

DECISION DOCUMENT

11075 Walden Avenue
Brownfield Cleanup Program
Alden, Erie County
Site No. C915333
January 2025



**Department of
Environmental
Conservation**

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

DECLARATION STATEMENT - DECISION DOCUMENT

11075 Walden Avenue
Brownfield Cleanup Program
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Statement of Purpose and Basis

This document presents the remedy for the 11075 Walden Avenue site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the 11075 Walden Avenue site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the above referenced site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or alternatives analysis (AA). The IRM(s) undertaken at this site are discussed in Section 6.2.

Based on the results of the investigations at the site, the IRMs that have been performed, and the evaluation presented here, the NYSDEC has selected "No Further Action" as the remedy for the site. This No Further Action remedy includes continued operation of the sub-slab depressurization system (SSDS) and the implementation of other institutional controls/engineering controls (ICs/ECs) including a cover system and a groundwater monitoring and sampling plan as defined in the Site Management Plan (SMP) to assess the effectiveness of the remedy. The NYSDEC believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRMs already completed and the institutional and engineering controls are listed below:

1. Green Remediation:

Green remediation principles and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Sub-slab Depressurization System (SSDS):

Findings of a soil vapor intrusion investigation conducted during the October 2017 Supplemental Phase II environmental site assessment (ESA) of the site indicated that both indoor air and sub-slab concentrations of chlorinated volatile organic compounds (CVOCs) required mitigation. In March 2020 an SSDS was installed beneath the on-site building, in accordance with the United States Environmental Protection Agency (USEPA) 402-03-007 (May 2006) and the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006, in order to mitigate potential vapor intrusion of CVOC vapors into the building. Subsequent to the installation of the SSDS, five indoor air samples and one outdoor ambient air sample were collected to verify system effectiveness. Three locations had trichloroethene (TCE) exceedances of indoor air standards. Following additional investigation to delineate the source of TCE impacts, an IRM Floor Coating remedy, described in element 5 below, was initiated to mitigate TCE in indoor air.

3. Excavation:

Based upon the Phase II ESA investigation conducted prior to the SSDS IRM, the primary contaminants of concern (COCs) at the site were CVOCs in soil vapor and in soils beneath the west-central portion of the on-site building at depths of up to 10 feet below ground surface (fbgs). An IRM was implemented to remove all accessible impacted soil and fill in which CVOC concentrations exceeded Commercial Soil Cleanup Objectives (CSCOs). Approximately 217 tons

(117.46 tons of hazardous soils and 99.34 tons of nonhazardous soils) of tetrachloroethene (PCE) contaminated soils were excavated and transported off-site for disposal. Eight post-excavation soil samples were taken at the limits of the excavation. PCE was detected at 170 parts per million (ppm) which is above the CSCO of 150 ppm in one of the post-excavation floor samples which indicates some contamination remains below the feasible limits of the IRM excavation. Post-excavation sampling details and results can be found in the site's Final Engineering Report (FER).

4. Groundwater Amendments:

A total of 20 source area injections and 13 downgradient injections of an enhanced reductive dechlorination product were advanced in the vicinity of the IRM excavation. Limited residual subsurface CVOC-impacted soils remained beneath the limits of the IRM Excavation. Two rounds of post-injection groundwater monitoring were conducted. Post-injection groundwater monitoring demonstrated that the injections were effective at reducing residual CVOCs in soils and groundwater on-site. Groundwater monitoring conducted subsequent to these injections has not detected any CVOCs in the area downgradient of the source area. Petroleum related VOCs remain above applicable groundwater standards but do not appear to be migrating off-site. Post-injection levels of remaining VOCs impacts remaining in groundwater on-site will be monitored in site management and addressed with additional injections, if necessary.

5. Floor Coating:

Removal and replacement of the existing damaged epoxy floor covering was conducted in an area of approximately 3,100 square feet within the north portion of the central warehouse and adjacent utility room. The area of flooring to be replaced was established based on the results of a TCE Indoor Air Source Evaluation conducted in March/April of 2021. Additionally, the concrete floor in the area of the IRM excavation has been restored to prevent any future exposure to remaining CVOC contamination in soils which remain below the IRM excavation location. The floor and floor coating will be inspected at defined, regular intervals in accordance with the SMP in perpetuity.

6. Cover System:

A site cover currently exists in areas not occupied by buildings and will be maintained to allow for commercial or industrial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper one foot of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for commercial or industrial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

7. Engineering and Institutional Controls:

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to 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 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 Erie County Department of Health; and
- require compliance with the NYSDEC-approved Site Management Plan.

8. 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 element 7 above.

Engineering Controls: The sub-slab depressurizations system discussed in element 2 above and the site cover system as discussed in element 6 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;
 - descriptions of the provisions of the environmental easement including any land use and groundwater restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings constructed on site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - a provision that should a building foundation or building slab be removed in the future, a cover system will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
 - provisions for the management and inspection of the identified engineering controls;
 - maintaining site access controls and NYSDEC notification; and
 - 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:
 - monitoring of groundwater to assess the performance and effectiveness of the remedy;
 - a schedule of monitoring and frequency of submittals to the NYSDEC; and
 - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
 - c. 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 operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and NYSDEC notification; and
- providing the NYSDEC 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.

1/27/2025

Date

Michael j Cruden

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

11075 Walden Avenue
Alden, Erie County
Site No. C915333
January 2025

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or alternative analysis (AA). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRMs, the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment. The IRMs conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the selected remedy. A No Further Action remedy may include continued operation of any remedial system installed during the IRMs and the implementation of any prescribed controls that have been identified as being part of the remedy for the site. This Decision Document (DD) identifies the IRMs conducted and discusses the basis for No Further Action.

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

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

SECTION 2: CITIZEN PARTICIPATION

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

Alden Ewell Free Library
13280 Broadway Street
Alden, NY 14004
Phone: (716) 937-7082

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary 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 11075 Walden Avenue site is a 2.96-acre site, located in a suburban area, at 11075 Walden Avenue in the Town of Alden, Erie County. It is on the south side of Walden Avenue, west of Commerce Drive.

Site Features: The site is relatively flat and includes one partially occupied building surrounded by paved parking lots and green space to the north, west, and south.

Current Zoning and Land Use: The site is zoned for commercial use and houses a truck repair service in a portion of the building. The surrounding parcels are currently used for a combination of residential, commercial, light industrial, and utility rights-of-way. The nearest residential area is across Walden Avenue to the north.

Past Use of the Site: The site was first improved in the 1960's by the original portion of the existing building and was possibly used by a printing operation. From the early 1970's until 2006, the site was used as a commercial laundry and dry-cleaning facility. Prior uses that appear to have led to site contamination include dry-cleaning and printing operations. Prior to 1960 the land was used for agriculture.

Site Geology and Hydrogeology: Approximately 0-2 feet of fill (clay, silts, gravel, rock, and concrete) was observed, underlain by native soils (clay/silt) to a depth of 16 feet below ground surface (fbgs). Depth to groundwater is 4-10 fbgs and flows east-northeast.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for 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 investigation 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 Remedial Investigation (RI) Report.

SECTION 5: ENFORCEMENT STATUS

One or more of the Applicants under the Brownfield Cleanup Agreement is a Participant. The Participant has an obligation to address on-site and off-site contamination, however it was determined that this site is not a significant threat to human health or the environment. Accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- sub-slab vapor

- indoor air

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

tetrachloroethene (PCE)
cis-1,2-dichloroethene
vinyl chloride

trichloroethene (TCE)
1,2-dichloroethene

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRMs described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Reports.

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

The following IRMs were conducted at the site. For a more detailed explanation of the work performed, please see the description of the selected remedy above.

1. Sub-slab Depressurization System (SSDS):

In March 2020, an SSDS was installed beneath the on-site building to mitigate potential intrusion of CVOC vapors into the building.

2. Excavation:

An IRM excavation was initiated in May of 2019 to remove all accessible CVOC impacted soil and fill in which contaminant concentrations exceeded Commercial Soil Cleanup Objectives (CSCOs) for CVOCs in the west-central portion of the on-site building.

3. Groundwater Amendment:

Beginning in May of 2020, a total of 20 source area injections and 13 downgradient injections of an enhanced reductive dechlorination product were advanced in the vicinity of the IRM excavation. Analytical results of post-injection groundwater sampling demonstrated that the injections were effective at addressing residual CVOCs in groundwater at the site.

4. Floor Coating:

In November of 2021, the existing, damaged, epoxy-floor covering in an area of approximately 3,100 square feet was removed and replaced within the north portion of the central warehouse and adjacent utility room. Subsequent to installation of the SSDS, five indoor air samples were collected in September of 2020. Three of those samples exceeded the NYSDOH indoor air guidance value for TCE of 2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) at 3.27, 2.56, and 2.81 $\mu\text{g}/\text{m}^3$. An additional indoor air assessment was conducted to determine the source of these indoor air impacts. It was determined after surveying all potential avenues of impact infiltration that the heavily damaged floor coating in the central warehouse area of the building was the source of TCE air impacts. Indoor air was re-sampled following the floor coating repairs and TCE was not detected in any of the post-IRM air samples.

6.3: Summary of Environmental Assessment

This section summarizes the RI and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

The RI was conducted between January 2019 and August 2020 and included sampling of surface soil, subsurface soil, groundwater, soil vapor, sub-slab vapors, and indoor air. The data collected during the RI identified metals, volatile organic compounds (VOCs) and emerging contaminants above commercial soil clean up objectives (CSCOs) as follows.

Surface Soil:

Five surface soil samples were collected from 0-2 inches bgs and analyzed for metals, VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), herbicides/pesticides and emerging contaminants during the remedial investigation. The surface soil analytical results indicated no exceedances of the site SCOs.

Subsurface Soils:

A total of 16 soil borings were advanced to depths of up to 35 ft bgs and 18 subsurface soil samples were collected. Subsurface samples collected from the borings were analyzed for VOCs, SVOCs, metals, herbicides/pesticides, PCBs and emergent contaminants. No exceedances of CSCOs for

SVOCs, metals, PCBs, pesticides, or herbicides were identified. Data does not indicate off-site impacts from site-related soil contamination.

PCE was detected in subsurface soil at concentrations up to 310 ppm (CSCO 150 ppm).

Groundwater:

Six groundwater monitoring wells were installed to target depths between 16 and 38.2 ft bgs and were sampled between February 2019 and August 2020. Groundwater samples were analyzed for VOCs, SVOCs, metals, pesticides/herbicides, PCBs, and emergent contaminants. Samples were evaluated against the NYS Groundwater Quality Standards (GWQS). No exceedances of GWQS for SVOCs, metals, pesticides/herbicides or PCBs were identified.

VOCs detected in groundwater included acetone at concentrations up to 280 ppb (GWQS 50 ppb), benzene at concentrations up to 3.2 ppb (GWQS 1.0 ppb), cis-1,2-dichloroethene at concentrations up to 930 ppb (GWQS 5 ppb), methyl ethyl ketone at concentrations up to 170 ppb (GWQS 50 ppb), PCE at concentrations up to 2,500 ppb (GWQS 5ppb), TCE at concentrations up to 950 ppb (GWQS 5ppb), and vinyl chloride at concentrations up to 25 ppb (GWQS 2 ppb).

No CVOCs were detected in the downgradient monitoring well (MW-15). CVOC impacts are localized to the source area under the west-central portion of the building which is represented by MW-12. There is no evidence that CVOC impacts are migrating off-site.

Emerging contaminants detected in groundwater include perfluorooctane sulfonic acid (PFOS) at concentrations up to 10 ppt (2.7 ppt GWQS) and 1,4 dioxane at concentrations up to 0.929 ppb (GWQS 0.35 ppb).

Soil Vapor:

Four soil vapor samples were collected near the site boundaries and submitted for analysis using USEPA Method TO-15. No site related CVOCs were detected above laboratory method detection limits in soil vapor at the site boundary. There is no evidence that soil vapor intrusion is an issue off-site.

Indoor Air:

During the 2017 Phase II ESA, PCE and TCE were detected in all five indoor air samples collected ranging from 12 to 25 $\mu\text{g}/\text{m}^3$ and 2.4 to 3.5 $\mu\text{g}/\text{m}^3$, respectively (NYSDOH Air Guidance Values for PCE and TCE, respectively, 30 $\mu\text{g}/\text{m}^3$ and 2.0 $\mu\text{g}/\text{m}^3$). To mitigate impacts to indoor air, IRMs to install an active SSDS followed by resealing of the warehouse floor were performed. In September 2020, after the implementation of the IRMs TCE in indoor air was non-detect and PCE was detected at 0.19 to 0.25 $\mu\text{g}/\text{m}^3$.

Following occupation of the rear portion of the site building by a heavy equipment repair operation, a soil vapor intrusion evaluation was conducted in March 2023. PCE was detected at 94.9 $\mu\text{g}/\text{m}^3$ and 132 $\mu\text{g}/\text{m}^3$ in the two indoor air samples collected (NYSDOH Table 3.1 Air Guidance Value for PCE is 30 $\mu\text{g}/\text{m}^3$). It was determined that the PCE detected was related to the repair operations in the rear building and not site related.

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*.

Direct contact with soil contamination is unlikely because the majority of the site is covered with buildings and asphalt pavement. Persons who enter the site could contact contaminants in soil by digging below the grassy areas bordering the site. Contaminated groundwater at the site is not used for drinking or other purposes, and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) can 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. Soil vapor intrusion sampling identified impacts to indoor air quality in the on-site building which represented a health concern, and a mitigation system (one that ventilates/removes the air beneath building) was installed beneath the central portion of the site building to prevent inhalation exposures. Environmental sampling indicates that soil vapor intrusion is not 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 contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- 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

Based on the results of the investigations at the site, the IRMs that have been performed, and the evaluation presented here, the NYSDEC has selected “No Further Action” as the remedy for the site. This No Further Action remedy includes continued operation of the Sub-slab Depressurization System (SSDS) and the implementation of other ICs/ECs including a cover system and a groundwater monitoring and sampling plan as defined in the SMP to assess the effectiveness of the remedy. The NYSDEC believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRMs already completed and the institutional and engineering controls are listed below:

1. Green Remediation:

Green remediation principles and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Sub-slab Depressurization System (SSDS):

Findings of a soil vapor intrusion investigation conducted during the October 2017 Supplemental Phase II ESA of the site indicated that both indoor air and sub-slab vapor concentrations of chlorinated volatile organic compounds (CVOCs) required mitigation. In March 2020 an SSDS was installed beneath the on-site building, in accordance with the United States Environmental Protection Agency (USEPA) 402-03-007 (May 2006) and the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006, in order to mitigate potential vapor intrusion of CVOC vapors into the building. Subsequent to the installation of the SSDS, five indoor air samples and one outdoor ambient air sample were collected to verify system effectiveness. Three locations had TCE exceedances of indoor air standards. Following additional investigation to delineate the source of TCE impacts, an IRM Floor Coating remedy, described in element 5 below, was initiated to mitigate TCE in indoor air.

3. Excavation:

Based upon the Phase II ESA conducted prior to the SSDS IRM, the primary COCs at the site were CVOCs in soil vapor and in soils beneath the west-central portion of the on-site building at depths of up to 10 feet below ground surface (fbgs). An IRM was implemented to remove all accessible impacted soil and fill in which CVOC concentrations exceeded Commercial Soil Cleanup Objectives (CSCOs). Approximately 217 tons (117.46 tons of hazardous soils and 99.34 tons of nonhazardous soils) of PCE-contaminated soils were excavated and transported off-site for disposal. Eight post-excavation soil samples were taken at the limits of the excavation. PCE was detected at 170 parts per million (ppm) which is above the CSCO of 150 ppm in one of the post-excavation floor samples which indicates some contamination remains below the feasible limits of the IRM excavation. Post-excavation sampling details and results can be found in the site's Final Engineering Report (FER).

4. Groundwater Amendments:

A total of 20 source area injections and 13 downgradient injections of an enhanced reductive dechlorination product were advanced in the vicinity of the IRM excavation. Limited residual subsurface CVOC-impacted soils remained beneath the limits of the IRM Excavation. Two rounds of post-injection groundwater monitoring were conducted. Post-injection groundwater monitoring demonstrated that the injections were effective at addressing residual CVOCs in soils and groundwater on-site. Groundwater monitoring conducted subsequent to these injections has not detected any CVOCs in the area downgradient of the source area. These results demonstrated that the injections were effective at addressing residual CVOCs in soils and groundwater at the site and that there is no evidence CVOC contaminants are migrating off-site. Post injection levels of CVOC impacts remaining in groundwater on-site will be monitored in site management and addressed with additional injections if necessary.

5. Floor Coating:

Removal and replacement of the existing damaged epoxy floor covering in an area of approximately 3,100 square feet within the north portion of the central warehouse and adjacent utility room. The area of flooring to be replaced was established based on the results of a TCE Indoor Air Source Evaluation conducted in March/April of 2021. Additionally, the concrete floor in the area of the IRM excavation has been restored to prevent any future exposure to remaining CVOC contamination in soils which remain below the IRM excavation location. The floor and floor coating will be inspected at defined, regular intervals in accordance with the SMP in perpetuity.

6. Cover System

A site cover currently exists in areas not occupied by buildings and will be maintained to allow for commercial or industrial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper one foot of exposed surface soil meets the applicable SCOs for commercial or industrial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

7. Engineering and Institutional Controls:

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to 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 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 Erie County Department of Health; and
- require compliance with the NYSDEC approved Site Management Plan.

8. 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 element 5 above.

Engineering Controls: The sub-slab depressurizations system discussed in element 1 above and the soil cover system as discussed in element 4 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;
- descriptions of the provisions of the environmental easement including any land use and groundwater restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings constructed on site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and NYSDEC notification; and
- 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:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the NYSDEC; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. 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 operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and NYSDEC notification; and
- providing the NYSDEC access to the site and O&M records.

Figure 1

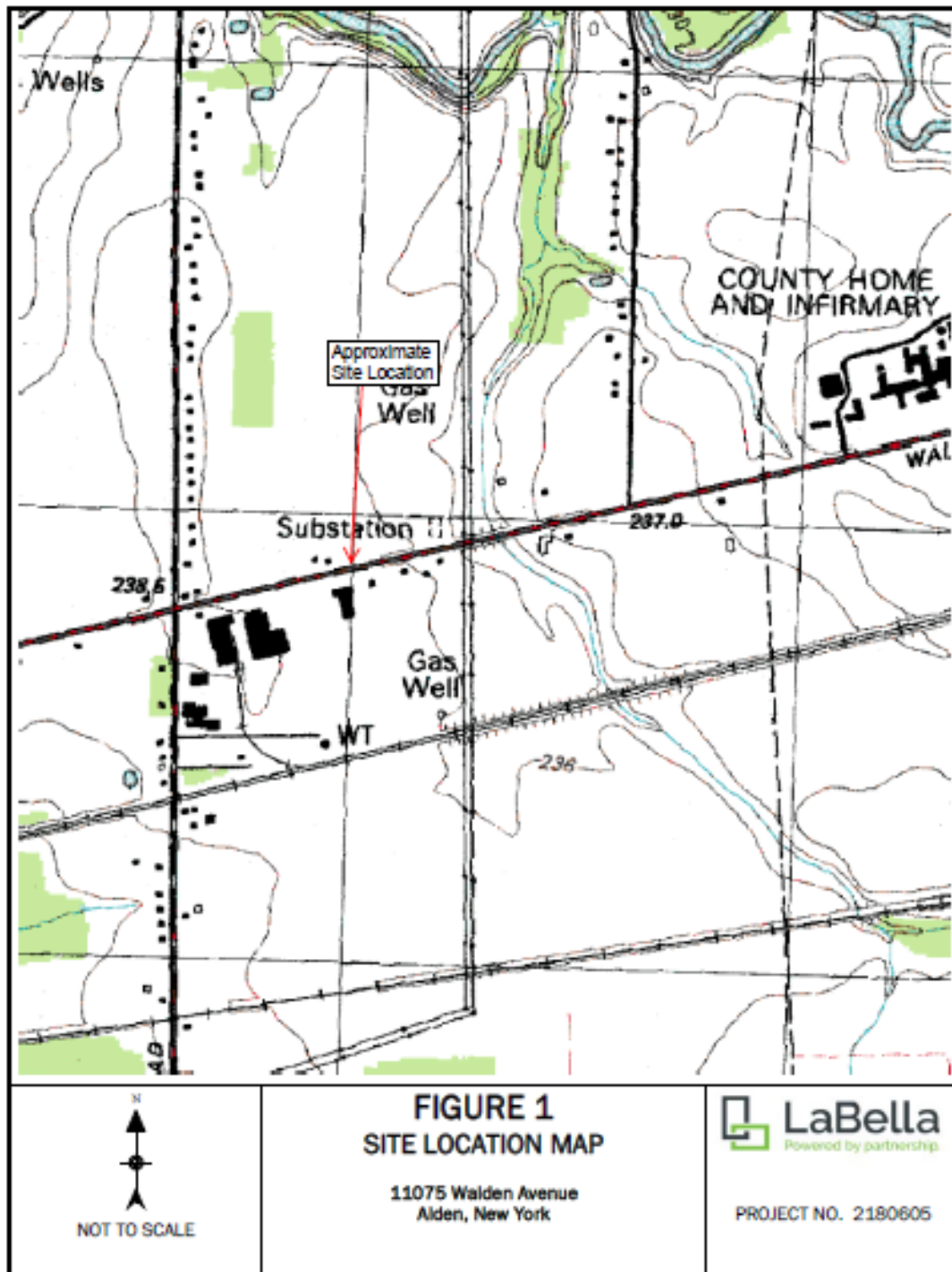


Figure 2



Figure 3

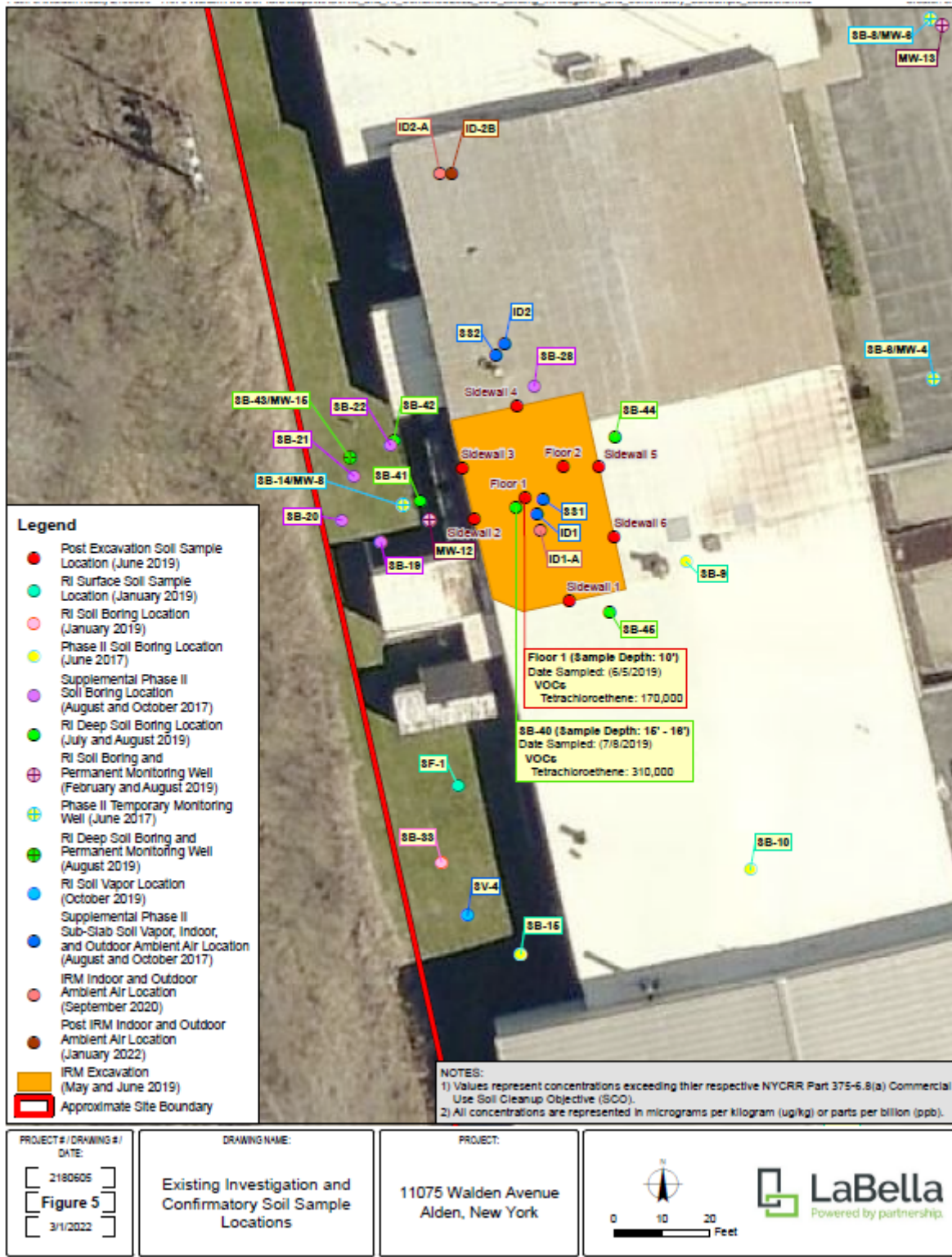


Figure 4



Figure 5

