DECISION DOCUMENT

Lakeside Village Apartments
Brownfield Cleanup Program
Lancaster, Erie County
Site No. C915344
May 2022

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

DECLARATION STATEMENT - DECISION DOCUMENT

Lakeside Village Apartments
Brownfield Cleanup Program
Lancaster, Erie County
Site No. C915344
May 2022

Statement of Purpose and Basis

This document presents the remedy for the Lakeside Village Apartments 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 Lakeside Village Apartments site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

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

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

will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid;
- any potential underground storage tanks (USTs), underground piping, or other structures associated with a source of contamination; and
- soils which exceed the PGWSCOs, as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Approximately 400 cubic yards of contaminated soil meeting the above definition will be removed from the site. The exact volume of soil will be determined using a pre-design investigation and confirmation sampling results.

On-site soil which does not exceed the above excavation criteria or the PGWSCOs for any constituent may be used anywhere on-site, including below the water table, to backfill the excavation. Clean fill 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.

3. Cover System

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

4. In-Situ Chemical Oxidation

In-situ chemical oxidation (ISCO) will be implemented to treat tetrachloroethene and its degradation products in groundwater and any residual that may remain in soil following the excavation in Remedial Element 2. A chemical oxidant will be injected via injection points in the saturated zone of the subsurface to destroy the contaminants. The exact oxidant and extent of the injection area will be determined during the remedial design.

Monitoring will be required within and downgradient of the treatment zone to confirm that

treatment was effective. Monitoring will be conducted for tetrachloroethene and its degradation products, geochemical parameters, and any other parameters useful in assessing the effectiveness of the injections. If ISCO fails to achieve the remedial action objectives additional remedial actions may be required.

5. Vapor Mitigation

On-site Buildings 1 and Building A are required to maintain the active sub-slab depressurization systems, or other acceptable measures, to mitigate the migration of vapors into the buildings from groundwater. Mitigation will continue until the Department and NYSDOH determine it is no longer required.

6. Environmental Easement

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential 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 DOH; and
- require compliance with the Department approved Site Management Plan.

7. 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 6, above.

Engineering Controls: The cover system discussed in Remedial Element 3 (if required) and the sub-slab depressurization system discussed in Remedial Element 5 above.

This plan includes, but may not be limited to:

- an Excavation Work 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 use restrictions;

- If a cover system is required, 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 will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- provisions for the management and inspection of the identified engineering controls;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings developed on the site or if significant changes are made to the existing on-site buildings, including provision for implementing actions recommended to address exposures related to soil vapor intrusion
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. 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 Department; and
- monitoring for vapor intrusion for any new on-site buildings or if significant changes are made to the existing on-site buildings.

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

- procedures for operating and maintaining the systems; and
- compliance inspection of the systems to ensure proper O&M as well as providing the data for any necessary reporting.

Declaration

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

michael cruden Digitally signed by michael cruden
Date: 2022.05.17 12:21:29 -04'00'

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Lakeside Village Apartments
Lancaster, Erie County
Site No. C915344
May 2022

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C915344

Lancaster Library
Attn: Kara Stock
5466 Broadway
Lancaster, NY 14086
Phone: 716-683-1120

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The 1.18-acre Lakeside Village Apartments site is located in a suburban residential area and is addressed as 65 and 67 Lake Avenue in the Town of Lancaster, Erie County. The site is bound to the north, west and south by single family homes and apartment buildings and to the east by Lake Avenue and additional residential properties.

Site Features: A four-unit apartment building constructed in 1903 and three two-story town home apartment buildings ranging in size from 5,600 square feet to 8,560 square feet are present at the site. The central portion of the site is a paved parking area with landscaped and grassy areas. Areas behind the apartments consist of grassy areas and small vegetation.

Current Zoning and Land Use: The site is currently zoned as a residential district and the townhomes/apartments on the site are occupied.

Past Uses of the Site: Historical reports and Sanborn maps indicate that a portion of the site was utilized as a dry cleaner from at least 1949 through approximately 1980. The former dry-cleaning building was demolished by 1995. The three townhome buildings were constructed in 2006. The apartment building at 67 Lake Avenue has been utilized for residential purposes since construction in 1903. Reports also identified one tank installed on-site in 1958. The location and status of the tank has not been determined, but would most likely have been located on the eastern portion of the site, based upon the nature of historical site development.

Past investigations completed at the site as part of the Lake Avenue Apartments (#915344) remedial program resulted in sub-slab depressurization systems being installed in two of the on-site buildings due to soil vapor intrusion concerns.

Site Geology and Hydrogeology: Based on investigations completed at the site, surficial soil consist of approximately 4.5 feet of granular sand and gravel fill material underlain by lacustrine silt and clay to a depth of approximately 11.5 feet below ground surface (fbgs). A gravelly silt with sand unit is present below the lacustrine silt and clay, up to 20 fbgs, overlying a weathered shale bedrock.

Cayuga Creek, a tributary of the Buffalo River, is located approximately 260 feet southwest of the site. The site is generally flat with a gentle slope to the west and southwest towards Cayuga Creek. Groundwater is encountered from 5 to 11 fbgs, and flows to the west or southwest.

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 restricted-residential use (which allows for commercial use and 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.

Additionally, the Department has determined that this site does not pose a significant threat to public health or the environment.

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
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

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

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

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

6.2: Interim Remedial Measures

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

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

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

The RI sampled surface and subsurface soils, groundwater, and soil vapor. Sub-slab soil vapor and indoor air were analyzed separately prior to the RI. The primary contaminants of concern are volatile organic compounds (VOCs) related to past dry-cleaning operations at the site. VOC impacts in soil, groundwater, sub-slab soil vapor, and indoor air have all been detected exceeding standards, criteria, or guidance values.

Surface Soil: Nine samples were collected from 0 to 2 inches below the vegetative cover across the entire site and analyzed for semi-volatile organic compounds (SVOCs), metals, pesticides, herbicides, polychlorinated biphenyls (PCBs), cyanide, and per- and polyfluorinated substances (PFAS). Nine samples were collected from 0 to 6 inches below the vegetative cover across the entire site and analyzed for VOCs. None of the analytes were detected at levels exceeding restricted residential use soil cleanup objectives (RRSCOs). No PFAS were detected at levels exceeding current guidance values.

Investigation results do not indicate that site contaminants have migrated off-site in surface soil.

Subsurface Soil: Nine soil borings were completed to depths ranging from 14.5 to 20 feet below ground surface (fbgs) and analyzed for VOCs. Four of these locations were also analyzed for SVOCs, metals, pesticides, herbicides, PCBs, cyanide, and PFAS. No subsurface soil samples have been collected from below the existing buildings. No VOCs, SVOCs, metals, pesticides, herbicides, PCBs, or cyanide were detected at levels exceeding RRSCOs. No PFAS were detected at levels exceeding current guidance values.

While no VOCs were detected exceeding RRSCOs, tetrachloroethene (up to 3.4 parts per million (ppm), PGWSCO 1.3 ppm) and cis-1,2-dichloroethene (up to 1.3 ppm, PGWSCO 0.25 ppm) were detected exceeding the protection of groundwater soil cleanup objectives (PGWSCOs) in areas collocated with VOC contamination in groundwater. Trichloroethene, trans-1,2-dichloroethene, and vinyl chloride have also been detected in subsurface soil but did not exceed PGWSCOs during the RI.

Investigation results do not indicate that site contaminants have migrated off-site in subsurface soil, though some subsurface soil is a source of on-site groundwater contamination.

Groundwater: Samples were collected from nine on-site monitoring wells and one off-site temporary well screened at depths between 3 and 19 fbgs. All wells were analyzed for VOCs. Three of the wells were also analyzed for SVOCs, total/dissolved metals, pesticides, herbicides, PCBs, cyanide, and PFAS. There were no SVOCs, metals, pesticides, herbicides, PCBs, or cyanide detected above groundwater quality standards (GWQS) in any of the wells analyzed for those

compounds. No PFAS were detected at levels exceeding current guidance values or drinking water standards in any of the wells analyzed for those compounds. No VOCs were detected above GWQSs in the off-site temporary well.

The VOCs tetrachloroethene (up to 3,200 parts per billion (ppb), GWQS 5 ppb), trichloroethene (up to 160 ppb, GWQS 5 ppb), cis-1,2-dichloroethene (up to 830 ppb, GWQS 5 ppb), trans-1,2-dichloroethene (up to 11 ppb, GWQS 5 ppb), and vinyl chloride (up to 20 ppb, GWQS 2 ppb) were all detected exceeding GWQS in at least one monitoring well.

Investigation results indicate that groundwater contaminated with chlorinated VOCs is not migrating off-site but is a source of soil vapor intrusion in two on-site buildings.

Soil Vapor/Sub-Slab Soil Vapor/Indoor Air: Soil vapor intrusion (SVI) assessments were completed in all four on-site apartment buildings prior to the RI. Based on these assessments, Building 1 and Building A require mitigation due to tetrachloroethene (up to 36 micrograms per cubic meter (ug/m3)) and trichloroethene (up to 66 ug/m3) present in sub-slab soil vapor and tetrachloroethene (up to 35 ug/m3) and trichloroethene (up to 4.6 ug/m3) present in indoor air. Subslab depressurization systems have been installed and are currently operating in these buildings.

During the RI, attempts were made to complete an SVI assessment in off-site buildings south of Building 1, but access could not be obtained from the property owner. Two soil vapor probes were installed east and south of Building 1 to assess the potential for off-site migration in soil vapor. Soil vapor probes were installed to approximately 4 fbgs due to the potential for shallow groundwater around the site. Tetrachloroethene (up to 0.68 ug/m3) was detected in one soil vapor probe and trichloroethene was not detected in either soil vapor probe.

Investigation results indicate that site contaminants are not migrating off-site in soil vapor.

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, contact with contaminated soil or 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 public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into nearby 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. Sub-slab depressurization systems (systems that ventilate/remove the air beneath the building) have been installed in two of the on-site buildings to prevent the indoor air quality from being affected by the contamination in soil vapor beneath the buildings. Sampling indicates soil vapor intrusion is not a concern for the remaining on-site, or off-site buildings.

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.
- 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 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 2: Restricted use with generic soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation with Groundwater Treatment and Site Management 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 will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid;
- any potential underground storage tanks (USTs), underground piping, or other structures associated with a source of contamination; and
- soils which exceed the PGWSCOs, as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Approximately 400 cubic yards of contaminated soil meeting the above definition will be removed from the site. The exact volume of soil will be determined using a pre-design investigation and confirmation sampling results.

On-site soil which does not exceed the above excavation criteria or the PGWSCOs for any constituent may be used anywhere on-site, including below the water table, to backfill the excavation. Clean fill 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.

3. Cover System

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

4. In-Situ Chemical Oxidation

In-situ chemical oxidation (ISCO) will be implemented to treat tetrachloroethene and its degradation products in groundwater and any residual that may remain in soil following the excavation in Remedial Element 2. A chemical oxidant will be injected via injection points in the saturated zone of the subsurface to destroy the contaminants. The exact oxidant and extent of the injection area will be determined during the remedial design.

Monitoring will be required within and downgradient of the treatment zone to confirm that treatment was effective. Monitoring will be conducted for tetrachloroethene and its degradation products, geochemical parameters, and any other parameters useful in assessing the effectiveness of the injections. If ISCO fails to achieve the remedial action objectives additional remedial actions may be required.

5. Vapor Mitigation

On-site Buildings 1 and Building A are required to maintain the active sub-slab depressurization systems, or other acceptable measures, to mitigate the migration of vapors into the buildings from groundwater. Mitigation will continue until the Department and NYSDOH determine it is no longer required.

6. Environmental Easement

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential 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

DOH; and
- require compliance with the Department approved Site Management Plan.

7. 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 6, above.

Engineering Controls: The cover system discussed in Remedial Element 3 (if required) and the sub-slab depressurization system discussed in Remedial Element 5 above.

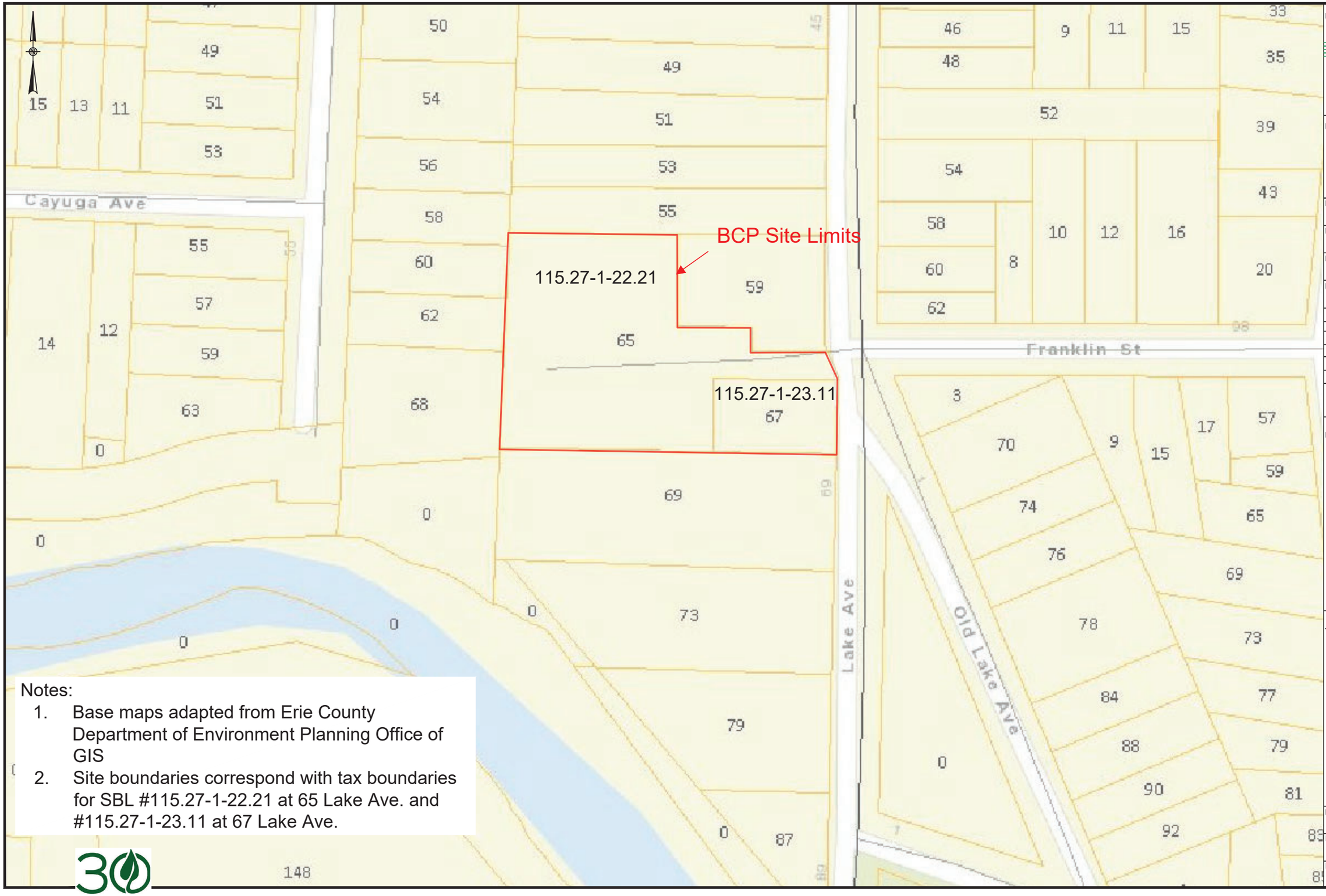
This plan includes, but may not be limited to:
- an Excavation Work Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- If a cover system is required, 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 will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- provisions for the management and inspection of the identified engineering controls;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings developed on the site or if significant changes are made to the existing on-site buildings, including provision for implementing actions recommended to address exposures related to soil vapor intrusion
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. 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 Department; and
- monitoring for vapor intrusion for any new on-site buildings or if significant changes are made to the existing on-site buildings.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation

systems. The plan includes, but is not limited to:

- procedures for operating and maintaining the systems; and
- compliance inspection of the systems to ensure proper O&M as well as providing the data for any necessary reporting.



Notes:

1. Base maps adapted from Erie County Department of Environment Planning Office of GIS
2. Site boundaries correspond with tax boundaries for SBL #115.27-1-22.21 at 65 Lake Ave. and #115.27-1-23.11 at 67 Lake Ave.

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

PREPARED BY:

MATRIX ENVIRONMENTAL TECHNOLOGIES INC.
3730 California Road
P.O. Box 427
Orchard Park, NY 14127
p:716.662.0745
www.matrixbiotech.com

PREPARED FOR:

65 Lake Avenue LLC

PROJECT MGR: SLM

DESIGNED BY: CMC

REVIEWED BY: SRC

DRAWN BY: CMC

REVISION

BY	DATE
CMC	1/23/20

SCALE IN FEET: NOT TO SCALE

0

PROJECT NAME / LOCATION:

Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:

BCP Site Limits

DATE: NA

PROJECT NO.: 18-046

FIGURE: DD Figure 1

LEGEND

- Proposed Soil Excavation Extents (approximate)
- SSD Systems
- Groundwater Treatment Area (approximate)
- Parcels Subject to Easement

Building C

OVERHEAD ELECTRIC UTILITY

59 Lake Ave

Building B

FORMER DRY CLEANER (APPROXIMATE)

67 Lake Ave

Lake Ave

VP-A4 VP-A3 VP-A2 VP-A1

Building A

RadonAway HS2000 Fans

VP-1 VP-2 VP-3

Building 1

65 Lake Ave

RadonAway GP501 Fans

BCP Site Limit

Concrete Berm

69 Lake Ave

30 years dedicated to a CLEANER ENVIRONMENT 1991-2021

PREPARED BY:

MATRIX ENVIRONMENTAL TECHNOLOGIES INC.
3730 California Road
P.O. Box 427
Orchard Park, NY 14127
p:716.662.0745
www.matrixbiotech.com

PREPARED FOR:

65 Lake Avenue LLC

PROJECT MGR: SLM

DESIGNED BY: CMC

REVIEWED BY: SRC

DRAWN BY: CMC

REVISION

BY	DATE
CMC	2/16/22

SCALE IN FEET: 1" = 20'

0 20

PROJECT NAME / LOCATION:

Lakeside Village Apartments
65-67 Lake Avenue
Lancaster, New York

BCP Site No. C915344

TITLE:

Proposed Remedy

DATE: N/A

PROJECT NO.: 18-046

FIGURE: DD Figure 2