8 above will be placed in any areas where the upper two feet of exposed surface soil exceeds the applicable SCOs.
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - monitoring of soil vapor mitigation system 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 Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation systems. The plan includes, but is not limited to:
   - procedures for operating and maintaining the soil vapor mitigation systems; and
   - compliance inspection of the soil vapor mitigation systems 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.

02/25/2020

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

The Crossroads at Genesee
Buffalo, Erie County
Site No. C915338
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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 materials and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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

SECTION 2: CITIZEN PARTICIPATION

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

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C915338

Frank E. Merriweather Jr. Library
1324 Jefferson Ave
Buffalo, NY 14208
Phone: 716-883-4418

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 1.92 acres in size and is located in an urban area on the eastern side of the City of Buffalo, northeast of the downtown area; approximately 4 miles east of Lake Erie and a quarter mile west of State Route 62. The property sits approximately 250 feet east of the intersection of Genesee and Doat Street, between Doat St. and Landsdale Place.

Site Features:
The site is mostly flat with little elevation change typical of the area. The main site features include a four-story, 91,000 square-foot brick industrial building with an interconnected boiler house and service building, forming an L-shaped building. The remainder of the site/yard areas are covered mostly with gravel and portions with dilapidated asphalt. The building occupies most of the southern and western portion of the property while the gravel and asphalt areas cover the north and eastern sections. Currently multiple storage containers, tire piles, and vehicle storage areas exist on the eastern side of the property. There are no streams or naturally occurring water sources (including wetlands and floodplains) near the site.

Current Zoning and Land Use:
The property is zoned D-C, flex-commercial and is currently not in active used except for storage of idled cars, used tires in containers and miscellaneous equipment and debris. The property is surrounded by a mixture of residential and commercial properties. A cemetery borders the southern half of the east side of the site and a commercial paving maintenance company on the northern half of the east side of the site. The south is bordered by vacant parcels and single-family homes. The west is bordered by single family residential homes, some vacant lots and a church. The north is bordered by mostly commercial properties.

Past Use of the Site:
Industrial and manufacturing uses have occurred on the site properties since the early 1900s including textile manufacturing and dyeing in the early 1900s when the property was owned by the Monarch Knitting Company (1912) and then the Butterworth Dyeing and Bleach Works (1925). From 1929 to 1946, the Spencer Lens Company produced optical lenses on the site. From 1946 to approximately 1950 Bond Clothing Store occupied the property for clothing manufacturing and retail. From the 1950s to the early 2000s, the property was occupied by the Royal Bedding Company and other small retail tenants. From 2009 to current, site was used for

automotive repair and tire sales. During this time, idled cars for parts salvage, trailer boxes filled with used tires, drums filled with used oil, car parts and other miscellaneous items began accumulating and being stored in the yard areas of the site.

Site Geology and Hydrogeology:
Geology: The area has been significantly developed as dense urban commercial/residential area since the late 1800s with surficial soils consisting predominantly of fill material from early development. The site is mostly covered by buildings, asphalt, some concrete pads with the balance of scattered soil/fill cover. The uppermost soil layer consists of one to two feet of urban fill consisting of gravel, with some cinder and silty/sandy soil. Asphalt covered areas consist of three to four inches of asphalt over a gravel base and some random fill totaling approximately one foot in thickness. The native soil layer below extends down approximately 50 feet to bedrock and is fairly uniform, consisting of a lean clay to silty clays down to approximately 42 feet. The soil becomes more silt like followed by a thin layer of till like soil containing fractured rock at the bedrock interface. Bedrock consists of Onondaga limestone.

Hydrogeology: Saturated soils were encountered deep in the soil formation in the lower silty soil layer. Groundwater depth ranges from 27 to 32 feet in depth and flows to the southwest.

A site location map is attached on Figures 1 and 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (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:

- air
- 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:

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
dibenz[a,h]anthracene
fluoranthene
indeno(1,2,3-CD)pyrene
naphthalene
phenanthrene

pyrene	DDE
arsenic	DDT
barium	aldrin
cadmium	chlordane
chromium	dibenzofuran
copper	dieldrin
lead	endrin
mercury	trichloroethene (TCE)
silver	benzene
zinc	1,2,4-trimethylbenzene
polychlorinated biphenyls (PCB)	xylene (mixed)
DDD	ethylbenzene

The contaminants of concern exceed the applicable SCGs for:

- 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.

The following information is based upon data provided in the Phase 2 Environmental Assessment and BCP Remedial Investigation of the site. Based upon the data from these reports, site contamination is mostly situated in surface and near-surface soil/fill at the site. A Track 1 unrestricted cleanup goal is anticipated for the site for anticipated high density residential and commercial use of the property. Investigation results were compared with unrestricted use soil cleanup objectives (UUSCOs). However, several contaminants of concern were at higher levels and some of which exceeded residential use SCOs (RUSCOs), restricted residential (RRUSCOs), commercial use SCOs (CUSCOs) and industrial use SCOs (IUSCOs). A detailed summary consists of the following;

Surface Soil/Fill (0 to 0.5 ft.)
Areas of the site lacking hard cover are mostly covered with gravel or granular aggregate. There are several limited areas with a soil surface. Samples were collected from the top six inches of

soil surfaces across the site. Samples were tested for semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides and herbicides, and emerging contaminants (ECs) consisting of per- and polyfluoroalkyl substances (PFAS) and 1,4 dioxane. Volatile organic compounds (VOCs) were not analyzed for surface soil samples. The surface soil areas are generally greatly impacted with SVOCs that exceed industrial use SCOs, moderately impacted with metals that exceed residential and commercial use SCOs and nominally impacted with PCBs, pesticides and herbicides that marginally exceed unrestricted use SCOs.

SVOCs exceedances varied randomly across the limited area covered with soil at several sample location. Reported concentrations exceeding unrestricted use and most industrial use SCOs include:

- Benzo(a)anthracene (up to 64 parts per million (ppm), UUSCO 1.0 ppm);
- Benzo(a)pyrene (up to 54.2 ppm, UUSCO 1.0 ppm);
- Benzo(b)fluoranthene (up to 52.5 ppm, UUSCO 1.0 ppm);
- Benzo(k)fluoranthene (up to 40.2 ppm, UUSCO 1.0 ppm)
- Chrysene (up to 60.2 ppm, UUSCO 1.0 ppm);
- Dibenzo(a,h)anthracene (up to 12 ppm, UUSCO 0.33 ppm);and
- Indeno(1,2,3-cd)pyrene (up to 41 ppm, UUSCO 0.5 ppm).

Metals exceedances varied randomly across the limited area covered with soil at more than one sample location. Reported concentrations exceeding unrestricted use SCOs and some additional restrictive use levels include:

- Chromium (up to 197 ppm, UUSCO 1 ppm hexavalent, 30 ppm trivalent);
- Lead (up to 2140 ppm, UUSCO 63 ppm); and
- Zinc (up to 2500 ppm, UUSCO 109 ppm).

One sample marginally exceeded unrestricted use SCOs for PCBs.

Several pesticides and herbicides marginally exceeded unrestricted use SCOs in several sampling locations.

Emerging Contaminants (ECs) were either not detected or were reported at concentrations below current guidance levels.

Near Surface Soil/Fill (0.5 to 2.0 ft.)
Because of gravel cover over most of the open yard areas of the site, samples were collected from near surface shallow depths across the site and tested for volatile organic compounds (VOCs), SVOCs, metals, PCBs, pesticides and herbicides, and ECs. SVOCs, metals, and pesticides and herbicides reported in surface soils were also reported in near surface soils, but at lower levels. The near surface soil areas are generally moderately impacted with SVOCs, marginally impacted with VOCs, metals, and pesticides and herbicides.

VOCs reported at concentrations exceeding unrestricted use SCOs and moderately above restricted residential use SCOs were located in a single specific area include:

- 1,2,4-Trimethylebenzene (371 ppm, UUSCO 3.6 ppm) in one location;
- 1,3,5-Trimethylbenzene (154 ppm, UUSCO 8.4 ppm) in one location; and

- Xylene (mixed) (232 ppm, UUSCO 0.26 ppm) in one location.

SVOCs exceedances varied randomly across the gravel covered areas. Reported concentrations exceeding unrestricted use SCOs and some more restrictive SCOs in near surface soils include:

- Benzo(a)anthracene (up to 10.1 ppm, UUSCO 1.0 ppm);
- Benzo(a)pyrene (up to 7.9 ppm, UUSCO 1.0 ppm);
- Benzo(b)fluoranthene (up to 7.5 ppm, UUSCO 1.0 ppm);
- Benzo(k)fluoranthene (up to 7.1 ppm, UUSCO 1.0 ppm)
- Chrysene (up to 9.3 ppm, UUSCO 1.0 ppm);
- Dibenzo(a,h)anthracene (up to 1.6 ppm, UUSCO 0.33 ppm); and
- Indeno(1,2,3-cd)pyrene (up to 5.3 ppm, UUSCO 0.5 ppm/).

Several metals marginally exceeded unrestricted use SCOs.

Several pesticides and herbicides marginally exceeded unrestricted use SCOs.

PCBs and ECs were either not detected or were reported at concentrations below unrestricted use SCOs.

Subsurface Soil/Fill (greater than 2.0 ft)
Samples were collected from varying depths across the site and tested for VOCs, SVOCs, metals, PCBs, pesticides and herbicides, and ECs. Soils samples were generally from native soil and contaminants of concern mostly diminish to background levels below unrestricted use SCOs.

Most metals were reported at concentrations below unrestricted use SCOs except for a single sample for chromium marginally above UUSCOs and an anomalous level for manganese

Several VOCs and SVOCs marginally exceeded unrestricted use SCOs in a discrete area.

PCBs, and pesticides and herbicides were either not detected or were reported at concentrations below USCOs.

The results did not indicate any off-site impacts to soil related to this site.

Groundwater
Groundwater samples were tested for VOCs, SVOCs, metals, PCBs, pesticides, herbicides, and ECs (perfluoro alkyl substances (PFAS) and 1,4 dioxane).

Acetone was the only VOC reported at a concentration above its groundwater quality standard (GWQS), and in just one sample at 291 parts per billion (ppb) (50ppb GWQS). However, acetone is a common laboratory contaminant. Acetone was not detected in any of the other groundwater samples. Additional sampling will be completed to confirm water quality impacts for acetone.

SVOCs, polychlorinated biphenyls (PCBs), pesticides and herbicides were either not detected or reported at concentrations below their GWQSs.

Neither perfluorooctanoic acid (PFOA) nor perfluorooctanesulfonic acid (PFOS) were reported above the 10 ppt screening limit for individual compounds, and the total concentrations of PFAS were below the 500 ppt screening limit. 1,4-dioxane was not detected.

The results did not indicate any off-site impacts to groundwater related to this site.

Indoor VOC Vapors
Except for trichloroethene (TCE), indoor air samples for VOC vapors were either non-detect or below typical background concentrations. TCE was detected up to 100 micrograms/cubic meter (ug/m^3) at one location and nominally above typical background concentrations at the two other locations. It should be noted that TCE was detected in the outdoor background sample, but at a low concentration (1.6 ug/m^3).

Subslab VOC Vapors
The sub-slab vapor analytical results reveal that TCE was detected in all six (6) sub-slab samples at elevated concentrations of up to 160 ug/m^3
Based on the results of the indoor air and sub-slab vapors, soil vapor intrusion has impacted the indoor air of the structure sampled and actions are recommended to address the potential for exposure to these contaminants. Results for the other detected VOC vapors indicate that No Further Action is required for these compounds.

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*.

People will not come in contact with the site related soil and groundwater contamination unless they dig below the surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the soil or 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. The 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 site is vacant, inhalation of site contaminants, due to soil vapor intrusion does not represent a current concern. Environmental sampling indicates that offsite migration of site contaminants is not a concern.

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 chosen for this site are:

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.

Groundwater

RAOs for Environmental Protection

- Prevent the discharge of contaminant to surface water.
- Remove the source of 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 unrestricted use 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, maintenance, and monitoring of the remediation 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 gas and other emissions;
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- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. EXCAVATION

Excavation and off-site disposal of all on-site soils which exceed unrestricted soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8. If the Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Approximately 3,100 cubic yards of contaminated soil will be removed from the site.

3. BACKFILL

On-site soil which does not exceed the above excavation criteria may be used to backfill the excavation.

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

4. VAPOR INTRUSION EVALUATION

As part of the Track 1 remedy, a soil vapor intrusion (SVI) evaluation will be completed in any new buildings as well as any existing buildings following restoration of ground floor or basement floor slabs. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. CONDITIONAL TRACK 1

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

6. VAPOR MITIGATION

If the soil vapor intrusion investigation determines mitigation is necessary, any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the buildings. The system and any vapor intrusion monitoring must no longer be needed within 5 years of the date of the Certificate of Completion or the remedy would result in a track 2 restricted residential cleanup.

7. CONTIGENT TRACK 1

The intent of the remedy is to achieve Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated.

If the Track 1 unrestricted use remedy is not achieved, the contingent remedial elements 8 (Cover System), 9 (Engineering and Institutional Controls) and 10 (Site Management Plan) will be required and the remedy will achieve a track 4 restricted residential cleanup. If the SVI evaluation requires vapor mitigation, the vapor mitigation remedial element (6) shall also be implemented.

8. COVER SYSTEM

If a Track 1 unrestricted use or Track 2 clean-up is not achieved, a site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

9. 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 restricted residential cleanup for building areas at a minimum and will include an environmental easement and site management plan as described below.

Institutional Control

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 uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; and
- require compliance with the Department approved Site Management Plan.

10. SITE MANAGEMENT PLAN

A Site Management Plan, which includes the following:

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

Institutional Controls: The environmental easement discussed in Paragraph 9 above.

Engineering Controls: The Engineering Control Plan will also identify all engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following engineering control remains in place and effective:

- the sub-slab depressurization system discussed in Paragraph 6 above for both Track 2 and Track 4 remedies; and
- a cover system discussed in Paragraph 8 for Track 4 areas.

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 (below existing buildings);
- 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 all existing and any new buildings on the site;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 8 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- provisions for the management and inspection of the identified engineering controls; and a provision that should an existing or future building or building foundation be demolished in the future, a cover system consistent with that described in Paragraph 8 above will be placed in any areas where the upper two feet of exposed surface soil exceeds the applicable SCOs.
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - monitoring of soil vapor mitigation system 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 Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation systems. The plan includes, but is not limited to:
   - procedures for operating and maintaining the soil vapor mitigation systems; and
   - compliance inspection of the soil vapor mitigation systems to ensure proper O&M as well as providing the data for any necessary reporting.

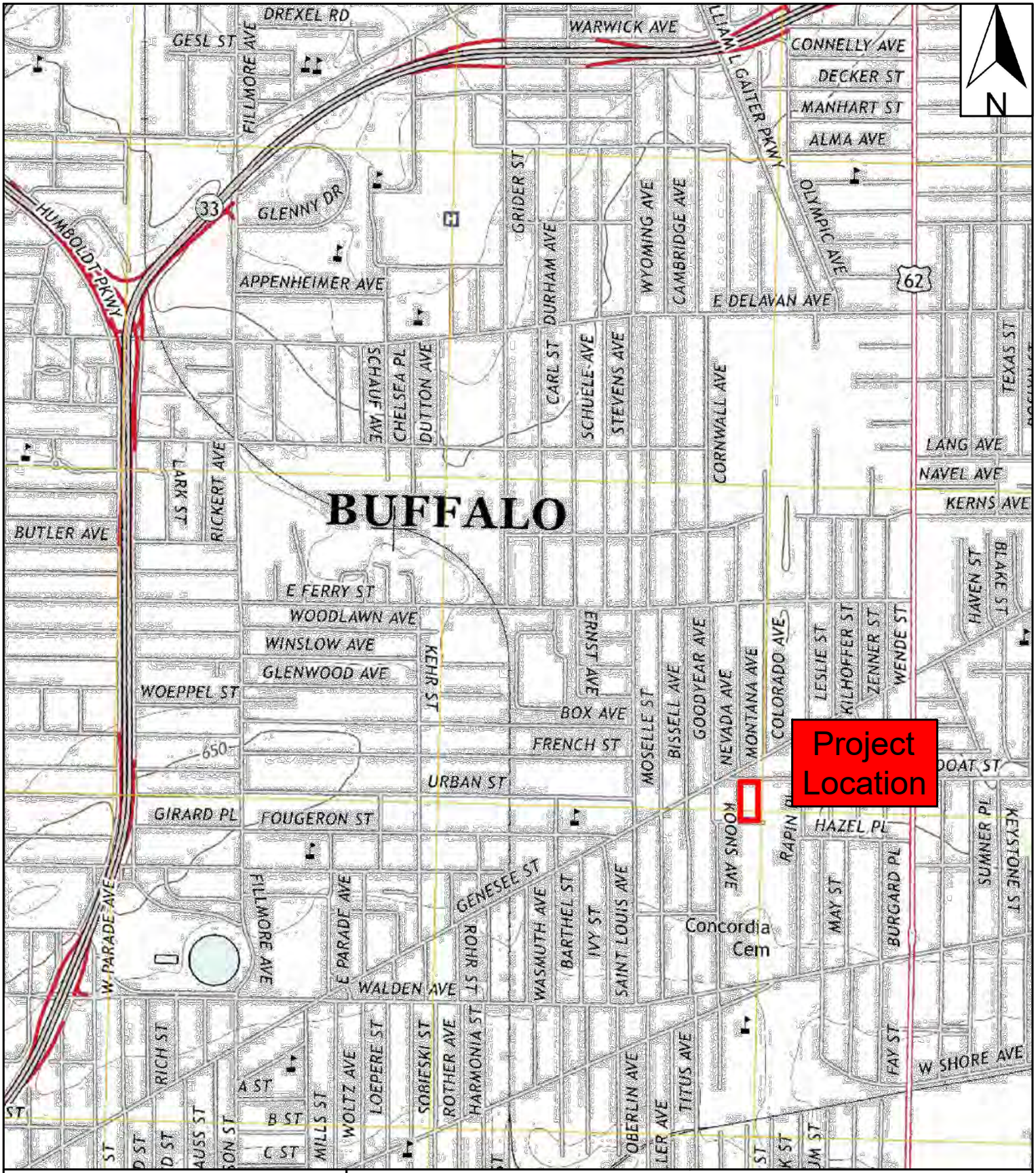

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Figure 1: Project Location Map

19 Doat Street	2/26/2018
Buffalo, NY	Regan Devlopment

ALL UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE. BEFORE YOU DIG, DRILL, OR BLAST, CALL DIG SAFELY NEW YORK AT 1-800-962-7962

BENCHMARK: TOP OF HYDRANT SHUTOFF. ELEV=95.69

RUSTIC (49.5' WIDE) PLACE (PUBLIC ROAD)

LANSDALE PLACE (50' WIDE) (PUBLIC ROAD)

DOAT STREET (66' WIDE) (PUBLIC ROAD)

SMH #24 RIM=97.48 E-W STM WYOMING INV=90.33

SMH #23 RIM=97.15 INV 8"TILE N=87.49 INV 8"TILE S=87.56

SMH #22 RIM=94.47 INV 8"TILE N=83.79 INV 8"TILE S=83.72

381.96'D, 382.51'M

EASTERLY LINE OF RUSTIC PLACE AS A 49.5' STREET

P.O.B. PARCEL 1

P.O.B. PARCEL 2

NO. 19
4 STORY
BRICK BUILDING
ENTIRE BUILDING AREA=
35,222.5 Sq. Ft.

1 STORY
BRICK BUILDING

SHED
AREA=
2116 Sq. Ft.

235.50' MEAS.

NORTHERLY LINE OF LANDS NOW OR FORMERLY OF LANSDALE PLACE

191.50'M

NO. 19 DOAT STREET
PARCEL 1
L.11172, P.1655
SBL 101.55-5-21

NO. 19 DOAT STREET
PARCEL 2
L.11172, P.1655
SBL 101.55-5-21

NO. 9 LANSDALE PLACE
PARCEL 3
L.11172, P.1655
SBL 101.55-5-21

JEWISH FEDERATION
(RECORD OWNER)
SBL 101.56-9-9.2

WILLIAM J. WALTERS, JR.
(RECORD OWNER)
SBL 101.56-9-7

111.65'D, 112.44'M

231.73'D, 231.80'M

38.20'M

9.28'M

270.00' D&M
231.85' D&M

35.0' D&M

144.26'M 144.0' D&M

STORAGE CONTAINER

12'DIA BRICK STACK

BRICK APRON

STONE DRIVE

GRASS & BRUSH

PARALLEL WITH EASTERLY LINE OF RUSTIC PLACE

SPRINKLER

METAL POSTS

SIDEWALK 0.3'S FENCE 0.8'S

FENCE 0.1'S

FENCE 0.5'N

FENCE 1.3'N

FENCE 1.3'N ON LINE

FENCE 0.6'S, 0.6'W

FENCE 0.4'E

FENCE 0.6'W 0.5'W

FENCE 7.0'S, 9.7'W

UTILITY POLE 4.0'W

UTILITY POLE 3.5'W

UTILITY POLE 3.2'W

UTILITY POLE 5.3'S, 1.7'W

SANH #23 RIM=95.00 COULD NOT OPEN

SANH #24 RIM=94.68

ELEC VAULT

BENCHMARK: TOP OF HYDRANT SHUTOFF. ELEV=95.74

LEGEND

CLF	—x—	CHAIN LINK FENCE
PRF	—x—	POST AND RAIL FENCE
	d	SIGN
GP	△	POSTS
—G—		GAS LINE
GAS	G	GAS METER
GV	M	GAS VALVE
DI	D	DRAINAGE INLET
—SW—		STORM SEWER LINE
SAMH	MH	SANITARY MANHOLE
SCO	CO	SEWER CLEANOUT
—SA—		SANITARY SEWER LINE
INV	(	INVERT ELEVATION
	E	ELECTRIC VAULT
UP	⌀	UTILITY POLE
UPL	⌀	UTILITY POLE W/ LIGHT
—OHW—		OVERHEAD WIRES
—UE—		UNDERGROUND ELECTRIC
—W—		WATER LINE
WV	⌖	WATER VALVE
HYD		HYDRANT
CONC		CONCRETE
TC		TOP OF CURB
SW		SIDEWALK
EP		EDGE OF PAVEMENT
FF		FINISHED FLOOR
D&M		DEED AND MEASURED
CP	△	PRIMARY CONTROL POINT
BM		BENCHMARK

N

5 20

0 10 50

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Figure 2
Site Survey

19 Doat Street BCP Project
Buffalo, New York
The Crossroads at Genesee LLC

12-05-2019 | SCALE: N/A | SHEET 1 OF 1

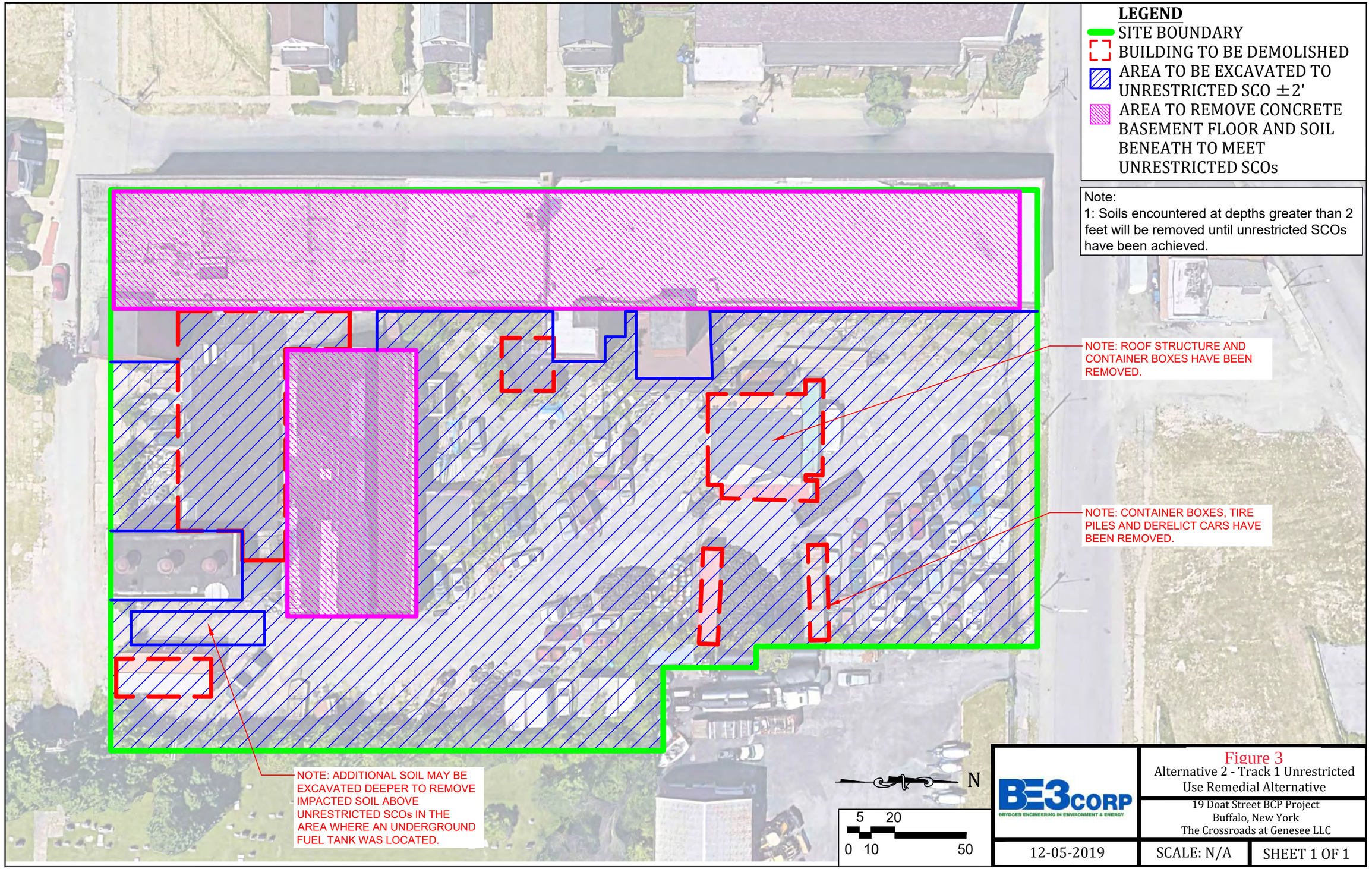

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Figure 3
Alternative 2 - Track 1 Unrestricted Use Remedial Alternative

19 Doat Street BCP Project
Buffalo, New York
The Crossroads at Genesee LLC

12-05-2019 | SCALE: N/A | SHEET 1 OF 1