DECISION DOCUMENT

G.W. Lisk - 2 South Street Facility
Brownfield Cleanup Program
Clifton Springs, Ontario County
Site No. C835026
March 2026

NEW YORK STATE | Department of Environmental Conservation

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

DECLARATION STATEMENT - DECISION DOCUMENT

G.W. Lisk - 2 South Street Facility
Brownfield Cleanup Program
Clifton Springs, Ontario County
Site No. C835026
April 2026

Statement of Purpose and Basis

This document presents the remedy for the G.W. Lisk - 2 South Street Facility, 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 G.W. Lisk - 2 South Street Facility site and the public's input on the proposed remedy presented by NYSDEC.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Alternatives and Green Remediation

A pilot study was implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. The pilot study is discussed in the “Enhanced Bioremediation” section below.

As part of the evaluation of the proposed remedial alternatives, green remediation principles and techniques were evaluated and 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 alternatives analysis program, the six proposed remedies were evaluated with respect to green and sustainable remediation principles and environmental footprint analyses were completed for each. The environmental footprint analyses were completed using Spreadsheets for Environmental Footprint Analysis (SEFA) from the USEPA.

Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use were 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 action program, as appropriate. The remedial work plan 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 work plan.

Additionally, the remedial 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. Enhanced Bioremediation

In-situ enhanced biodegradation will be employed to treat contaminants in soil and groundwater under the main building and in the parking lot between the two buildings. This will be achieved by the biological breakdown of contaminants through anaerobic reductive dechlorination. Reductive dechlorination will be initiated through injections of Bio-Dechlor INOCULUM PLUS (BDI Plus), 3-D Microemulsion (3DME), and S-MicroZVI. BDI Plus is a microbial consortium housing Dehalococcoides bacteria. Dehalococcoides bacteria are able to consume and breakdown contaminants. 3DME is a lactic acid-based liquid which will support bacterial residency and colony growth. S-MicroZVI are zero-valent iron particles which can interact with contaminants through chemical reactions and assist bacteria in destroying contaminants. If these products are no longer available or prove less effective than desired, alternate products may be used with Department approval.

Prior to the evaluation of remedial alternatives, a pre-design pilot study was completed to assess the efficacy of using groundwater amendment injections in overburden groundwater to address contamination. EOS Pro, an enriched emulsified vegetable oil, and BAC-9, a bacterial consortium which includes the Dehalococcoides bacteria planned for the selected remedy, were injected into the sub-surface. 397 gallons of EOS Pro, 8 liters of BAC-9, and water, were injected into the sub-surface with post-injection groundwater monitoring completed over several periods over the course of a year to assess effectiveness. Sampling activities found that bacterial colony increased through the pilot study indicating that site conditions are amenable for the enhanced bioremediation to be created/supported for remediation of the site.

The first source area is under the Main building. Approximately 6,400 pounds of 3DME, 6,500 pounds of S-MicroZVI, and 85 liters of BDI Plus will be injected into overburden areas under the building.

The second source area is in the southwestern parking lot between the Main building and the Hundreds building. Approximately 10,000 pounds of 3DEM, 10,000 pounds of S-MicroZVI, and 136 liters of BDI plus will be injected into overburden areas under the parking lot.

Additionally, injections will also be completed into bedrock. Approximately 8,000 pounds of 3DME, 8000 pounds of S-MicroZVI, and 108 liters of BDI plus will be injected to address contamination in bedrock groundwater.

Periodic groundwater monitoring, including downgradient monitoring, will be performed to assess the performance of the remedy including determining whether additional rounds of injections may be necessary to meet remedial action objectives.

3. Soil Mixing

South of the second source area is an approximately 50x50 foot area impacted with petroleum-related contaminants, primarily Benzene, Toluene, Ethylbenzene, and Xylenes (collectively known as BTEX). To address this area, the area will be excavated to approximately 5 feet and soils between 5-8 feet will be mixed with RegenOx. RegenOx rapidly destroys petroleum contaminants through chemical reactions. 6,000 lbs of RegenOx will be mixed in this area to address BTEX contamination. If RegenOx is no longer available or proves less effective than desired, alternate products may be used with Department approval.

4. Cover System

The vast majority of the site is already improved with asphalt, concrete sidewalks, or concrete building slabs. These serve as a cover system across most of the site and serve as a barrier over potentially contaminated areas. A site management plan (SMP) will be prepared which will require periodic inspections of the site to make sure the cover system remains protective of public health and the environment. Existing buildings on-site have had the potential for SVI addressed and any future buildings will be subject to an SVI evaluation per the SMP.

Existing green space areas need to be evaluated to determine if they can remain in place as cover. If they cannot, a site cover will be required in these areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs) to allow for continued industrial use of the site. 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. Environmental Easement

Imposition of an institutional control in the form of an environmental easement, a legal agreement for the controlled property that:

- requires 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);

- allows the use and development of the controlled property for restricted industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or Ontario County DOH;

- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

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

- 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 above:

- Engineering Controls: The groundwater monitoring program and the cover system discussed in items 1 and 3 above.

    - This plan includes, but may not be limited to:

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

- A provision for further investigation and remediation should large-scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. The nature and extent of contamination in areas where access was previously limited by existing structures will be immediately and thoroughly investigated pursuant to a plan approved by DEC. Based on the investigation results and DEC determination of the need for a remedy, a Remedial Action Work Plan (RAWP) will be developed for the final remedy for the site, including removal and/or treatment of any source areas to the extent feasible. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment. This includes areas under the two main facilities currently on-site;

- A provision for demolition of either the Main facility or the Hundreds building if and when they become inactive or vacant;

- a provision for evaluation of the potential for soil vapor intrusion for any future occupied buildings on the site including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- A provision for removal or treatment of the source area located under the main building if and when the building is demolished or becomes vacant;

- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;

- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in the Remedy Elements 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, DEC notification, and the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

- A monitoring plan to assess the performance and effectiveness of the remedy which will include monitoring of soil, soil vapor, indoor air, and groundwater to assess the performance and effectiveness of the remedy;

- A schedule of monitoring and frequency of submittals to the DEC; and,

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

- An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy.
    - The plan includes, but is not limited to:
        - procedures for inspecting and maintaining the cover system; and,
        - providing DEC access to the site and O&M records.

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.

4/22/2026 Michael J Cruden

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

G.W. Lisk - 2 South Street Facility
Clifton Springs, Ontario County
Site No. C835026
March 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 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=C835026

Clifton Springs Public Library
4 Railroad Ave.
Clifton Springs, NY 14432
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 G.W. Lisk Facility is located in the south-central portion of the Village of Clifton Springs in Ontario County. The site is situated directly south of the Clifton Springs Hospital and Clinic.

Site Features:
The main site features include two main structures where operations actively occur, the eastern facility (referred herein as the Main building), and the western facility (referred herein as the Hundreds building). Paved parking areas and driveways are located on the central, southern, and eastern portions of the site. Paved driveways and shipping areas are also located throughout the site. The western and southern portions of the site are primarily wooded. Sulphur Creek flows northwest through the site. The BCP site boundary consists of a portion of the overall G.W. Lisk parcel.

Current Zoning and Land Use:
The site is currently operated as an active manufacturing facility and is zoned for industrial use. The surrounding parcels are currently used for a combination of industrial, commercial, and residential uses. The nearest residential area is located east of the site on South Street.

Past Use of the Site:
The site was originally developed in the mid-1800s for agricultural use. Commercial operations began in 1910. The facility originally operated as a manufacturer of tin cake pans, pails, and spraying devices from 1910 until the late-1940s. The facility began solenoid manufacturing operations in 1948 and continues to operate as a manufacturer of solenoids and valves for industrial and commercial markets. Prior operations that appear to have led to contamination include metal plating and degreasing, specifically the discharge of associated wastewater to former septic tanks (and their associated subsurface leach fields) prior to 1988.

Site Geology and Hydrogeology:
The site is within the Erie-Ontario Lowland physiographic province. Overburden soil is characteristic of glacial outwash deposits, predominantly sands and gravels with deeper deposits of heterogenous till. Overburden depth varies on-site from up to 20 feet to as little as 3 feet. Both overburden and bedrock groundwater generally migrate to the west and northwest onsite before beginning a more northerly track near the northern hospital property. Bedrock is characteristic of

the Onondaga Limestone with karstic geology allowing for more rapid transport of contaminants. Depth to groundwater is usually observed between 10-20 feet below the existing ground surface.

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, alternatives (or an alternative) that restrict(s) the use of the site to industrial use as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Participant. The Applicant has an obligation to address on-site and off-site contamination. 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
- surface water
- soil
- sediment
- indoor air
- soil vapor
- 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. 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:

tetrachloroethene (PCE)
trichloroethene (TCE)
1,1-dichloroethane
cis-1,2-dichloroethene
1,1,1-trichloroethane (TCA)
dichlorodifluoromethane
1,1,2-trichloro-1,2,2-triflouroethane
benzene
ethylbenzene
toluene
xylene (mixed)
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
naphthalene
arsenic
mercury
chrysene
methylene chloride

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil
- indoor air
- 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.

The following IRM has been completed at this site based on conditions observed during the RI.

IRM Soil Vapor Intrusion Mitigation

Soil Vapor Intrusion (SVI) evaluations were completed at both structures on-site, the Main facility and the Hundreds building.

Main building: Pre-IRM soil vapor intrusion sampling identified elevated levels of trichloroethene (TCE) in the sub-slab soil vapor of up to 143,000 micrograms per cubic meter ($\mu g/m^3$). The highest detection of TCE in indoor air was 7.2 $\mu g/m^3$, this level is above the NYSDOH Air Guideline Value of 2 $\mu g/m^3$. Building ventilation and airflow were increased thoughout the facility, chemical products utilizing Chlorinated Volatile Organic Compounds (CVOCs) were substituted with alternative products where possible, and cracks, joints, and other penetrations of the slab were sealed with approved sealants. After the IRM was completed, the levels of TCE in the indoor remained similar to the pre-IRM levels and this is attributed to the use of products containing TCE during the daily business practices at the facility. The buildings slab was determined to be an effective barrier to inhibit SVI from affecting the indoor air quality.

Hundreds building: Pre-IRM soil vapor intrusion sampling conducted in the Hundreds Building identified sub-slab soil vapor levels of TCE, the highest being 404 $\mu g/m^3$. TCE was found in the indoor air at 0.75 $\mu g/m^3$, below the NYSDOH Air Guideline Value of 2 $\mu g/m^3$. Chemical products utilizing CVOCs were substituted with alternative products where possible, and cracks, joints, and other penetrations of the slab were sealed with approved sealants. The building slab was determined to be an effective barrier to inhibit SVI from affecting the indoor air quality. Routine inspections ensure that these actions remain effective.

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:

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminant of concern for the site is trichloroethene (TCE) in groundwater and soil vapor, along with localized soil exceedances for Polycyclic Aromatic Hydrocarbons (PAHs) and some metals.

Soil - Soil contamination from site processes is only observed on-site. The primary contaminant of concern is Trichloroethene (TCE), a volatile organic compound (VOC). TCE and its associated degradation products were detected in subsurface soils at depths up to 30 feet below the existing ground surface. TCE is not a naturally occurring substance. DEC unrestricted use standard for TCE in soil is 0.47 ppm whereas concentrations observed on-site ranged from less than 0.47 ppm up to 10.0 ppm, the highest concentration being observed at a depth of 15-16 feet below the existing ground surface. TCE may degrade into other compounds over time, including cis-1,2-dichloroethene and vinyl chloride. DEC unrestricted use standard for cis-1,2-dichloroethene is 0.19 ppm whereas concentrations observed on-site ranged from less than 0.19 up to 0.32 ppm, the highest concentration being observed at a depth of 19-20 feet below the existing ground surface. Vinyl chloride is considered a more toxic degradation product of TCE and has not been detected at the site as of the date of this ROD but will continue to be monitored for.

Other major VOC detections included naphthalene (970 ppm, DEC standard of 12 ppm), benzene (4.4 ppm, DEC standard of 0.06 ppm), ethylbenzene (1,100 ppm, DEC standard of 1 ppm), and toluene (850 ppm, DEC standard of 0.7 ppm). Metals and polycyclic aromatic hydrocarbons (PAHs) were also detected in subsurface soils above DEC standards, including benzo(a)pyrene (72 ppm, DEC standard of 1 ppm), benzo(a)anthracene (88 ppm, DEC standard of 1 ppm), benzo(b)fluoranthene (66 ppm, DEC standard of 1 ppm), arsenic (22.6 ppm, DEC standard of 13 ppm), and mercury (7.43 ppm, DEC standard of 0.18 ppm).

There were limitations to defining the extent of contamination under the Main building on-site due to limited physical access.

Overburden Groundwater - TCE and some of its associated degradation products are found in groundwater throughout the site. DEC groundwater standard for TCE is 5 ppb. TCE was detected with concentrations ranging from less than 5 ppb up to 3,400 ppb with the highest detections observed underneath the southern portion of the Main building. Cis-1,2-dichloroethene, which also has a DEC groundwater standard of 5 ppb, was detected at concentrations ranging from less than 5 ppb up to 380 ppb, with the highest detections underneath the parking lot near the center of the site. Other contaminants which had large exceedances of the DEC groundwater standards included tetrachloroethene (PCE) up to 580 ppb, 1,1-dichloroethane 1,1,2-trichloro-1,2,2-trifluoroethane (freon 113) detected up to 300 ppb. The DEC groundwater standard for these compounds is 5 ppb. Vinyl chloride was not detected as of the date of this Decision Document but will continue to be monitored for. Contaminated groundwater is migrating off-site.

Bedrock Groundwater - TCE and some of its associated degradation products are found in bedrock groundwater throughout the site. TCE was detected with concentrations ranging from less than 5 ppb up to 2,700 ppb. Cis-1,2-dichloroethene was detected at concentrations ranging from less than 5 ppb up to 100 ppb with the highest detections observed as noted above. The highest concentrations of TCE and cis-1,2-dichloroethene were observed underneath the southern portion of the parking lot near the center of the site. Other contaminants which had exceedances of the DEC groundwater standards included PCE up to 130 ppb, freon 113 up to 280 ppb, dichlorodifluoromethane (freon 12) up to 13 ppb, and 1,1-dichloroethane up to 14 ppb. The DEC groundwater standard for these compounds is 5 ppb. Vinyl chloride was not detected as of the date of this ROD but will continue to be monitored for.

These VOCs and others have been detected off-site slightly above groundwater standards. Contaminated groundwater is migrating off-site.

Surface Water and Sediments - Contaminants of concern were not detected above applicable guidance values.

Soil Vapor and Indoor Air - Soil vapor on-site is impacted with VOCs, primarily TCE. Actions were taken at both on-site structures to mitigate potential soil vapor intrusion. Adjacent residential structures were tested and the sampling indicated that no further actions were needed to address potential exposures associated with soil vapor intrusion. On-site soil vapor sampling was completed at several locations with the highest detection of TCE being 3.37 $\mu g/m^3$.

As mentioned in Section 6.2, both on-site buildings required mitigation due to soil vapor intrusion. The highest detection of TCE in indoor air of the Main building was 7.2 $\mu g/m^3$, and the highest indoor air concentration in the Hundreds building was 0.75 $\mu g/m^3$, as compared to the NYSDOH Air Guideline Value of 2 $\mu g/m^3$.

6.4: Summary of Human Exposure Pathways

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

Access to the site is unrestricted, however a large portion of the site is covered with buildings and pavement. Therefore, contact with contaminated soils or contaminated groundwater is unlikely unless people dig below the ground surface. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a municipal water supply that is not currently affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soils), 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. Environmental sampling indicated the need to take actions to address soil vapor intrusion in the manufacturing building (Main Building) and several mitigation measures were implemented. Solvents are currently used as part of the daily operations in the Main building. Environmental sampling in the warehouse structure (Hundreds building) indicated that there is a

potential for soil vapor intrusion to impact indoor air quality and these potential impacts are being addressed via several mitigation measures. Sampling indicates that soil vapor intrusion is not currently a concern for off-site structures.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The six 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 Enhanced Bioremediation and Soil Mixing remedy.

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

1. Remedial Alternatives and Green Remediation

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- Maximizing habitat value and creating habitat when possible;
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- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
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Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use were 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 action program, as appropriate. The remedial work plan 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 work plan.

Additionally, the remedial 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. Enhanced Bioremediation

In-situ enhanced biodegradation will be employed to treat contaminants in soil and groundwater under the main building and in the parking lot between the two buildings. This will be achieved by the biological breakdown of contaminants through anaerobic reductive dechlorination. Reductive dechlorination will be initiated through injections of Bio-Dechlor INOCULUM PLUS (BDI Plus), 3-D Microemulsion (3DME), and S-MicroZVI. BDI Plus is a microbial consortium housing Dehalococcoides bacteria. Dehalococcoides bacteria are able to consume and breakdown contaminants. 3DME is a lactic acid-based liquid which will support bacterial residency and colony growth. S-MicroZVI are zero-valent iron particles which can interact with contaminants through chemical reactions and assist bacteria in destroying contaminants. If these products are no longer available or prove less effective than desired, alternate products may be used with Department approval.

Prior to the evaluation of remedial alternatives, a pre-design pilot study was completed to assess the efficacy of using groundwater amendment injections in overburden groundwater to address contamination. EOS Pro, an enriched emulsified vegetable oil, and BAC-9, a bacterial consortium which includes the Dehalococcoides bacteria planned for the selected remedy, were injected into the sub-surface. 397 gallons of EOS Pro, 8 liters of BAC-9, and water, were injected into the sub-surface with post-injection groundwater monitoring completed over several periods over the course of a year to assess effectiveness. Sampling activities found that bacterial colony increased through the pilot study indicating that site conditions are amenable for the enhanced bioremediation to be created/supported for remediation of the site.

The first source area is under the Main building. Approximately 6,400 pounds of 3DME, 6,500 pounds of S-MicroZVI, and 85 liters of BDI Plus will be injected into overburden areas under the building.

The second source area is in the southwestern parking lot between the Main building and the Hundreds building. Approximately 10,000 pounds of 3DEM, 10,000 pounds of S-MicroZVI, and 136 liters of BDI plus will be injected into overburden areas under the parking lot.

Additionally, injections will also be completed into bedrock. Approximately 8,000 pounds of 3DME, 8000 pounds of S-MicroZVI, and 108 liters of BDI plus will be injected to address contamination in bedrock groundwater.

Periodic groundwater monitoring, including downgradient monitoring, will be performed to assess the performance of the remedy including determining whether additional rounds of injections may be necessary to meet remedial action objectives.

3. Soil Mixing

South of the second source area is an approximately 50x50 foot area impacted with petroleum-related contaminants, primarily Benzene, Toluene, Ethylbenzene, and Xylenes (collectively known as BTEX). To address this area, the area will be excavated to approximately 5 feet and soils between 5-8 feet will be mixed with RegenOx. RegenOx rapidly destroys petroleum contaminants through chemical reactions. 6,000 lbs of RegenOx will be mixed in this area to address BTEX contamination. If RegenOx is no longer available or proves less effective than desired, alternate products may be used with Department approval.

4. Cover System

The vast majority of the site is already improved with asphalt, concrete sidewalks, or concrete building slabs. These serve as a cover system across most of the site and serve as a barrier over potentially contaminated areas. A site management plan (SMP) will be prepared which will require periodic inspections of the site to make sure the cover system remains protective of public health and the environment. Existing buildings on-site have had the potential for SVI addressed and any future buildings will be subject to an SVI evaluation per the SMP.

Existing green space areas need to be evaluated to determine if they can remain in place as cover. If they cannot, a site cover will be required in these areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs) to allow for continued industrial use of the site. 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. Environmental Easement

Imposition of an institutional control in the form of an environmental easement, a legal agreement for the controlled property that:

- requires 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);

- allows the use and development of the controlled property for restricted industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or Ontario County DOH;

- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

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

- 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 above:

- Engineering Controls: The groundwater monitoring program and the cover system discussed in items 1 and 3 above.

    - This plan includes, but may not be limited to:

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

- A provision for further investigation and remediation should large-scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. The nature and extent of contamination in areas where access was previously limited by existing structures will be immediately and thoroughly investigated pursuant to a plan approved by DEC. Based on the investigation results and DEC determination of the need for a remedy, a Remedial Action Work Plan (RAWP) will be developed for the final remedy for the site, including removal and/or treatment of any source areas to the extent feasible. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment. This includes areas under the two main facilities currently on-site;

- A provision for demolition of either the Main facility or the Hundreds building if and when they become inactive or vacant;

- a provision for evaluation of the potential for soil vapor intrusion for any future occupied buildings on the site including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- A provision for removal or treatment of the source area located under the main building if and when the building is demolished or becomes vacant;

- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;

- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in the Remedy Elements 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, DEC notification, and the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

- A monitoring plan to assess the performance and effectiveness of the remedy which will include monitoring of soil, soil vapor, indoor air, and groundwater to assess the performance and effectiveness of the remedy;

- A schedule of monitoring and frequency of submittals to the DEC; and,

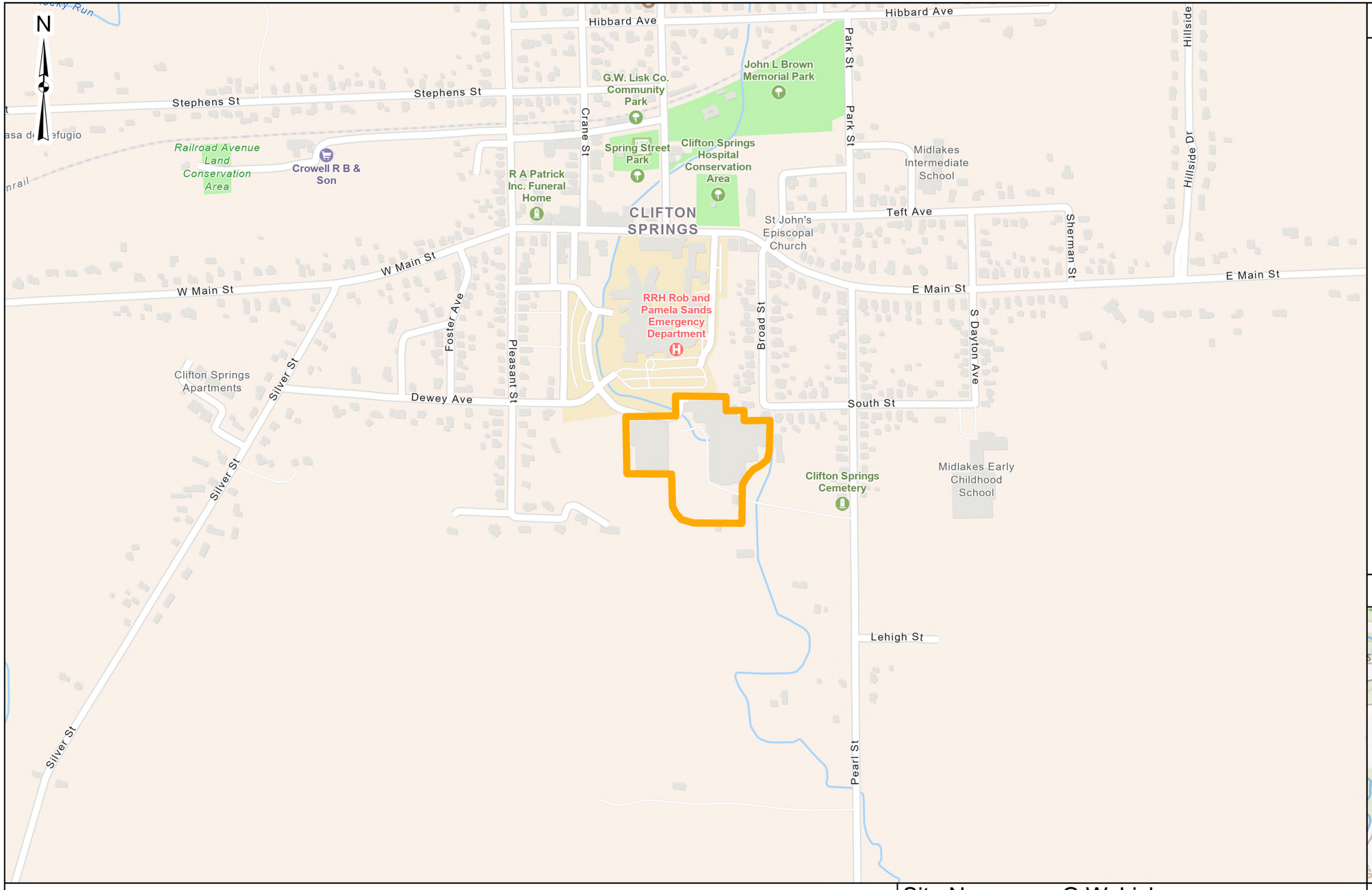
- Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

- An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy.

    - The plan includes, but is not limited to:

        - procedures for inspecting and maintaining the cover system; and,

        - providing DEC access to the site and O&M records.



Notes

Base and Vicinity Maps developed using imagery from ESRI.

Legend

Brownfield Site Boundary

VICINITY MAP
(NOT TO SCALE)

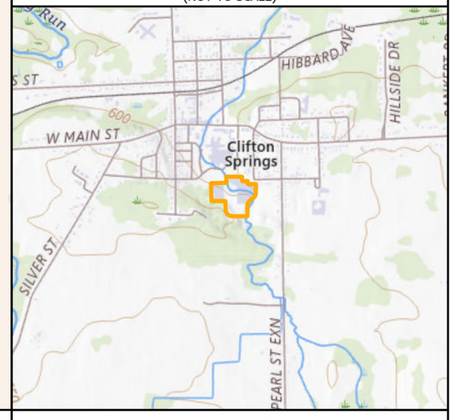
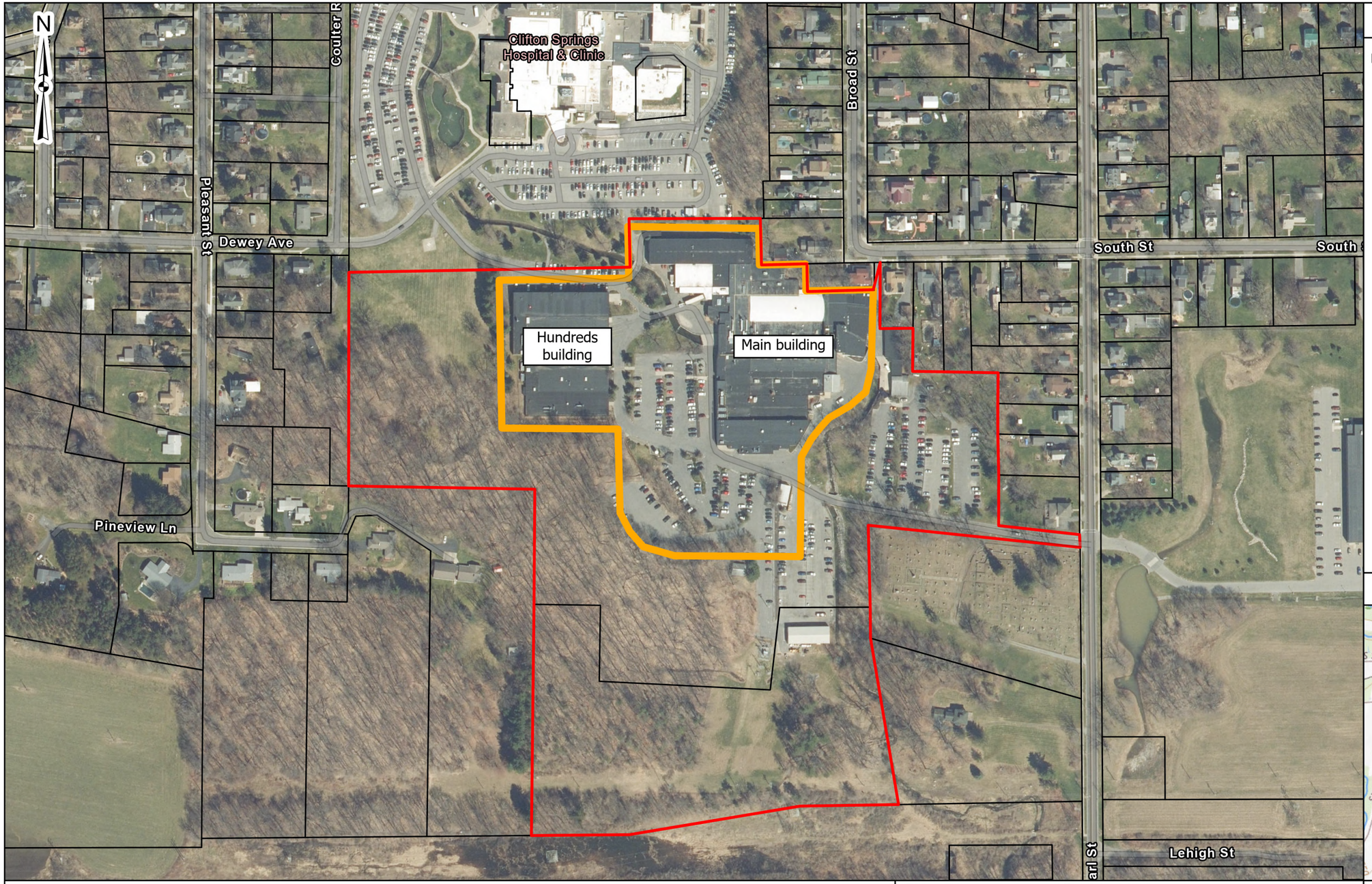


Figure 1 - Site Location

Site Name:	G.W. Lisk
Site Number:	C835026
Location:	Clifton Springs, NY
County:	Orleans
Scale:	1" = 650 ft

NEW YORK STATE | Department of Environmental Conservation

Coordinate System: NAD 1983 2011 StatePlane New York Central FIPS 3102 Ft US



Notes

Base and Vicinity Maps developed using imagery from ESRI.

Legend

- Brownfield Site Boundary
- G.W. Lisk Parcels
- Other Tax Parcels

VICINITY MAP
(NOT TO SCALE)

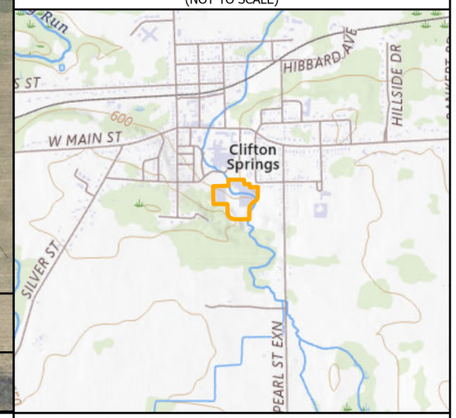
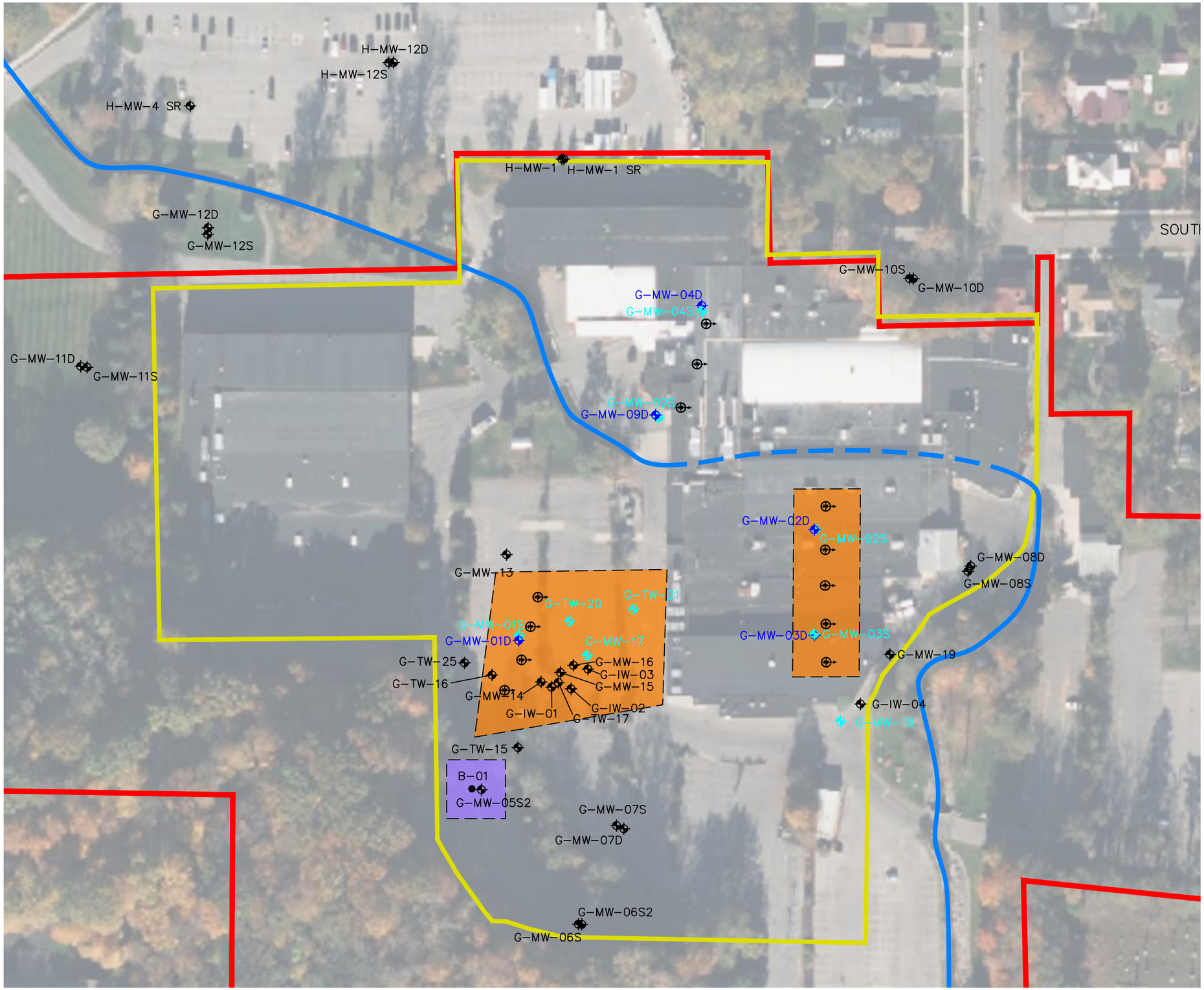


Figure 2 - Site Plan

Site Name:	G.W. Lisk
Site Number:	C835026
Location:	Clifton Springs, NY
County:	Orleans
Scale:	1" = 250 ft

NEW YORK STATE | Department of Environmental Conservation

Coordinate System: NAD 1983 2011 StatePlane New York Central FIPS 3102 Ft US



LEGEND

- BCP SITE BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- SULFUR CREEK (UNDERGROUND SECTION DASHED)
- G-MW-05 — EXISTING MONITORING WELLS
- G-MW-01S — PROPOSED POST-INJECTION OVERBURDEN MONITORING LOCATION
- G-MW-01D — PROPOSED POST-INJECTION BEDROCK MONITORING LOCATION
- PROPOSED OVERBURDEN DIRECT-PUSH INJECTION AREAS
- PROPOSED BEDROCK PERMANENT INJECTION WELL
- PROPOSED BTEX EXCAVATION AREA
- B-01 — HISTORIC SOIL BORING IN BTEX AREA

N

100' 0 100'

Title:

PROPOSED REMEDIAL ACTION AND POST-REMEDIAL GROUNDWATER MONITORING

REMEDIAL ACTION WORK PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:
G.W. LISK COMPANY, INC.

ROUX

Compiled by: CNK	Date: JANUARY 2026	FIGURE
Prepared by: CNK	Scale: AS SHOWN	3
Project Mgr: LER	Project: 4981.0001B002	
File: FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG CKANALEY