



June 9, 2026

Dunkirk Landing LLC
Regan Development Corp.
Larry Regan
1055 Saw Mill River Road, Suite 204
Ardsley, New York 10502

Dear Larry Regan:

**Block of Washington Site; No.: C907042
Dunkirk, Chautauqua County
Remedial Investigation/ Alternatives
Analysis Report & Decision Document**

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) have reviewed the revised Remedial Investigation/ Alternative Analysis Report (RI/AAR) for the Block of Washington, East Second and Park site dated April 1, 2026, and prepared by Brydges Engineering in Environment and Energy, DPC (BE3) on behalf of Dunkirk Landing LLC and Regan Development Corp. The RI/AAR is hereby approved. Please ensure that a copy of the approved RI/AAR is placed in the document repository. The draft report should be removed.

Attached is a copy of the Department's Decision Document for the site. The remedy will be ready to be implemented upon approval of the Remedial Action Work Plan. Please ensure that a copy of the Decision Document is placed in the document repository.

Please contact the Department's Project Manager, Michael Keller, at (716) 851-7218 or by email at michael.keller@dec.ny.gov at your earliest convenience to discuss next steps. Please recall the Department requires seven days' notice prior to the start of field work.

Sincerely,

Michael Cruden
Director
Remedial Bureau E

Division of Environmental Remediation

ec: Andrew Guglielmi, Division Director, NYSDEC
David Harrington, Assistant Division Director, NYSDEC
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DECISION DOCUMENT

Block of Washington, E. Second & Park
Brownfield Cleanup Program
Dunkirk, Chautauqua County
Site No. C907042
June 2026



**Department of
Environmental
Conservation**

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

DECLARATION STATEMENT - DECISION DOCUMENT

Block of Washington, E. Second & Park
Brownfield Cleanup Program
Dunkirk, Chautauqua County
Site No. C907042
June 2026

Statement of Purpose and Basis

This document presents the remedy for the Block of Washington, E. Second & Park 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 (NYSDEC) for the Block of Washington, E. Second & Park site and the public's input to the proposed remedy presented by NYSDEC.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most

recent edition) to improve energy efficiency as an element of construction.

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

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

2. Excavation

The existing on-site buildings will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy. All soils in the upper two feet and soils beneath areas of the new building foundation which exceed the restricted residential SCOs will be excavated and transported off-site for disposal. Approximately 3,800 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

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

On-site soil which does not exceed the above excavation criteria may be used below the cover

system described in Remedial Element 3 to backfill the excavation and establish the designed grades at the site.

Backfill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in Remedial 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 soil cleanup objectives (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, 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.

4. 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 at a minimum and will include imposition of a site cover.

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 NYSDEC 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 OR commercial use 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 DOH; and
- require compliance with the NYSDEC approved Site Management Plan.

5. Site Management Plan

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

A. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary

to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Remedial Element 4 above.

Engineering Controls: The soil cover discussed in Remedial Element 3 above.

This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o A provision to ensure that, should redevelopment occur, no soil exceeding protection of groundwater concentrations will remain below storm water retention basins or infiltration structures.
- o Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- o A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o 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);
- o Provisions for the management and inspection of the identified engineering controls;
- o Maintaining site access controls and NYSDEC notification; and
- o The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- o A schedule of monitoring and frequency of submittals to the NYSDEC;
- o Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

6/9/2026

Date



Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Block of Washington, E. Second & Park
Dunkirk, Chautauqua County
Site No. C907042
June 2026

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (NYSDEC), 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.

NYSDEC 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

NYSDEC seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comments on the proposed remedy. All comments on the remedy received during the comment period were considered by NYSDEC 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=C907042>

Dunkirk Free Library
Attn: Janice Dekoff
536 Central Avenue
Dunkirk, NY 14048
Phone:

Receive Site Citizen Participation Information By Email

Please note that NYSDEC'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 Block of Washington, E. Second and Park Site is an approximately 1.36-acre site, located in the city of Dunkirk, Chautauqua County. The site is two blocks south of Lake Erie and is bordered by East 2nd Street to the north, Park Avenue to the east, railroad tracks to the south, and Washington Avenue to the west. Commercial and residential properties are located beyond each street.

Site Features:

The site is comprised of eleven parcels, is generally flat, and gently slopes towards city streets and Lake Erie. The 220 Washington Avenue and 208-214 Washington Avenue parcels are improved. The 220 Washington parcel contains a two-story building and pole barn, and the 208-214 Washington Avenue parcel contains a three-story building. The buildings historically operated as one manufacturing facility. The 220 Washington Avenue property is vacant. 208-214 Washington Avenue is vacant, condemned, and not safely accessible. The fronts of both buildings face west towards Washington Avenue. The eight other parcels are comprised of green space, an asphalt parking lot, and a small playground.

Zoning and Land Use:

The project includes the demolition of all on-site buildings and construction of new residential apartments, associated parking, and greenspace. Current zoning for the Site is C-2 Community Business which also accommodates multi-Family zoning.

Past Use of the Site:

The site was formerly occupied by the Mulholland Company from the 1880s through the 1930s. Historic uses during that time include black smith shops, wood shops, printing, painting, machine shops, and the manufacture of various items such as wagon springs, carriages, automobile bodies, and dining cars for trains.

Site Geology and Hydrogeology:

Overburden: The site is generally underlain by 3 to 5 feet of urban fill consisting of black to brown sandy silt with some construction and demolition debris (brick, cement, cinder, ash, and coal). Beneath the fill, the native material typically consisted of stiff red-brown and grey silty

clay. Bedrock was found at various depths between 6 and 15 feet below ground surface (fbgs).

Bedrock: Depths to top of bedrock ranged between approximately 6 and 15 fbgs and is comprised of thinly banded, medium gray shale.

Groundwater: Only one overburden well was found to have groundwater, measured at a depth of 8.4 fbgs. Three bedrock wells were advanced to a maximum of 25 fbgs, and groundwater was encountered between 11 and 18 fbgs. Two rounds of elevations were collected for analysis. After review, groundwater flowed westerly during the initial collection and southwesterly during the second collection.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

NYSDEC may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, an alternative that restricts the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicants under the Brownfield Cleanup Agreement are Volunteers. The Applicants do not have an obligation to address off-site contamination. NYSDEC has determined that this site poses a significant threat to public health or the environment with potential off-site impacts that require remedial activities; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess

groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. NYSDEC has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

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

benzo(a)pyrene	copper
arsenic	mercury
lead	chromium
barium	phenanthrene
benzo(a)anthracene	tetrachloroethene (PCE)
benzo(b)fluoranthene	heptane
dibenz[a,h]anthracene	hexane
indeno(1,2,3-cd)pyrene	

The contaminant(s) of concern exceed the applicable SCGs for:

- 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.

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.

Nature and Extent of Contamination:

During the Remedial Investigation (RI), soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, cyanide, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor samples were also collected and analyzed for VOCs. Based on the investigations conducted to date, the primary contaminants of concern for the site are VOCs, polyaromatic hydrocarbons (PAHs), and metals.

Surface Soil:

Samples were taken from the upper 2 inches of soil/fill present below the vegetative cover. 8 initial surface soil samples (SS-1 through 8) were collected, then 16 additional step-out samples (STP-1 through 4) were collected based on the results of the initial samples. The initial samples were analyzed for the following parameters:

- SS-2,6,7,8 were sampled for VOCs, SVOCs, metals, PCBs, pesticides, 1,4-Dioxane, and PFAS.
- SS-1,3,4 were sampled for metals and SVOCs.
- SS-5 was sampled for metals.

Most initial samples had exceedances for SVOCs, however the exceedances in metals prompted the step-out investigation. Each step-out sample location contained four separate samples taken north, east, south, and west. All sixteen step-out samples were targeted for metals only. The following contaminants were detected exceeding restricted residential soil cleanup objectives (RRSCOs) in the surficial soils:

- Benzo(a)anthracene (up to 4.3 ppm) exceeded the RRSCO of 1.4 ppm in 2 samples.
- Benzo(a)pyrene (up to 3.6 ppm) exceeded the RRSCO of 1 ppm in 2 samples.
- Benzo(b)fluoranthene (up to 4.5 ppm) exceeded the RRSCO of 1.4 ppm in 2 samples.
- Dibenz(a,h)anthracene (up to 0.78 ppm) exceeded the RRSCO of 0.33 ppm in 2 samples.
- Indeno(1,2,3-cd)pyrene (up to 2.3 ppm) exceeded the RRSCO of 1.4 ppm in 2 samples.

- Arsenic (up to 29.5 ppm) exceeded the RRSCO of 16 ppm in 4 samples.
- Barium (up to 574 ppm) exceeded the RRSCO of 410 ppm in 5 samples.
- Chromium (up to 168 ppm) exceeded the RRSCO of 110 ppm at STP-4 S.
- Copper (up to 761 ppm) exceeded the RRSCO of 280 ppm at STP-4 N.
- Lead (up to 2,460 ppm) exceeded the RRSCO of 400 ppm in 5 samples.
- Mercury (up to 2.4 ppm) exceeded the RRSCO of 0.3 ppm in 6 samples.

Based on the investigations completed to date, limited areas of surface soils are impacted. Offsite migration of contaminants in shallow soil has not been observed, however surficial contaminants have been found along the northern site boundary and may potentially extend off-site.

Subsurface Soil:

35 total subsurface soil samples (33 initial samples, 2 additional samples) were collected from soil borings in 21 different locations ranging in depth from 2 inches to 12 fbs across the site. 33 initial samples (RI-BH-1 through 4, RI-BH-6 through 15, and RI-MW-1 through 5) were collected, then 2 additional samples (RI-BH-5 and 16) were collected. All subsurface samples were analyzed for VOCs, SVOC, metals, PCBs, PFAS, 1,4-Dioxane, and pesticides. Contamination is spread throughout the entire site. The following contaminants were detected exceeding RRSCOs:

- Benzo(a)anthracene (up to 2.8 ppm) exceeded the RRSCO of 1.4 ppm in 4 samples.
- Benzo(a)pyrene (up to 3.9 ppm) exceeded the RRSCO of 1 ppm in 4 samples.
- Benzo(b)fluoranthene (up to 2.4 ppm) exceeded the RRSCO of 1.4 ppm in 4 samples.
- Dibenz(a,h)anthracene (up to 1.2 ppm) exceeded the RRSCO of 0.33 ppm in 2 samples.
- Indeno(1,2,3-cd)pyrene (up to 3.2 ppm) exceeded the RRSCO of 1.4 ppm at RI-BH-2.
- Phenanthrene (up to 10.0 ppm) exceeded the RRSCO of 4.4 ppm in 3 locations.
- Arsenic (up to 93.8 ppm) exceeded the RRSCO of 16 ppm in 5 samples.
- Barium (up to 669 ppm) exceeded the RRSCO of 410 ppm at RI-MW-3.
- Chromium (up to 133 ppm) exceeded the RRSCO of 110 ppm at RI-BH-15.
- Copper (up to 1,050 ppm) exceeded the RRSCO of 280 ppm in 2 samples.
- Lead (up to 711 ppm) exceeded the RRSCO of 400 ppm in 4 samples.
- Mercury (up to 1.6 ppm) exceeded the RRSCO of 0.3 ppm in 12 samples.

Based on the investigations completed to date, soil contamination is spread throughout the site. Off-site migration of contaminants in subsurface soil has not been observed.

Groundwater:

Groundwater samples were collected from 1 overburden (RI-MW-2) and 3 bedrock monitoring wells (RI-BW-1 through 3). The overburden well was installed to 13 fbs and the bedrock wells ranged from 21 to 24 fbs. Groundwater was sampled during a single sampling event in August 2025. The following contaminants were detected exceeding groundwater quality standards (GWQS):

- Benzene (up to 1.1 mcg/L) exceeded the GWQS of 1.0 mcg/L at RI-BW-2.

- Iron (up to 2,500 mcg/L) exceeded the GWQS of 300 mcg/L in 3 locations.
- Manganese (up to 590 mcg/L) exceeded the GWQS of 300 mcg/L at RI-MW-2.
- Sodium (up to 130,000 mcg/L) exceeded the GWQS of 20,000 mcg/L in 3 locations.
- Perfluorooctanoic acid (PFOA) (up to 8.1 ng/L) exceeded the GWQS of 6.7 ng/L at RI-MW-2.
- Perfluorooctanesulfonic acid (PFOS) (up to 11 ng/L) exceeded the GWQS of 2.7 ng/L at RI-MW-2

Investigation results indicate that overburden groundwater is slightly impacted by iron, manganese, PFOA, and PFOS. The metals exceedances can be attributed to naturally occurring metals in native soils. PFOA and PFOS were detected slightly exceeding standards, however overburden groundwater was not found to be leaving the site and no sources of the exceedances were found on-site. Bedrock groundwater is slightly impacted by benzene, iron, and sodium across the site. The metals exceedances can be attributed to naturally occurring metals in native soils. Benzene was detected slightly exceeding standards, however no on-site sources were discovered. Off-site migration of contaminants in bedrock groundwater is a possibility because groundwater flows through the site.

Soil Vapor Investigation:

Eight soil vapor samples were collected across the site. Depth of samples ranged from 5 to 13 fbs. No indoor air samples were collected because all on-site buildings/structures are proposed to be demolished prior to redevelopment. Numerous VOCs detected in soil vapor including compounds at the northern and northeastern site boundaries. Both areas detected chlorinated VOCs and petroleum hydrocarbons. Elevated detections include Cyclohexane (890 ug/m³), Methyl Ethyl Keytone (17,000 ug/m³), Heptane (3,600 ug/m³), Hexane (3,000 ug/m³), Tetrachloroethene (140 ug/m³), and Toluene (68 ug/m³).

Based on the results of the on-site soil vapor investigation, there is a potential for off-site migration of contaminated soil vapor. Off-site investigations are required to determine if off-site migration is occurring and if nearby structures are impacted by 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*.

People who enter the site could contact contaminants in the soil by disturbing the surface, or by digging below the surface. Contaminated groundwater is not used for drinking or other purposes, and the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in 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 site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building

redevelopment and occupancy. Potential off-site soil vapor intrusion into nearby buildings will be evaluated, and actions taken, if warranted.

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.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation and Cover System remedy.

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

1. Remedial Design

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

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

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

remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

The existing on-site buildings will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy. All soils in the upper two feet and soils beneath areas of the new building foundation which exceed the restricted residential SCOs will be excavated and transported off-site for disposal. Approximately 3,800 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

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

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in Remedial Element 3 to backfill the excavation and establish the designed grades at the site.

Backfill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in Remedial 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 soil cleanup objectives (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, 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.

4. 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 at a minimum and will include imposition of a site cover.

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 NYSDEC 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 OR commercial use 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 DOH; and
- require compliance with the NYSDEC approved Site Management Plan.

5. Site Management Plan

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

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

Institutional Controls: The Environmental Easement discussed in Remedial Element 4 above.
Engineering Controls: The soil cover discussed in Remedial Element 3 above.

This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o A provision to ensure that, should redevelopment occur, no soil exceeding protection of groundwater concentrations will remain below storm water retention basins or infiltration structures.
- o Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- o A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o 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);
- o Provisions for the management and inspection of the identified engineering controls;
- o Maintaining site access controls and NYSDEC notification; and

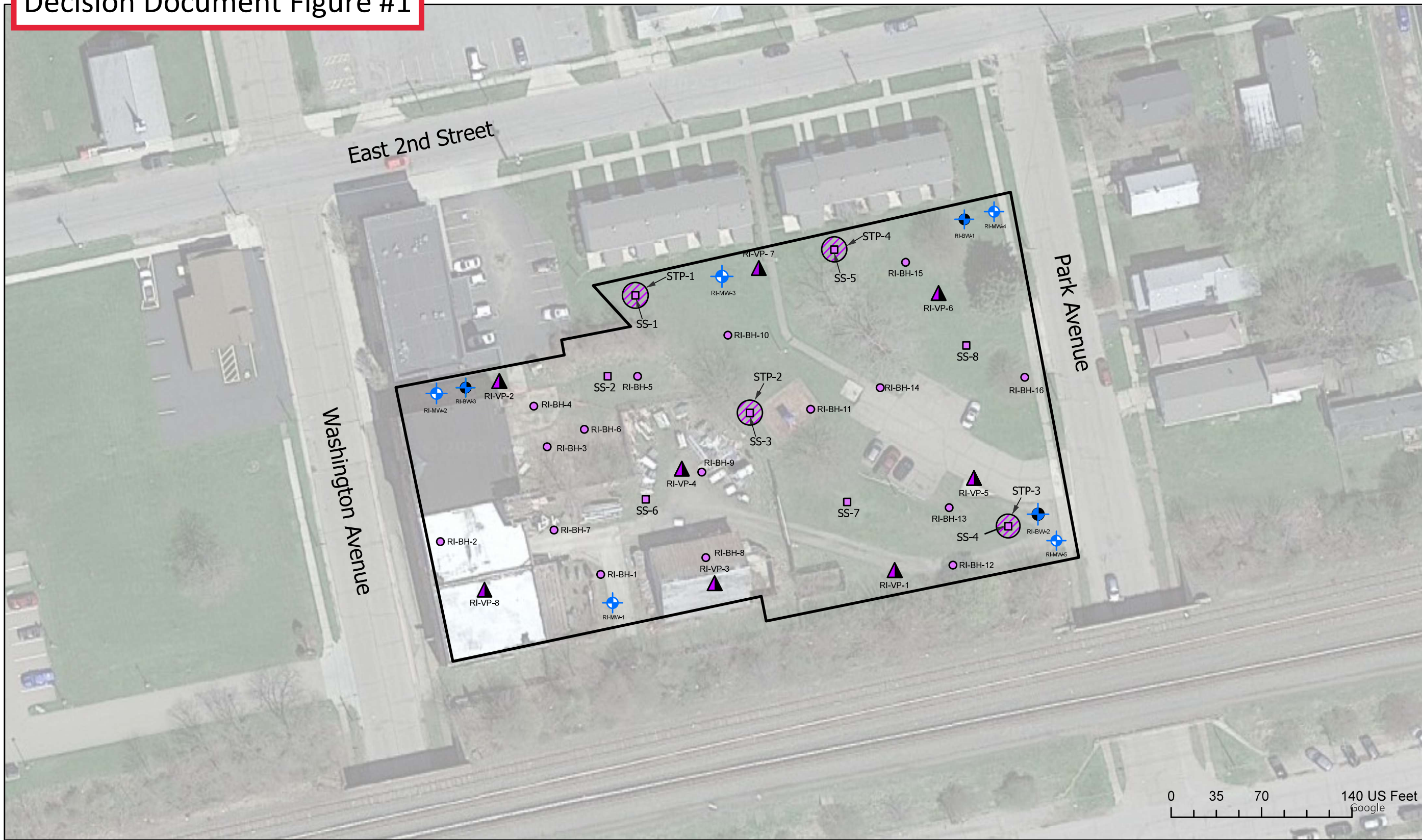
- o The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- o A schedule of monitoring and frequency of submittals to the NYSDEC;

- o Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Decision Document Figure #1



**BRYDGES
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IN ENVIRONMENT
AND ENERGY, DPC

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CLIENT: REGAN DEVELOPMENT

FIGURE 4
RI Sampling Locations

Block of Washington, East 2nd and Park
Dunkirk, NY 14048









DATE ISSUED:
July 31, 2025

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SCALE: 1:910

LEGEND

- Property Boundary
-  RI Monitoring Well
-  RI Boring Locations
-  Vapor Point
-  Step Out Sample
-  Surface Sample
-  RI Bedrock Well

