ALCO-Maxon Site - Parcel B Brownfield Cleanup Program Schenectady, Schenectady County Site No. C447043 October 2014



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

# **DECLARATION STATEMENT - DECISION DOCUMENT**

ALCO-Maxon Site - Parcel B Brownfield Cleanup Program Schenectady, Schenectady County Site No. C447043 October 2014

#### **Statement of Purpose and Basis**

This document presents the remedy for the ALCO-Maxon Site - Parcel B 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 ALCO-Maxon Site - Parcel B 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; and

•Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. One area of on-site soil with elevated levels of arsenic will be excavated and transported off-

site for disposal. Soil will be removed to a depth of two feet. Documentation sampling of the excavation will be required. Clean fill meeting the requirements of 6NYCRR Part 375-6.7(d) will be brought and placed over a demarcation layer in to complete the backfilling of the excavation and establish the designed grades at the site.

3. A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

4. In-situ chemical oxidation (ISCO) will be implemented to treat chlorinated solvents in groundwater. A chemical oxidant will be injected into the subsurface to destroy the contaminants in an approximately 90,000 square foot area located in the center portion of the site where the chlorinated solvents were present at elevated levels in groundwater. The method and depth of injection will be determined during the remedial design.

5. Continued operation of the soil vapor intrusion mitigation measures within Building 306.

# 6. Institutional Control

Imposition of an institutional control in the form of an environmental easement 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 residential, commercial and 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 County DOH; and

•requires 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 Paragraph 6 above.

Engineering Controls: The site cover discussed in Paragraph 3 above and the soil vapor intrusion mitigation measures discussed in Paragraph 5 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 and surface water use restrictions;

•a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

•provisions for the management and inspection of the identified engineering controls;

•maintaining site access controls and Department notification; and

•the steps necessary for the periodic reviews and certification of the institutional and 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 the groundwater to assess the performance and effectiveness of the remedy;

•a schedule of monitoring and frequency of submittals to the Department;

•monitoring for soil vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

#### **Declaration**

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

October 9, 2014

Date

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Robert J. Cozzy, Director Remedial Bureau B

# **DECISION DOCUMENT**

ALCO-Maxon Site - Parcel B Schenectady, Schenectady County Site No. C447043 October 2014

#### 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, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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

#### SECTION 2: <u>CITIZEN PARTICIPATION</u>

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 repositories:

Schenectady County Public Library Attn: Marianne Warner 99 Clinton Street Schenectady, NY 12305 Phone: 518-388-4500

NYSDEC Region 4 Attn: John Strang, P.E. 1130 North Westcott Road Schenectady, NY 12306 Phone: 518-357-2045

# **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 <a href="http://www.dec.ny.gov/chemical/61092.html">http://www.dec.ny.gov/chemical/61092.html</a>

# SECTION 3: SITE DESCRIPTION AND HISTORY

Location: This site is 31.43 acres and was part of the former American Locomotive Company property located at 301 Nott Street in Schenectady. This Parcel lies between ALCO-Maxon Site Parcel A (C447042), that is adjacent to the Mohawk River, and ALCO-Maxon Site Parcel C (C447044), which is adjacent to Front Street and Erie Boulevard.

Site Features: ALCO-Maxon Site Parcel B is currently undeveloped and vacant except for Commercial Building 306 which is occupied by four technical companies. Building 304, while adjacent to the Parcel B Brownfield Site on three sides, is specifically excluded from the definition of ALCO-Maxon Site Parcel B. Parcel B has large soil piles brought to the site for use as necessary fill for development. The soil meets the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d). The soil piles are maintained under a Stormwater Pollution Prevention Program permit between the site owner and City of Schenectady.

Current Zoning and Land Use: ALCO-Maxon Site Parcel B is currently zoned as C-3 Waterfront Development District. According to the City of Schenectady, the purpose of the C-3 District is to provide unique opportunities for the development and maintenance of water-oriented uses within certain areas of the City adjacent to the Mohawk River. The C-3 District permits certain recreational, open space, business, and residential uses which will generally benefit from and enhance the unique, aesthetic, recreational, and environmental qualities of the waterfront areas. There is one commercial building in use on ALCO-Maxon Site Parcel B.

Past Use of the Site: The site was used for the manufacture of railroad locomotives and military hardware from 1849 through 1969. Small industrial manufacturing and fabrication companies have occupied various buildings within the site since 1985. Historic activities have resulted in petroleum and chlorinated solvents impacts to the groundwater, soil and soil vapor.

Site Geology and Hydrogeology: The Parcel is underlain by fill that is present across much of the site, varying from 2 to 12 feet. Underlying the fill is a sequence of overburden deposits (sand, silt clay) at a thickness from 5 to more than 25 feet. A silty sand unit overlies a second clay layer (25 to 30 feet below ground surface). Groundwater is measured in the overburden between 2 and 12 feet below ground surface. The groundwater flows north-northwest toward the Mohawk

River.

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 Volunteer. The Applicant does not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

# SECTION 6: SITE CONTAMINATION

# 6.1: <u>Summary of the Remedial Investigation</u>

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 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: <a href="http://www.dec.ny.gov/regulations/61794.html">http://www.dec.ny.gov/regulations/61794.html</a>

#### 6.1.2: <u>RI Results</u>

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:

VINYL CHLORIDE ARSENIC Petroleum Products Polycyclic Aromatic Hydrocarbons (PAHs), Total cis-1,2-Dichloroethene TETRACHLOROETHYLENE (PCE) TRICHLOROETHENE (TCE)

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

- groundwater - soil
- soil vapor intrusion

# 6.2: Interim Remedial Measures

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

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

# IRM - On-Site Demolition of Buildings

Asbestos abatement and demolition was completed in 2011 on the Buildings 308, 316, 318, 320 (one-third located within Parcel B), 332, 340 and 342.

#### IRM - On-Site Building 300 Demolition

Building 300 asbestos abatement began in February 2014 and was completed in May 2014. The demolition began in June 2014 and was completed in July 2014.

#### IRM - LNAPL Removal and UST Removal

Excavation and off-site disposal of contaminant source areas, including grossly contaminated soil. The soil is contaminated with Light Non-Aqueous Phase Liquid (LNAPL) from diesel fuel. LNAPL observed during the excavation work will be recovered. Documentation sampling (i.e. excavation wall and floor sampling) was done prior to backfilling. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in and placed over a demarcation layer to complete the backfilling of the excavation and establish the designed grades at the site.

Removal of two underground storage tanks (USTs). Work includes the breaking up of the concrete pad overlaying the USTs, removal and proper disposal of liquid in the USTs, cleaning the inside of the USTs, cutting tanks and removing tank sections from the excavation. After removal, documentation sampling (i.e. excavation wall and floor sampling) will occur prior to backfilling. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

The IRM Work Plan was approved for this Parcel and field work began in July 2014.

#### 6.3: <u>Summary of Environmental Assessment</u>

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.

#### Summary of Soil Contamination

Total petroleum hydrocarbons (TPH) which is used as an indicator of petroleum products has been measured in surface and subsurface soils. Several Polycyclic Aromatic Hydrocarbons (PAHs) have been measured in surface and subsurface soils above the restricted residential soil cleanup objectives (SCOs). Arsenic was measured in soil above restricted residential SCOs. Siterelated soil contamination did not extend off-site based on the available data.

### Summary of Groundwater Contamination

Groundwater at ALCO-Maxon Site Parcel B is impacted by chlorinated solvents (PCE, TCE, cis-1,2-dichloroethylene and vinyl chloride) ranging from 246 to 3,160 parts per billion (ppb). PAHs were also measured in groundwater up to 22,200 ppb. Chlorinated solvents from an upgradient, off-site source (Parcel C) have been measured in groundwater ranging from 136 to 3,082 ppb. The source of chlorinated groundwater contamination will be addressed as part of the remedial program for that upgradient source, which is located in ALCO-Maxon Site Parcel C.

#### Summary of Sub-slab Vapor/Indoor Air Contamination:

Soil vapor is impacted by petroleum and chlorinated solvent contamination. At ALCO-Maxon Site Parcel B, on-site Building 306 had been sampled for soil vapor intrusion (sub-slab and indoor) and based on the results, mitigation measures (HVAC operation modifications) were taken to reduce exposure and resampling was completed to confirm the effectiveness of the measures. The range of indoor air concentrations for PCE was 5.2 to 7.4 micrograms per cubic meter (mcg/m3) in four indoor air samples in July 2013. No PCE was detected in four indoor air samples in April 2014. The range of indoor air concentrations for TCE was 5.3 to 5.6 mcg/m3 in four indoor air samples in July 2013. No TCE was detected in four indoor air samples in April 2014. Of the 16 soil vapor samples collected across ALCO-Maxon Site Parcel B, volatile organic compounds were detected in each sample. PCE was detected in six samples at a maximum concentration of 1300 mcg/m3. TCE was detected in seven samples at a maximum concentration of 210 mcg/m3.

# 6.4: <u>Summary of Human Exposure Pathways</u>

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

People will not come into contact with contaminated soil unless they dig or disturb the soil. People are not drinking the contaminated groundwater since the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater may move into soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Soil vapor intrusion sampling identified impacts to indoor air quality in one onsite building and actions have been taken to mitigate this exposure. Additional actions are needed to address the potential for soil vapor intrusion to occur in other on-site buildings in the event that the building use changes and in any future buildings that are constructed on the site. Actions needed to address off-site soil vapor intrusion are associated with another Brownfield Cleanup Program site.

# 6.5: <u>Summary of the Remediation Objectives</u>

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:

# <u>Groundwater</u>

# **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.

# <u>Soil</u>

# **RAOs for Public Health Protection**

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

# **RAOs for Environmental Protection**

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

#### Soil Vapor

# **RAOs for Public Health Protection**

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

# SECTION 7: ELEMENTS OF THE SELECTED REMEDY

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

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

The selected remedy is referred to as the In-Situ Groundwater Treatment, Soil Removal and Site Cover 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;

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•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; and

•Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

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5. Continued operation of the soil vapor intrusion mitigation measures within Building 306.

6. Institutional Control

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

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

•requires 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 Paragraph 6 above.

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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 and surface water use restrictions;

•a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

•provisions for the management and inspection of the identified engineering controls;

•maintaining site access controls and Department notification; and

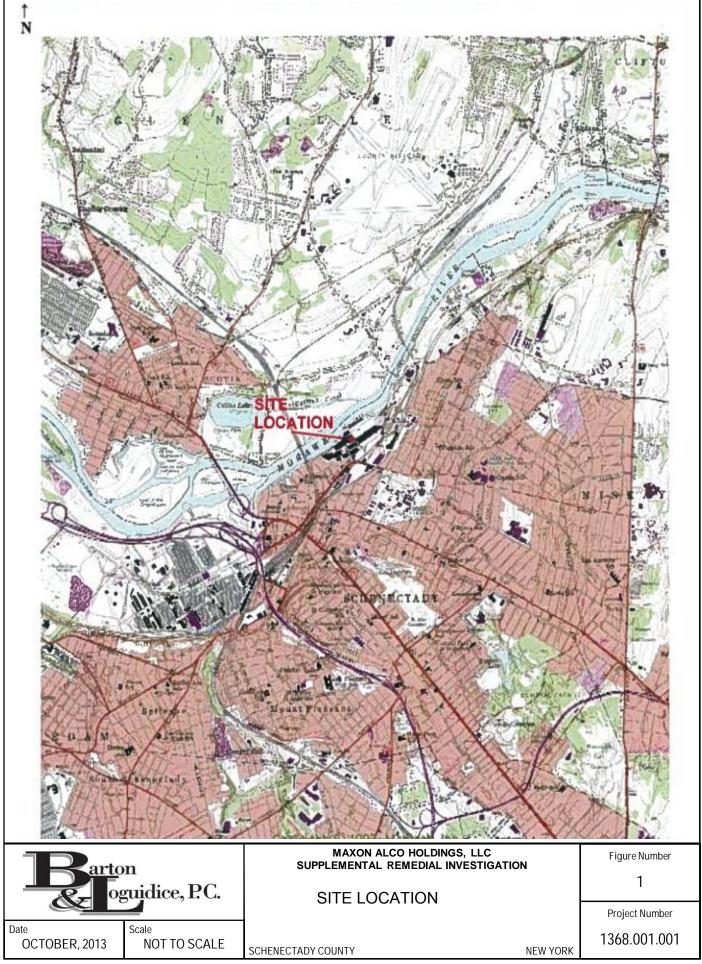
•the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

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

•monitoring of the groundwater to assess the performance and effectiveness of the remedy;

•a schedule of monitoring and frequency of submittals to the Department;

•monitoring for soil vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



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